RECLAMATION PLAN
for the
COTTONWOOD SAND MINING PROJECT
PDS2018-MUP-18-003, PDS2018-RP-18-001, PDS2018-ER-18-19-007
JAMACHA, CA

Prepared For:

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El Cajon, CA 92020

Prepared By:

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Table of Contents

List of Figures

List of Tables

Attachments

GENERAL CONSIDERATIONS

Authority	Requirements/Practices/Standards	✓ or N/A
PRC 2772(b)	Required contents chart: A chart identifying the location (e.g., page number, chapter, appendix, or other location in the reclamation plan) of content that meets the requirements of PRC Sections 2772, 2773, 2773.3 and CCR Articles 1 and 9 (as delineated in this checklist).	✓
PRC 2772(c)(1)	Contact information: Name and address of the surface mining operator and any person designated by the operator as an agent for service of process	✓
PRC 2772(c)(2)	Material quantity and type: The anticipated total quantity and type of minerals to be mined (see Annual Report Instructions, Exhibit B, for mineral types and units of measure).	✓
PRC 2772(c)(3)	Dates: The initiation and termination dates of mining.	✓
PRC 2772(c)(4)	Depth of mining: The maximum anticipated depth of the surface mining operation.	✓
PRC 2772(c)(5) (A-F)	Reclamation plan maps shall include**:** Size and legal description of lands affected by surface mining operations;	✓
	Names and addresses of owners of all surface interests and mineral interests;	✓
	Property lines, setbacks, and the reclamation plan boundary;	✓
	Existing and final topography with contour lines at appropriate intervals;	✓
	Detailed geologic description of the area of the surface mining operation;	✓
	Locations of railroads, utility features, and roads (access roads, temporary roads to be reclaimed, and any roads remaining for the end use).	✓
	All maps, diagrams, or calculations that are required to be prepared by a California-licensed professional shall include the preparer's name, license number, signature & seal.	✓
PRC 2772(c)(6)	Mining method and schedule: A description of the mining methods.	✓
PRC 2772(c)(7)	Subsequent use(s): A description of the proposed subsequent use(s) after reclamation.	✓
	Evidence that all landowners have been notified of the proposed use.	✓
PRC 2772(c)(9)	Impact on future mining: A statement regarding the impact of reclamation on future mining on the site.	✓
PRC 2772(c)(10)	Signed statement: Statement signed by the operator accepting responsibility for reclamation of the mined lands per the reclamation plan.	✓
PRC 2776(b-c)	Pre-SMARA areas: Reclamation plans shall apply to operations conducted after January 1, 1976, or to be conducted in the future. Mined lands disturbed prior to January 1, 1976, and not disturbed after that date may be excluded from the reclamation plan.	✓

CCR 3502(b)(2)	Public health and safety: A description of how any potential public health and safety concerns that may arise due to exposure of the public to the site will be addressed.	✓
CCR 3709(a)	Equipment storage and waste disposal: Designate areas for equipment storage and show on maps.	✓
CCR 3709(a) CCR 3709(b)	All waste shall be disposed of in accordance with state and local health and safety ordinances.	✓
	Structures and equipment removed: Structures and equipment should be dismantled and removed at closure, except as demonstrated to be necessary for the proposed end use.	✓
CCR 3713(a)	Well closures: Drill holes, water wells, monitoring wells will be completed or abandoned in accordance with laws, unless demonstrated necessary for the proposed end use.	✓
CCR 3713(b)	Underground openings: Any portals, shafts, tunnels, or openings will be gated or protected from public entry, and to preserve access for wildlife (e.g.e.g., bats).	✓

GEOLOGY AND GEOTECHNICAL

Authority	**Requirements/Practices/Standards**	✓ or N/A
PRC 2772(c)(5)	A description of the general geology of the area	✓
	A detailed description of the geology of the mine site.	✓
PRC 2773.3	If a metallic mine is located on, or within one mile of, any "Native American sacred site" and is located in an "area of special concern," the reclamation plan shall require that all excavations and/or excess materials be backfilled and graded to achieve the approximate original contours of the mined lands prior to mining.	N/A
CCR 3502(b)(4)	The source and disposition of fill materials used for backfilling or grading shall be considered in the reclamation plan.	✓
CCR 3502(b)(3)	The designed steepness and treatment of final slopes must consider the physical properties of slope materials, maximum water content, and landscaping.	✓
	The reclamation plan shall specify slope angles flatter than the critical gradient for the type of slope materials.	✓
	When final slopes approach the critical gradient, a Slope Stability Analysis will be required.	✓
CCR 3704.1	Backfilling required for surface mining operations for metallic minerals.	N/A
CCR 3704(a)	For urban use, fill shall be compacted in accordance with Uniform Building Code, local grading ordinance, or other methods approved by the lead agency.	✓
CCR 3704(b)	For resource conservation, compact to the standards required for that end use.	✓
CCR 3704(d)	Final reclamation fill slopes shall not exceed 2:1 (H:V), except when allowed by site-specific engineering analysis, and the proposed final slope can be successfully revegetated. See also Item 3502(b)(3).	✓
CCR 3704(e)	At closure, all fill slopes shall conform with the surrounding topography or approved end use.	✓

CCR 3704(f)	Final cut slopes must have a minimum slope stability factor of safety that is suitable for the end use and conforms with the surrounding topography or end use.	✓

HYDROLOGY AND WATER QUALITY

Authority	Requirements/Practices/Standards	✓ or N/A
PRC 2770.5	For operations within the 100-year flood plain (defined by FEMA) and within one mile up- or downstream of a state highway bridge, Caltrans must be notified and provided a 45-day review period by the lead agency.	✓
PRC 2772(c)(8)(A)	Description of the manner in which contaminants will be controlled and mine waste will be disposed.	✓
PRC 2772(c)(8)(B)	The reclamation plan shall include a description of the manner in which stream banks/beds will be rehabilitated to minimize erosion and sedimentation.	✓
PRC 2773(a)	The reclamation plan shall establish site-specific sediment and erosion control criteria for monitoring compliance with the reclamation plan.	✓
CCR 3502(b)(6)	Temporary stream and watershed diversions shall be detailed in the reclamation plan.	✓
CCR 3503(a)(2)	Stockpiles of overburden and minerals shall be managed to minimize water and wind erosion.	✓
CCR 3503(b)(2)	Operations shall be conducted to substantially prevent siltation of groundwater recharge areas.	✓
CCR 3503(a)(3)	Erosion control facilities shall be constructed and maintained where necessary to control erosion.	✓
CCR 3503(b)(1)	Settling ponds shall be constructed where they will provide a significant benefit to water quality.	✓
CCR 3503(d)	Disposal of mine waste and overburden shall be stable and shall not restrict natural drainage without suitable provisions for diversion.	✓
CCR 3503(e)	Grading and revegetation shall be designed to minimize erosion and convey surface runoff to natural drainage courses or interior basins.	✓
	Spillway protection shall be designed to prevent erosion.	✓
CCR 3706(a)	Surface mining and reclamation activities shall be conducted to protect on-site and downstream beneficial uses of water.	✓
CCR 3706(b)	Water quality, recharge potential, and groundwater storage that is accessed by others shall not be diminished.	✓
CCR 3706(c)	Erosion and sedimentation shall be controlled during all phases of construction, operation, reclamation, and closure of surface mining operations to minimize siltation of lakes and water courses as per RWQCB/SWRCB.	✓
CCR 3706(d)	Surface runoff and drainage shall be controlled to protect surrounding land and water resources.	✓
	Erosion control methods shall be designed for not less than 20 year/1 hour intensity storm event.	✓
CCR 3706(e)	Impacted drainages shall not cause increased erosion or sedimentation. Mitigation alternatives shall be proposed in the reclamation plan.	✓

CCR 3706(f)(1)	Stream diversions shall be constructed in accordance with the Lake and Streambed Alteration Agreement (LSAA) between the operator and the Department of Fish and Wildlife.	N/A
CCR 3706(f)(2)	Stream diversions shall also be constructed in accordance with Federal Clean Water Act and the Rivers and Harbors Act of 1899.	N/A
CCR 3706(g)	All temporary stream diversions shall eventually be removed, and the affected land reclaimed.	N/A
CCR 3710(a)	Surface and groundwater shall be protected from siltation and pollutants in accordance with the Porter-Cologne Act, the Federal Clean Water Act, and RWQCB/SWRCB requirements.	✓
CCR 3710(b)	In-stream mining shall be conducted in accordance with Section 1600 et seq. of the California Fish and Game Code, Section 404 of the Clean Water Act, and Section 10 of the Rivers and Harbors Act of 1899.	✓
CCR 3710(c)	In-stream mining shall be regulated to prevent impacts to structures, habitats, riparian vegetation, groundwater levels, and banks.	✓
	In-stream channel elevations and bank erosion shall be evaluated annually using extraction quantities, cross-sections, and aerial photos.	✓
CCR 3712	Mine waste and tailings and mine waste disposal units are governed by SWRCB waste disposal regulations and shall be reclaimed in accordance with this article: CCR Article 1. Surface Mining and Reclamation Practice. Section 3500 et seq.	✓

SENSITIVE SPECIES AND HABITAT

Authority	Requirements/Practices/Standards	✓ or N/A
CCR 3502(b)(1)	A description of the environmental setting (identify sensitive species, wildlife habitat, sensitive natural communities, e.g., wetlands).	✓
	Impacts of reclamation on surrounding land uses.	✓
CCR 3503(c)	Fish and wildlife habitat shall be protected by all reasonable measures.	✓
CCR 3703(a)	Sensitive species shall be conserved or mitigated as prescribed by the federal and California Endangered Species Acts.	✓
CCR 3703(b)	Wildlife habitat shall be established on disturbed land at least as good as pre-project, unless end use precludes its use as wildlife habitat.	✓
CCR 3703(c)	Wetlands shall be avoided or mitigated at 1:1 minimum for both acreage and habitat value.	✓
CCR 3704(g)	Piles or dumps shall not be placed in wetlands without mitigation.	✓
CCR 3710(d)	In-stream mining shall not cause fish to be trapped in pools or off-channel pits or restrict migratory or spawning activities.	N/A

TOPSOIL

Authority	Requirements/Practices/Standards	✓ or N/A
CCR 3503(a)(1)	Removal of vegetation and overburden preceding mining shall be kept to a minimum.	✓

CCR 3503(f)	When the reclamation plan calls for resoiling, mine waste shall be leveled and covered with a layer of finer material. A soil layer shall then be placed on this prepared surface.	✓
	The use of soil conditioners, mulches, or imported topsoil shall be considered where such measures appear necessary.	✓
CCR 3704(c)	Mine waste shall be stockpiled to facilitate phased reclamation and kept separate from topsoil or other growth media.	✓
CCR 3705(e)	If soil is altered or other than native topsoil, soil analysis is required. Add fertilizers or soil amendments if necessary.	✓
CCR 3711(a)	All salvageable topsoil shall be removed as a separate layer.	✓
	Topsoil and vegetation removal should not precede mining by more than one year.	✓
CCR 3711(b)	Topsoil resources shall be mapped prior to stripping and location of topsoil stockpiles shown on map included in the reclamation plan.	✓
	Topsoil and other growth media shall be maintained in separate stockpiles.	✓
	Test plots may be required to determine the suitability of growth media for revegetation purposes.	✓
CCR 3711(c)	Soil salvage operations and phases of reclamation shall be set forth in the reclamation plan to minimize the area disturbed and to achieve maximum revegetation success.	✓
CCR 3711(d)	Topsoil and growth media shall be used to phase reclamation as soon as can be accommodated following the mining of an area.	✓
	Topsoil stockpiles shall not be disturbed until needed for reclamation	✓
	Topsoil stockpiles shall be clearly identified.	✓
	Topsoil shall be planted with vegetation or otherwise protected to prevent erosion and discourage weeds.	✓
CCR 3711(e)	Topsoil shall be redistributed in a manner resulting in a stable, uniform thickness consistent with the end uses.	✓

REVEGETATION

Authority	**Requirements/Practices/Standards**	✓ or N/A
PRC 2773(a)	The reclamation plan shall be specific to the property and shall establish site-specific criteria for evaluating compliance with the reclamation plan with respect to revegetation.	✓
CCR 3503(g)	Available research regarding revegetation methods and selection of species given the topography, resoiling characteristics, and climate of the mined areas shall be used.	✓
CCR 3705(a)	Baseline studies shall be conducted prior to mining activities to document vegetative cover, density, and species richness.	✓
	Vegetative cover shall be similar to surrounding habitats and self-sustaining.	✓
CCR 3705(b)	Test plots shall be conducted simultaneously with mining to ensure successful implementation of the proposed revegetation plan	✓
CCR 3705(c)	Decompaction methods, such as ripping and disking, shall be used in areas to be revegetated to establish a suitable root zone for planting.	✓
CCR 3705(d)	Roads shall be stripped of road base materials, resoiled, and revegetated, unless exempted.	✓

CCR 3705(f)	Temporary access shall not disrupt the soil surface on arid lands except where necessary for safe access. Barriers shall be installed to keep unauthorized vehicles out	✓
CCR 3705(g)	Use local native plant species (unless non-native species meet the end use).	✓
	Areas to be developed for industrial, commercial, or residential shall be revegetated for the interim period to control erosion.	N/A
CCR 3705(h)	Planting shall be conducted during the most favorable period of the year for plant establishment.	✓
CCR 3705(i)	Use soil stabilizing practices and irrigation when necessary to establish vegetation.	✓
CCR 3705(j)	If irrigation is used, demonstrate that revegetation has been self-sustaining without irrigation for two years prior to the release of financial assurance.	✓
CCR 3705(k)	Noxious weeds shall be monitored and managed.	✓
CCR 3705(l)	Plant protection measures such as fencing, and caging shall be used where needed for revegetation success. Protection measures shall be maintained until revegetation efforts are successfully completed and the lead agency authorizes removal.	✓
CCR3705(m)	Quantitative success standards for vegetative cover, density, and species richness shall be included in the reclamation plan.	✓
	Monitoring to occur until success standards have been achieved.	✓
	Sampling techniques for measuring success shall be specified. Sample size must be sufficient to provide at least an 80 percent statistical confidence level.	✓

AGRICULTURE

Authority	**Requirements/Practices/Standards**	✓ or N/A
CCR 3707(a)	Where the end use will be agriculture, prime agricultural land shall be returned to a fertility level specified in the reclamation plan.	N/A
CCR 3707(b)	Segregate and replace topsoil in proper sequence by horizon in prime agricultural soils.	N/A
CCR 3707(c)	Post reclamation productivity rates for prime agricultural land must be equal to pre-project condition or to a similar site for two consecutive years.	N/A
	Productivity rates shall be specified in the reclamation plan.	N/A
CCR 3707(d)	If fertilizers and amendments are applied, they shall not cause contamination of surface or groundwater.	N/A
CCR 3708	For sites where the end use is to be agricultural, non-prime agricultural land must be reclaimed to be capable of sustaining economically viable crops common to the area.	N/A

SMARA Index

Content Requirement	**Location Reference**	
	Section/ Appendix	**Page(s) No.**

PRC 2772 (c)		
Operator Name and address.	Section 2.1	12
Names and addresses of persons designated as an agent for the service of process.	Section 2.1	13
Quantity and type of minerals to be mined	Section 2.1	13
Proposed dates of mine initiation and termination.	Section 2.1	13
Maximum anticipated depth of the surface mining.	Section 2.1	13
Reclamation Plan map(s) with appropriate information	Attached	Attach ment A
A description of and plan for the type of surface mining to be employed.	Section 2.2	13
Time schedule that provides for the completion of surface mining on each segment of the mined lands so that reclamation can be initiated at the earliest possible time on portions of the mined lands not subject to further disturbance by mining.	Section 2.2, Section 2.4 & Table 2.	13, 14 &19
Proposed use or potential uses of the mined lands	Section 2.3	14
Evidence that all owners of a possessory interest in the land have been notified of the proposed use or potential uses.	Section 2.1 Application Submittal Forms	12
Description of the way reclamation, adequate for the proposed use or potential uses, will be accomplished. To include: a. Description of how known contaminants will be controlled, and mining waste will be disposed. b. Description of the way affected streambed channels and streambanks will be rehabilitated to minimize erosion and sedimentation.	a. Section 2.6 b. Section 3.0 All	23 28 -35
Assessment of the effect of implementation of the reclamation plan on future mining in the area.	Section 3.14	35
Statement that the person submitting the reclamation plan accepts responsibility for reclaiming the mined lands in accordance with the reclamation plan.	Section 7.0	41
Other information required	Attachments	
PRC 2772.1		

Information, document, or component of a document prepared as part of a permit application for the surface mining operation or as part of an environmental document prepared for the project shall be incorporated into the reclamation plan or amendment used to satisfy the requirements shall be referenced by Appendix and page number.	Attachments	
PRC 2773(b) – Reclamation Standards		
Wildlife habitat.	Section 3.4	31
Backfilling, re-grading, slope stability and re-contouring.	Section 3.1	29
Revegetation.	Section 3.4	31
Drainage, diversion structures, waterways, and erosion control.	Section 2.8	24
Prime and other agricultural land reclamation.	NA	NA
Building, structure, and equipment removal.	Section 3.3	31
Stream protection.	Section 2.8	24
Topsoil salvage, maintenance, and redistribution	Section 2.3	14
Tailing and mine waste management.	Section 2.6	23
Article 1. Surface Mining and Reclamation Practice § 3502. The Reclamation Plan		
(1) The environmental setting of the site of operations and the effect that possible alternate reclaimed site conditions may have upon the existing and future uses of surrounding lands.	Section 1.0	2
(2) The public health and safety, considering the degree and type of present and probable future exposure of the public to the site.	Section 3.13	35

(3) The designed steepness and proposed treatment of the mined lands' final slopes shall take into consideration the physical properties of the slope material, its probable maximum water content, landscaping requirements, and other factors. In all cases, reclamation plans shall specify slope angles flatter than the critical gradient for the type of material involved. Whenever final slopes approach the critical gradient for the type of material involved, regulatory agencies shall require an engineering analysis of the slope stability. Special emphasis on slope stability and design shall be necessary when public safety or adjacent property may be affected.	Section 3.0	28
(4) Areas mined to produce additional materials for backfilling and grading, as well as settlement of filled areas, shall be considered in the reclamation plan. Where ultimate site uses include roads, building sites, or other improvements sensitive to settlement, the reclamation plans shall include compaction of the fill materials in conformance with good engineering practice.	Section 2.4	14
(5) Disposition of old equipment.	Section 3.0	28
(6) Temporary stream or watershed diversions.	NA	NA
Article 1. Surface Mining and Reclamation Practice **§ 3503. Surface Mining and Reclamation Practice**		
Soil Erosion Control.	Section 3.12	35
Water Quality and Watershed Control	Section 3.0	28
Protection of Fish and Wildlife Habitat	Section 3.4	31
Disposal of Mine Waste Rock and Overburden.	Section 2.6	23
Erosion and Drainage	Section 2.8	24
Resoiling	Section 2.3 & 3.0	14 & 28
Revegetation	Section 3.4	31
Article 9. Reclamation Standards		
§ 3703. Performance Standards for Wildlife Habitat	Section 5.3	36
§ 3704. Performance Standards for Backfilling, Regrading, Slope Stability, and Recontouring	Section 5.4	37

§ 3704.1. Performance Standards for Backfilling Excavations and Recontouring Lands Disturbed by Open Pit Surface Mining Operations for Metallic Minerals	Section 5.4	37
§ 3705. Performance Standards for Revegetation	Section 5.5	37
§ 3706. Performance Standards for Drainage, Diversion Structures, Waterways, and Erosion Control	Section 5.6	37
§ 3707. Performance Standards for Prime Agricultural Land Reclamation	Section 5.7	37
§ 3708. Performance Standards for Other Agricultural Land	Section 5.8	37
§ 3709. Performance Standards for Building, Structure, and Equipment Removal	Section 3.3 & 5.9	31, 38
§ 3711. Performance Standards for Topsoil Salvage, Maintenance, and Redistribution	Section 5.11	38
§ 3712. Performance Standards for Tailing and Mine Waste Management	Section 5.12	38
§ 3713. Performance Standards for Closure of Surface Openings	Section 5.13	38

Introduction

New West Investment, Inc. (Proponent) is currently proposing the Cottonwood Sand Mine on land that is utilized by the Cottonwood Golf Club for two permitted 18-hole golf courses in the Jamacha Valley area of San Diego County, California. Currently, one of the golf courses is not in operation. This land is zoned to allow for extractive uses.

The proponent is applying for a Major Use Permit (MUP) and Reclamation Plan (RP) on 251.1 acres of the 279-acre property. Approval of the MUP and RP would allow for the extraction of approximately 3.8-million cubic yards (5.7-million tons) of washed concrete sand and gravel over a 10-year period. Economic conditions may require an approval of an extension of the permit period beyond the initial 10-year period. Mining will be followed by 2 years of reclamation activities plus time for revegetation monitoring. As mining is completed in phases and selected areas backfilled, the site will be restored with a widened river channel. Potential end uses will be those that are allowed under the General Plan and County Zoning Ordinance. Future development of the site is not included in the Proposed Project and would require subsequent discretionary applications to be filed along with appropriate environmental review. Reclamation and revegetation activities on areas proposed for mining will occur on approximately 214 acres of the 251.1-acre MUP area. Surface areas not disturbed by mining within the MUP area would be subject to removal of invasive species in the river channel on the southwest portion of the site or be left in their current condition. As such, reclamation of the proposed extraction project would not affect existing or future uses of lands surrounding the property as a significant amount of land bordering the project on the south is currently a National Wildlife refuge and a second preserve on the far northeast. Reclamation to primarily native habitat will create a link for wildlife between the two preserve areas.

At full site development, mining and extraction activities will produce approximately 3.8-million cubic yards (5.7-million tons) of sand and gravel, with a maximum annual production level of 380,000 cubic yards (570,000 tons per year (MTPY)). Total material to be excavated is 4,266,900 cubic yards with a 10 percent waste factor that includes wash fines and materials undesirable for processing. Materials not selected for processing will be utilized as backfill. Final reclamation will follow on the remainder of 214 acres and would be expected to continue for approximately 2 years following completion of mining activities. Associated facilities include a processing plant and all support structures.

The project will be developed and reclaimed in four (4) phases, three mining phases and one final reclamation phase. Initial project activity will involve the creation of a processing area west of the existing parking lot and adjacent to Willow Glen Drive. A portable conveyor system will be installed to transport mined material from the excavation areas to the plant for washing and screening. This conveyor system will be moved to serve each phase as the project progresses. Successful reclamation will result in a narrower river flood channel with a low flow channel consisting of the existing low-flow channel width to accommodate water transfers from the Loveland Reservoir to the Sweetwater Reservoir and return the site to beneficial end uses allowed by the General Plan and County Zoning Ordinance.

Golf operations will end prior to initiating onsite project activities. The project will restripe Willow Glen Drive between Steele Canyon Road and the project ingress driveway to provide Class II buffered bike lanes on both sides of the roadway. To facilitate deceleration of right-turning vehicles into the project ingress driveway, a dedicated right-turn lane will also be constructed, which will serve as the primary access for mining operations, material sales, employees, and vendors. This road would continue to a new egress point in the approximate center of the existing parking lot (See Sheet 3, Plot Plan). The project will also construct a two-way left-turn lane between the ingress and egress project driveways, which will serve as a refuge lane for trucks to complete their outbound maneuver. Willow Glen Drive between Steele Canyon Road and Hillsdale Road is classified in the Mobility Element as a 4.1B: Major Road with Intermittent Turn lanes. The project frontage along this stretch extends between Steele Canyon Road to approximately 1000' west of Hillsdale Road. In addition to the above improvements, the project proposes to provide an Irrevocable Offer of Dedication along the project frontage as needed to accommodate the ultimate roadway classification of Willow Glen Drive.

A second access road will also be installed on the western edge of the project at the intersection of Muirfield Drive and Willow Glen Drive. This access road will consist of a 2-lane concrete apron that will transition to gravel surface segment of road once on the Cottonwood property and will be used primarily for mobilization/demobilization, servicing of heavy equipment and reclamation for the Phase 1 area west of Steele Canyon Road. Both the Muirfield and existing driveways with gates, will remain in place for the property owner after mining activities end (See Sheet 2, Plot Plan).

The main entrance to the project site is 0.25 miles northeast of the intersection of Willow Glen Drive and Steele Canyon Road. Willow Glen Drive will serve as the primary route for the project. Residents use both Willow Glen Drive and Steele Canyon Road to access their properties.

1.0 Environmental Setting

1.1 Project Location

The project site is situated on the floodplain of the Sweetwater River which flows through the central part of the project site. It is located parallel to Willow Glen Drive and on both sides of Steele Canyon Road in the unincorporated Jamacha-Rancho San Diego area of San Diego County, CA (Figures 1.1-1, 1.1-2).

The western RP boundary for the project is 1.2 miles northeast of the bridge on State Route 94, where the highway crosses the Sweetwater River. The eastern RP boundary is approximately 6.5 miles west, southwest of the Loveland Reservoir dam.

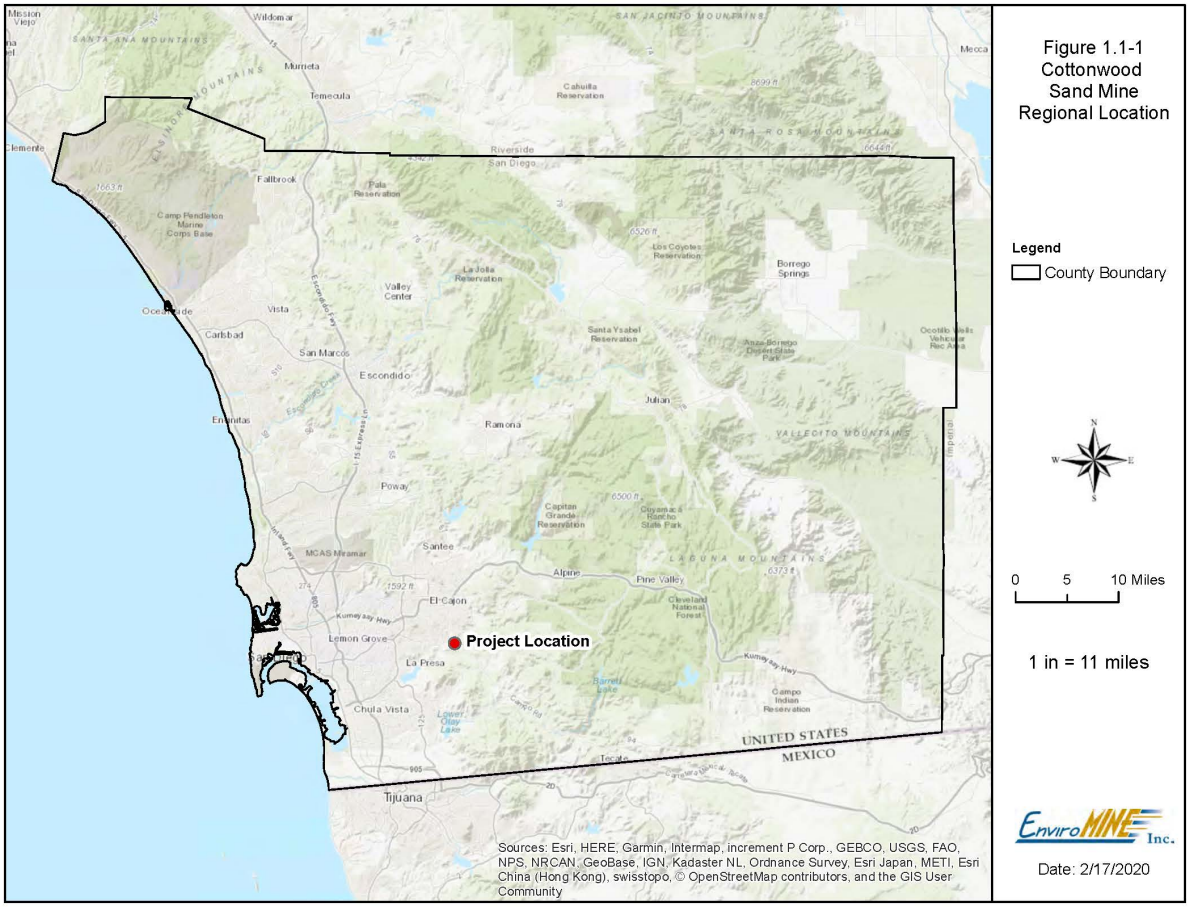
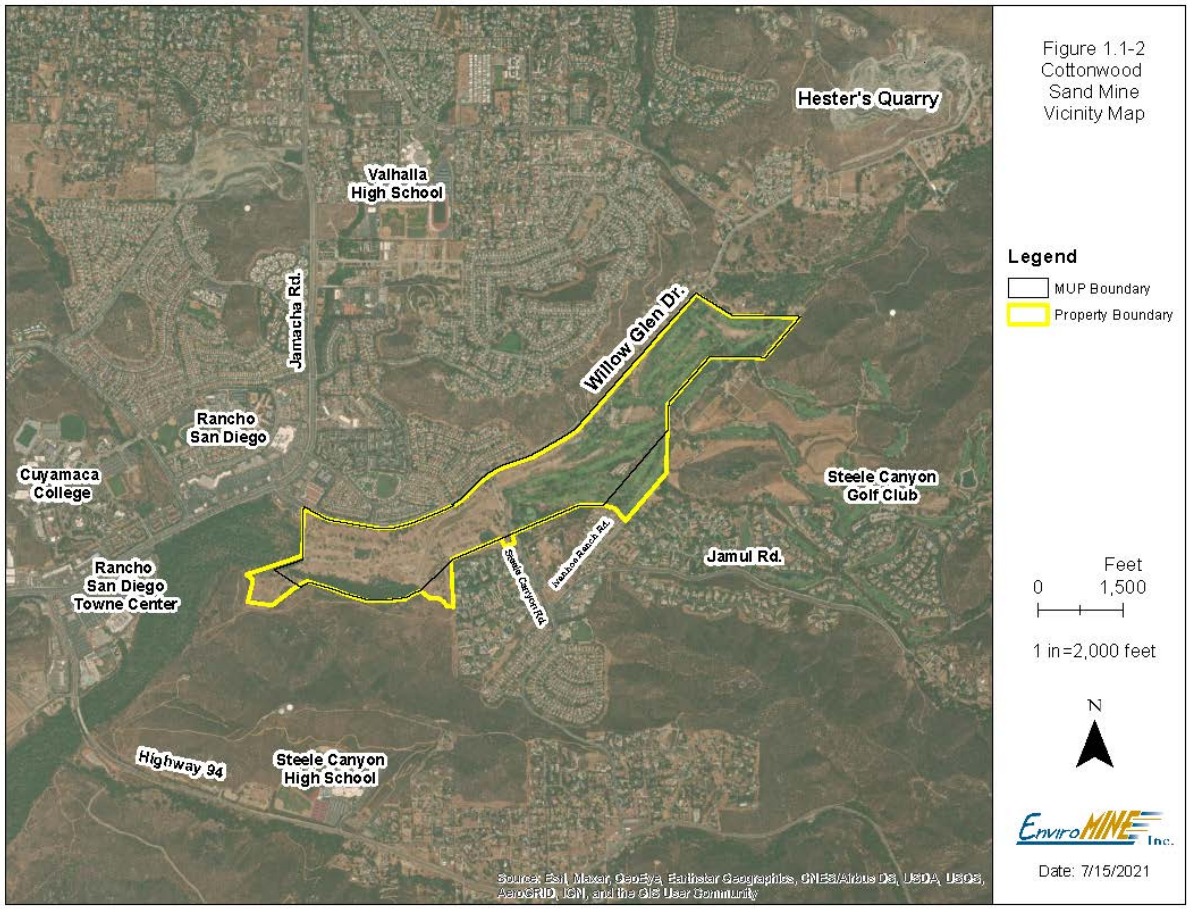


Figure 1.1-1
Cottonwood
Sand Mine
Regional Location


Hester's Quarry
Valhalla High School
Jamacha Rd.
Willow Glen Dr.
Rancho San Diego
Cuyamaca College
Steele Canyon Golf Club
Jamul Rd.
Rancho San Diego Towne Center
Steele Canyon Rd.
Highway 94
Steele Canyon High School
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Figure 1.1-2
Cottonwood
Sand Mine
Vicinity Map
Legend
MUP Boundary
Property Boundary
Feet
0
1,500
1 in=2,000 feet
N
EnviroMINE Inc.
Date: 7/15/2021

1.2 Assessor Parcel Numbers, Ownership and Zoning

The Project has twenty-two separate Assessor Parcel Numbers (APNs). (Figure 1.2-1)

Table 1. Assessor Parcels

APN	TOTAL ACRES (approx.)	OWNER	ZONING[1]	LAND USE DESIGNATION[2]
506-021-1900	8.20	Cottonwood Cajon ES, LLC	S88	OS-R
506-020-5200	4.01	Cottonwood Cajon ES, LLC	S80	OS-R
518-012-1300	2.97	Cottonwood Cajon ES, LLC	S90	OS-R
518-012-1400	46.61	Cottonwood Cajon ES, LLC	S90	OS-R
518-030-0500	2.30	Cottonwood Cajon ES, LLC	S90	OS-R
518-030-0600	5.58	Cottonwood Cajon ES, LLC	S90	OS-R
518-030-0700	2.59	Cottonwood Cajon ES, LLC	S90	OS-R
518-030-0800	0.69	Cottonwood Cajon ES, LLC	S90	OS-R
518-030-1000	7.16	Cottonwood Cajon ES, LLC	S90	OS-R
518-030-1200	6.88	Cottonwood Cajon ES, LLC	S90	OS-R
518-030-1300	10.20	Cottonwood Cajon ES, LLC	S90	OS-R
518-030-1500	4.04	Cottonwood Cajon ES, LLC	S90	OS-R
518-030-2100	56.71	Cottonwood Cajon ES, LLC	S90	OS-R
518-030-2200	19.43	Cottonwood Cajon ES, LLC	S90	OS-R
519-010-1500	33.72	Cottonwood Cajon ES, LLC	S90	OS-R
519-010-1700	14.59	Cottonwood Cajon ES, LLC	S90	OS-R
519-010-2000	19.22	Cottonwood Cajon ES, LLC	S90	OS-R
519-010-2100	1.10	Cottonwood Cajon ES, LLC	S90	OS-R
519-010-3300	1.76	Cottonwood Cajon ES, LLC	S90	OS-R
519-010-3400	7.17	Cottonwood Cajon ES, LLC	S90	OS-R
519-010-3700	1.06	Cottonwood Cajon ES, LLC	S90	OS-R
519-011-0300	23.80	Cottonwood Cajon ES, LLC	S88	OS-R
Totals:	**279.79**			

[1] S90 - Holding Area - allows extractive uses of mining and processing with a Major Use Permit,
S88 - Specific Planning Area - allows extractive use of site preparation with a Minor Use Permit, This area will be disturbed for water course improvement by the removal of material.
S80 - Open Space -allows extractive uses of mining and processing with a Major Use Permit.

[2] General Plan Land Use Designation is OS-R, Open Space – Recreation

1.3 Legal Description

The project is located within portions of Sections 9, 10, and 16, Township 15 South, Range 1 East of the El Cajon Mountain, California, U.S. Geological Survey (USGS) 7.5-minute quadrangle, San Bernardino Base and Meridian, County of San Diego, California at approximately 32°52' 38.53" N latitude -116° 52' 50.00 W longitude.

1.4 General Physiography

The RP area is located within the Foothills Physiographic Province of the Peninsular Ranges of Southern California. Site geology is composed of Quaternary Alluvium underlain by Cretaceous tonalite with some granodiorite and quartz diorite. (Tan, S.S., 2002a, 2002b.)

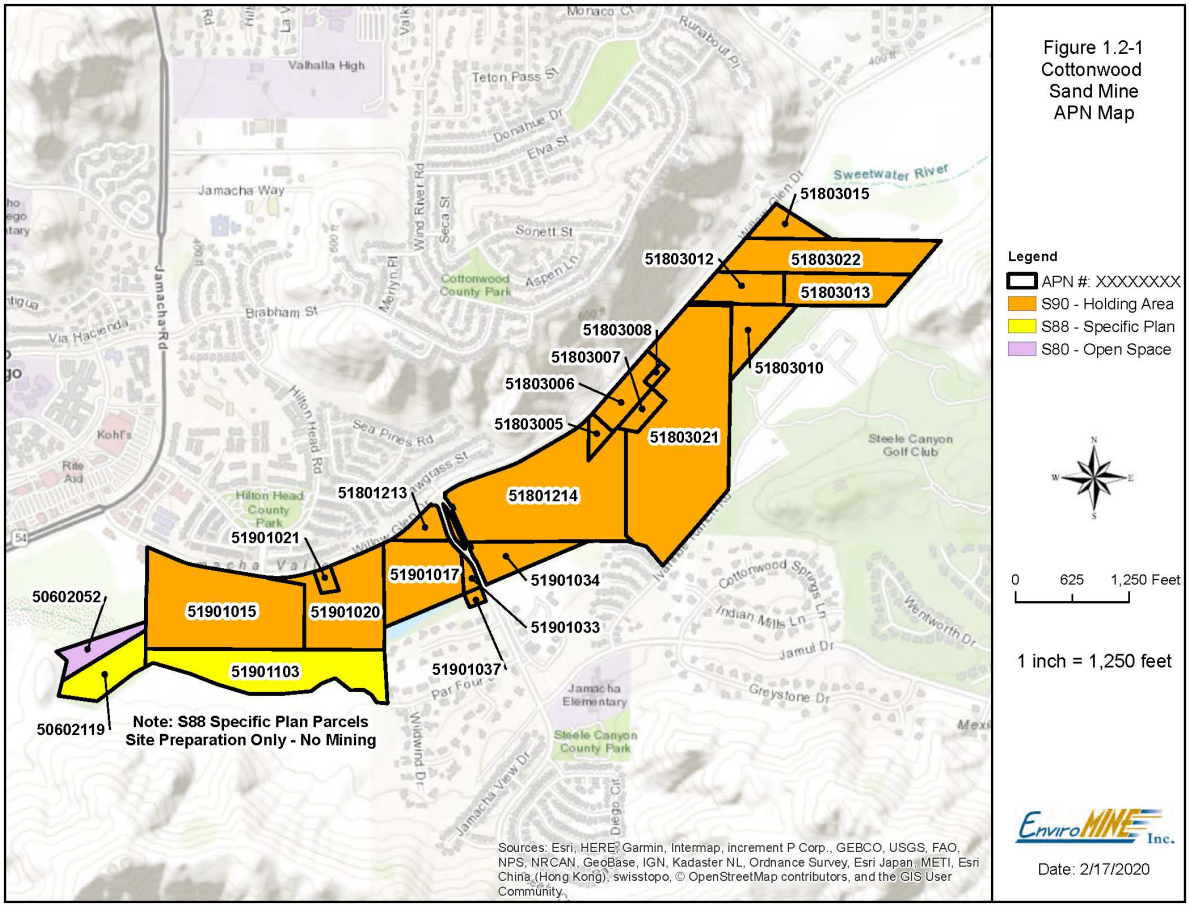


Figure 1.2-1
Cottonwood
Sand Mine
APN Map
Legend
APN #: XXXXXXXX
S90 - Holding Area
S88 - Specific Plan
S80 - Open Space
0 625 1,250 Feet
1 inch = 1,250 feet
Date: 2/17/2020
51803015
51803012
51803022
51803013
51803008
51803007
51803006
51803005
51803010
51803021
51801214
51801213
51901021
51901017
51901034
51901033
51901037
50602052
51901015
51901020
51901103
50602119
Note: S88 Specific Plan Parcels
Site Preparation Only - No Mining
Sweetwater River
Valhalla High
Teton Pass St
Donahue Dr
Elva St
Jamacha Way
Sonett St
Wind River Rd
Seca St
Cottonwood County Park
Aspen Ln
Brabham St
Via Hacienda
Jamacha Rd
Merlyn Pl
Hilton Head Rd
Sea Pines Rd
Kohl's
Rite Aid
Hilton Head County Park
Steele Canyon Golf Club
Cottonwood Springs Ln
Indian Mills Ln
Wentworth Dr
Jamul Dr
Greystone Dr
Par Four
Jamacha Elementary
Steele Canyon County Park
Jamacha View Dr
Diego Cir
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap contributors, and the GIS User Community

The topography in the project vicinity is characterized by steep terrain to the north and south of the alluvial valley. Elevations range from approximately 1,100 feet above mean sea level (MSL) north of the site to approximately 360 feet near the river channel. The topography of the Project site is generally flat with an overall gentle slope to the west. This area includes ponds that are part of the golf course layout. Elevations within the excavation area range from approximately 377 feet AMSL in the east to 329 feet AMSL on the western end. The Sweetwater River extends in a general east-west direction and consists of a low-flow channel and the associated floodplain.

1.5 Climate

The general climate in the region is regarded as dry, subhumid mesothermal, with warm dry summers and cold moist winters. Mean annual temperature is between 60 and 62-degrees Fahrenheit with a mean annual precipitation between 14 and 18 inches. The frost-free season is 260 to 300 days (Helix Environmental Planning, 2019).

1.6 Geology

Regional Geology

The Project lies atop the southern California batholith consisting of early Cretaceous granitic rocks. These rocks form the majority element of this massive feature that underlies roughly two-fifths of San Diego County. Recent geologic mapping of the Jamul and El Cajon 7.5-minute quadrangles indicate the exposed granitic bedrock is comprised of tonalite that includes some granodiorite and quartz diorite. (Tan, S.S., 2002a, 2002b)

The Sweetwater River drains northeast-southwest through the project area and has contributed deposits of alluvium on the river's floodplain.

Site Geology

The RP area is underlain by Quaternary alluvial deposits that are unconsolidated to locally poorly consolidated silt, clay, sand, and gravel. Geologic units encountered or observed during subsurface exploration included undocumented fill, alluvium, and granitic bedrock (Attachment C, Soil and Geologic Reconnaissance). Groundwater was encountered at depths ranging from approximately 6 feet and deeper.

1.7 Surface and Groundwater

Surface Water

The project is in an area with a semi-arid Mediterranean climate with warm, dry summers and most rainfall occurring during the cooler winter months. Surface water on site is ephemeral and only present during precipitation events or water releases from the Loveland Reservoir. The site lies within the Sweetwater River drainage basin about 4.8 miles west of Loveland Reservoir dam. Designated beneficial uses for the Sweetwater River and its tributaries include municipal and domestic supply; agricultural supply; industrial service supply; industrial process supply; contact and non-contact water recreation; warm freshwater habitat; cold freshwater habitat; wildlife habitat; and rare, threatened, or endangered species habitat (California RWQCB, 1994). Jurisdictional waters consist of the main channel of the Sweetwater River between 3.1 and 5.5 miles downstream of the Loveland Reservoir.

Although within the County's effective floodway, the project will not raise the 100-year water surface elevations, so meets the County and FEMA's floodway regulations. In addition, the project will not create adverse flood impacts within the study reach, which is consistent with the goals of floodplain regulations (Attachment E, Hydraulic Analyses).

Ground Water

An alluvial aquifer underlies the Project site. The maximum depth to bedrock at the site is approximately 55 feet, with the alluvium pinching out along the northwestern and southeastern limits of the aquifer along the bedrock valley walls.

The width of the alluvial aquifer from north to south ranges from 1,000 feet to approximately 1,500 feet on the Project site. During a geologic investigation of the property, groundwater levels were encountered from 5 to 18 feet bgs. Because the property is situated in a drainage area, groundwater elevation is expected to fluctuate between dry and rainy periods from year to year (GeoCon, 2019, rev. 2020). Groundwater flows regionally from east to west and locally toward groundwater wells. Natural groundwater recharge in the area is highly variable and is dependent on climatic conditions.

1.8 Soils

Three soil series represent most of the soil within the project boundary as identified in the United States Department of Agriculture 1973 Soil Survey (USDA, 1973). These include the Tujunga series, Riverwash, and the Visalia series (Figure 1.8-1). Other similar soil mapping units are identified but these occur as very narrow strips or small pockets of mapped soils immediately adjacent to Willow Glen Drive and upland areas on the southern side of the project area. These minor units are on the outer fringes of the project, and most will not be disturbed. The three dominant soil mapping units are described as follows:

Tujunga sand, 0 to 5 percent slopes (TuB). The soil occurs on alluvial fans and flood plains. Slopes are dominantly 2 percent. This unit represents the largest area of mapped soil material within the project's boundary.

The Tujunga series consists of very deep excessively drained sands derived from granitic alluvium. These soils are on alluvial fans and flood plains and have slopes of 0 to 5 percent. The elevation ranges from sea level to 1,500 feet. The native vegetation generally occurring in uncultivated areas is chiefly annual grasses, forbs, and a few scattered oaks.

In a representative profile, the surface layer color is brown, neutral sand about 14 inches thick. The color of the next layers are pale-brown, neutral sand and coarse sand. This material extends to a depth of more than 60 inches. Fertility is low.

Permeability is very rapid. The available water holding capacity is 3 inches. Runoff is slow to very slow and the hazard is slight. Roots easily penetrate to a depth of 60 inches. Short periods of flooding are probable during wet years.

Tujunga soils are used mainly for range and golf courses. A few small areas are used for avocados, flowers, and truck crops when farmed.

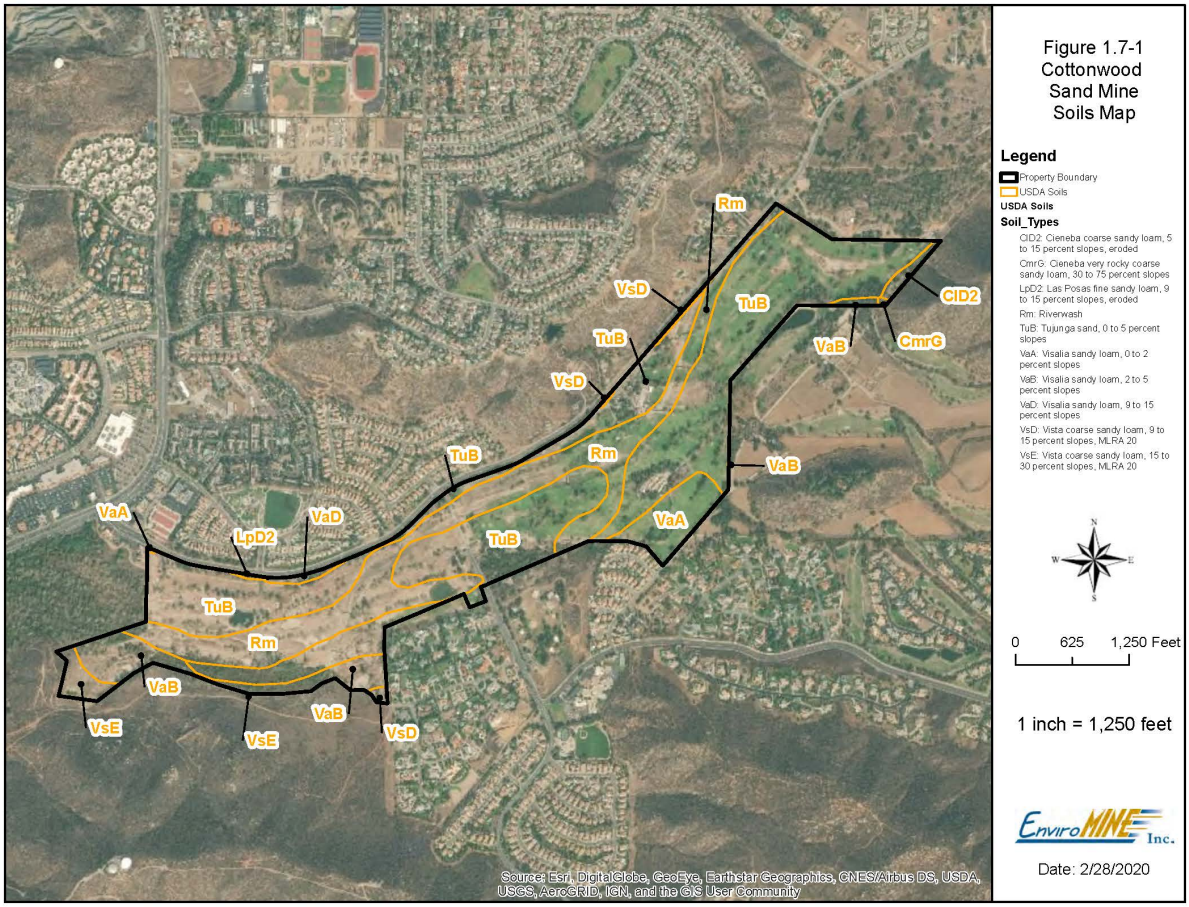


Figure 1.7-1
Cottonwood
Sand Mine
Soils Map
Legend
Property Boundary
USDA Soils
USDA Soils
Soil_Types
CID2: Cieneba coarse sandy loam, 5 to 15 percent slopes, eroded
CmrG: Cieneba very rocky coarse sandy loam, 30 to 75 percent slopes
LpD2: Las Posas fine sandy loam, 9 to 15 percent slopes, eroded
Rm: Riverwash
TuB: Tujunga sand, 0 to 5 percent slopes
VaA: Visalia sandy loam, 0 to 2 percent slopes
VaB: Visalia sandy loam, 2 to 5 percent slopes
VaD: Visalia sandy loam, 9 to 15 percent slopes
VsD: Vista coarse sandy loam, 9 to 15 percent slopes, MLRA 20
VsE: Vista coarse sandy loam, 15 to 30 percent slopes, MLRA 20
N
W
E
S
0 625 1,250 Feet
1 inch = 1,250 feet
EnviroMINE Inc.
Date: 2/28/2020
Rm
VsD
TuB
CID2
TuB
VaB
CmrG
VsD
TuB
Rm
VaB
VaA
VaA
LpD2
VaD
TuB
TuB
Rm
VaB
VaB
VsE
VsE
VsD
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Riverwash (Rm). The Riverwash soil mapping unit occurs in intermittent stream channels. The material is typically sandy, gravelly or cobbly. It is excessively drained and rapidly permeable. Many areas are barren. Sparse shrubs and forbs occur in patches.

Visalia sandy loam, 0 to 2 percent slopes (VaA). This nearly level to level soil is on floodplains. Slopes are dominantly 2 percent.

The Visalia series consists of moderately well drained, very deep sandy loams derived from granitic alluvium. These soils are on alluvial fans and flood plains and have slopes of 0 to 15 percent. The elevation ranges from 400 to 2,000 feet. The native vegetation in uncultivated areas is chiefly annual grasses, chamise, flattop buckwheat, California live oak, and scrub oak.

In a representative profile, the surface layer is dark grayish brown, slightly acid sandy loam about 12 inches thick. The next layers are dark grayish brown, slightly acid sandy-loam and loam. This material extends to a depth of more than 60 inches. In some areas the soil is gravelly throughout.

1.9 Biology

Vegetation

The approximately 280-acre property supports 14 vegetation communities/habitat types: disturbed wetland, freshwater marsh, southern cottonwood-willow riparian forest (including disturbed), southern willow scrub (including disturbed), tamarisk scrub, arundo-dominated riparian, open water, Diegan coastal sage scrub (including disturbed), man-made pond, eucalyptus woodland, non-native woodland, non-native vegetation, disturbed habitat, and developed lands (HELIX Environmental Planning 2020). The project site is predominately characterized by disturbed habitat and developed lands associated with the Cottonwood Golf Club development, use, and maintenance since the mid-1960's. The 18-hole golf course located east of Steele Canyon Road has been non-operational since the summer of 2017 when golf play was suspended. This portion of the site consists of disturbed habitat dominated by ruderal vegetation such Bermuda grass (*Cynodon dacytlon*), Russian thistle (*Salsola tragus*), and annual grasses (*Bromus* spp.). The non-operation portion of the site is still mowed periodically as part of fire control efforts. The eastern portion of the site consists of developed lands with features associated with active operations of the golf course such as fairways (landscaped with Bermuda grass), cart paths, club house, parking lot, and landscaping. Native (Freemont cottonwood [*Populus freemontii*]) and non-native (Peruvian pepper [*Schinus molle*], shamel ash [*Fraxinus udehi*], northern catalpa [*Catalpa speciosa*], and gum tree [*Eucalytpus* spp.]) trees have been planted throughout the project to generally mark the sides of the fairways and screen the golf course from Willow Glen Drive.

The Sweetwater River flows through the project site entering at the northeastern site boundary, traveling in a southwesterly direction, and exiting at the southwestern site boundary. Water is generally absent from the streambed throughout most of the year as flow levels are controlled mainly by upstream impoundments such as the Loveland Reservoir. The streambed is generally unvegetated and subject to maintenance activities, such as mowing. The segment of the river east of Steele Canyon Road

transitions between unvegetated portions and portions vegetated with Bermuda grass associated with the golf course's landscaping. The segment of the river southwest of the Steele Canyon Road is mostly unvegetated with areas of sandy soils. The downstream segment of the river supports native and non-native riparian habitat consisting of southern willow scrub, southern cottonwood-willow riparian forest, and tamarisk scrub. Dominant plant species include Freemont cottonwood, arroyo willow (*Salix lasiolepis*), black willow (*Salix gooddingii*), mule fat (*Baccharis salicifolia*), tamarisk (*Tamarix* sp.), and giant reed (*Arundo donax*).

Native wetland and upland habitat types within the project site such as southern willow scrub and Diegan coastal sage scrub occur relatively small or narrow areas. Most of these areas are also disturbed with high cover of non-native plant species. Those areas that are not disturbed, occur at the edges of the project site, are connected existing undeveloped habitat or preserved areas that occur to the southwest and northeast of the site, and generally be avoided by the proposed project.

Wildlife

The project site is highly disturbed and subject to heavy human use. The site supports wildlife species commonly observed in areas that have undergone modification and/or degradation. Common species observed during the biological surveys include western fence lizard (*Sceloporus occidentalis*), American crow (*Corvus brachyrhynchos*), house finch (*Haemorhous mexicanus*), lesser goldfinch (*Spinus psaltria*), mourning dove (Zenaida macroura), red-tailed hawk (*Buteo jamaicensis*), Acorn woodpecker (*Melanerpes formicivorus*), desert cottontail (*Sylvilagus audubonii*), and California ground squirrel (*Otospermophilus beecheyi*).

Several special status animal species were observed within the project site or flying overhead including Cooper's hawk (*Accipiter cooperii*), great blue heron (*Ardea herodias*), Belding's orange-throated whiptail (*Aspidoscelis hyperythrus beldingi*), oak titmouse (*Baeolophus inornatus*), red-shouldered hawk (*Buteo lineatus*), green heron (*Butorides virescens*), turkey vulture (*Cathartes aura*), monarch butterfly (*Danaus plexippus*), peregrine falcon (*Falco peregrinus*), yellow-breasted chat (*Icteria virens*), coastal California gnatcatcher (*Polioptila californica californica*), vermilion flycatcher (*Pyrocephalus rubinus*), yellow warbler (*Setophaga petechia*), western bluebird (*Sialia mexicana*), Lawrence's goldfinch (*Spinus lawrencei*), barn owl (*Tyto alba*), and least Bell's vireo (*Vireo bellii pusillus*).. U.S. Fish and Wildlife Service (USFWS) critical habitat for the coastal California gnatcatcher and least Bell's vireo occur in the riparian habitat within the southwestern portion of the site, and critical habitat for the southwestern willow flycatcher is present immediately adjacent to the site.

Wildlife movement through the site would be limited based on the current and past use of the site as an active golf course. Common predators and mesopredators that may be present within the surrounding area and utilize the golf course for limited foraging or movement activities include coyote (*Canis latrans*), racoons (*Procyon lotor*), and striped skunk (*Mephitis mephitis*). Larger species such as bobcat (*Lynx rufus*) and mule deer (*Odocoileus hemionus*) may also be present in the area and have potential to move through the project site. However, these species would generally be minimal based on the presence of human activities, surrounding residential development, and availability of open space areas to the south that may be more conducive to wildlife movement patterns and habitat requirements.

1.10 Mineral Resources

The Surface Mining and Reclamation Act of 1975 (SMARA) mandated the initiation by the State Geologist of mineral land classification to help identify and protect mineral resources in areas within the State subject to urban expansion or other irreversible land uses which would preclude mineral extraction. SMARA also allowed the State Mining and Geology Board (SMGB), after receiving classification information from the State Geologist, to designate lands containing mineral deposits of regional or statewide significance.

The objective of classification and designation processes is to ensure, through appropriate lead agency policies and procedures, that mineral deposits of statewide or of regional significance are available when needed.

The California Geological Survey (CGS) classifies California mineral resources with the Mineral Resource Zones (MRZs) system. These zones have been established based on the presence or absence of significant sand and gravel deposits and crushed rock source area used as construction aggregate. The following definitions of the zones on or directly adjacent to the project area are as follows: (CGS, 1982 and 1996b).

- MRZ-1 - areas where geologic information indicates no significant mineral deposits are present.
- MRZ-2 - Areas where adequate information indicates that significant mineral deposits are present or where it is judged that there is a high likelihood for their presence.
- MRZ-3 - Areas containing mineral deposits, the significance of which cannot be evaluated from available data.

The property was previously classified by the California Geological Survey (CGS) as a combination of MRZ-3 and MRZ-4 with a small section of MRZ-2 land located on the northeast end of the property. In 2017, CGS released Special Report 240 *Update of Mineral Land Classification: Portland Cement Concrete-Grade Aggregate in The Western San Diego County Production-Consumption Region, California* which reclassified the property from MRZ-3 and MRZ-4 to MRZ-2 (CGS, 2017). This reclassification action was based on an aggregate resource evaluation report (TerraMins, 2006) provided to CGS in 2016 by the property owner. A classification of MRZ-2 indicates that the area is underlain by mineral deposits where geologic data show that significant measured or indicated resources are present.

2.0 Reclamation Plan

2.1 Owner/Operator/Agent

Applicant
New West Investment, Inc.
565 N. Magnolia
El Cajon, CA 92020
Contact: Greg Brown
Phone: (619) 441-1463

Name of Mineral Property
Cottonwood Sand

Property and Mineral rights Ownership
Cottonwood Cajon ES, LLC
450 North Roxbury, Suite 725
Beverly Hills, CA 90210

Operator
New West Investment, Inc.
565 N. Magnolia
El Cajon, CA 92020

Agent
Warren R. Coalson, James A. DeCarolis
EnviroMINE, Inc.
3511 Camino Del Rio South, Suite 403
San Diego, CA 92108
Phone: (619) 284-8515

Mineral Commodity
Construction aggregate

Surface Mining Initiation Date
February1, 2022 (estimated)

Proposed Closure Date
December 31, 2033. Operations may continue through approval of a MUP time extension beyond the proposed 10-year MUP termination date if required to fully exhaust permitted mineral reserves of 3.8-millon cubic yards of production.

Maximum Anticipated Annual Production
380,000 cubic yards x 1.5 tons/cubic yard = 570,000 tons

Total Anticipated Production
3.8-million cubic yards x 1.5 tons/cubic yard = 5.7-million tons

Maximum Anticipated Depth of Surface Mining
Range: 295 feet to 354 feet AMSL (up to 40' below existing ground surface)

2.2 Operational Characteristics

Operations in the RP area will extract, process, and market aggregate using conventional earth moving and processing equipment. Extractive operations for the project are expected to continue for approximately 10 years with a total production of 3.8-million cubic yards (5.7-million tons). Operations may be continued through approval of a MUP time extension beyond this period depending on the demand for aggregate or geologic conditions encountered during the mining process. Extractive and processing activities will produce up to approximately 380,000 cubic yards (570,000 tons) of material per year. Table 2 presents the anticipated volumes of material to be mined during each phase of the project. Extracted aggregate suitable

for construction uses will be transported offsite to construction projects and batch plants in San Diego County. Material will be sold in bulk to various customers. The Plot Plan for the extractive operations is presented as Attachment A - Plot Plan.

The operation will be extracting materials from the alluvial deposits of the Sweetwater River and will have equipment crossings over the existing river channel or parallel to that channel. Sweetwater Authority utilizes this existing low flow channel to transfer water from the upstream Loveland Reservoir to the downstream Sweetwater Reservoir as part of their management of the water resource. This transfer typically occurs when soils are saturated during the wet winter months of December to March to minimize water losses from the released water through percolation. To avoid interrupting or interfering with Sweetwater's water transfers, Cottonwood has established an operating procedure to maintain communication with Sweetwater Authority prior to, and during, these water transfers. This procedure is provided as Attachment D and will be made a condition of the MUP.

2.3 Topsoil Removal & Proposed End Use

The post mining end use of the Cottonwood property may include uses allowed by the General Plan and County Zoning Ordinance. Materials in the area are very sandy at depth and very similar to the existing topsoil. Approximately 6-inches of topsoil will be salvaged from the disturbed area and stored in stockpiles along the upper edges of the excavation boundaries and identified with signage. When possible, topsoil will be stripped from the surface and directly re-applied to areas that have reached final grade to avoid storing soil.

Topsoil material will be stored in the berm like stockpiles and may be mixed with wash fines that will be used as a final cover on areas that have reached final grade. Topsoil stockpiles will not be disturbed until used for revegetation, if it can be avoided, and will be covered or seeded with a recommended seed mix if not to be used within six months. In general, it is expected that an individual topsoil stockpile will be utilized for reclamation within 12 to 14 months after being salvaged unless it is used to assist visual or noise attenuation during a specific phase. All stockpiles will be utilized when excavation and backfilling has been completed in a phase.

The topsoil within the plan boundary is expected to be heavily infused with a massive, subterranean seed bank containing the seeds of the non-native and/or invasive species. These are not desirable as end-product plants. Aggressive weed eradication is an important objective as the pit develops and during reclamation. As a result, any re-applied top-dressing material will likely require aggressive weed control to meet the revegetation goals of this project.

2.4 Extraction and Phasing

Mine Phases

Mining operations will occur in three (3) phases with a fourth phase for final reclamation, site cleanup and equipment removal (Figure 2.4-1). Each main phase will include multiple subphases of less than 30 acres. Overall mining and reclamation will generally progress in a west to east direction. The precise location and timing of mining and reclamation is subject to market demand and variations in geologic

conditions encountered in the field. Dewatering of these pits are not necessary on this project and will not occur. Each phase will include vegetation removal, topsoil salvaging, resource extraction, backfilling and reclamation.

In Phases 1 through Phase 3, mine pits that may extend up to a total depth of 40 feet below ground will be excavated. Groundwater will likely be encountered and the pit will be limited to 5 acres in size at any time. This will be accomplished by backfilling mined out areas of the pit with wash fines and overburden prior to expanding the pit size. Mined out pit areas will be backfilled to an elevation above groundwater level as the mining phases advance. In areas where excavation extends below the water table, an excavator would be utilized for pit excavation; dewatering would not be required. The excavator would stack excavated material nearby and a loader would deliver and offload the material into the hopper.

Reclamation will occur within each subphase mining area when final contours have been achieved. Final reclamation of the RP area will be completed in mine Phase 3 and during a Final Reclamation phase (Phase 4). It is anticipated that all four phases of mining and final reclamation will be completed in approximately 12 years. Figure 2.4-1 presents all three phases and subphases on the project.

Operations in the first phase will begin with the grading of the plant site, located north of the river channel and immediately west of the existing paved parking area. Initial activity will consist of developing an access road to the processing area and fill an existing golf course pond to establish a pad area for the loadout and the processing plant. In addition, a truck scale, scale house, three settling ponds and storage containers will be located on the pad area. Electrical power lines and the processing plant equipment will also be installed. A portable conveyor system will also be installed and will be used to transport material from the excavation area to the processing plant. This conveyor line will move to subsequent excavation areas as the project proceeds.

The ingress point will extend from Willow Glen Drive to the location of the processing plant west of the existing parking lot. The plant road will be graded and graveled to accommodate over-the-road truck access to the plant/loading area. As indicated, the processing pad will be located north of the river channel and west of the existing golf course parking lot. An exit point for all vehicles leaving the site will be constructed 300 feet east of the entrance. This onsite road shall be designated as one-way traffic in a counter- clockwise direction.

Wash fines (silt and clay sized particles) from the plant are expected to make up approximately 10 percent of the mined material and will be collected in a series of sediment ponds near the wash plant. Most of the fines will settle in the first pond in the series which is referred to as the muck pond. These ponds will be used to protect surface water quality and to recycle the process water through the settling of silts and clays (wash fines) most of which will settle in the first pond and referred to as the muck pond. These ponds will also be used to collect local runoff which may be transporting earthen solids. These ponds will be cleaned occasionally by removing the sediment collected. Collected wash fines that will be used in the extraction area as backfill for over-excavated and the flat to gently sloped areas. Wash fines will be

transported to the backfill areas by truck or tractor-trailer using the conveyor roads and golf course bridges. For backfill areas north of the channel, the fill materials will be loaded onto a low-profile haul truck or tractor-trailer by an excavator at the processing plant and hauled along the conveyor access road to the backfill areas. Clearance under the Steele Canyon Road bridge is approximately 11 feet in height, which will allow the low profile haul truck (approximately 9 feet in height with a capacity of 20 cy) or tractor trailer (approximately 8 feet in height with a capacity of 16 cy) to pass beneath without requiring removal of soil material beneath the bridge. For backfill areas south of the channel, fill material will be delivered from the processing plant area utilizing a conveyor line across existing golf course bridges. The conveyor would transport material to Phase 2 or 3 where it would be offloaded for distribution to backfill areas. West of Steele Canyon Road, all heavy equipment will cross the existing channel to access the Phase 1-A area. On the east side of the of Steele Canyon, heavy equipment will be delivered for the remaining phases south of the channel through the existing maintenance gate located on Ivanhoe Ranch Road. Channel crossings will only be used when there is no water flow in the channel. The conveyor line will cross the channel on one of the existing golf course bridges during all operations south of the channel.

Sediment will initially be stockpiled near the muck pond until it has dewatered. They will be set parallel to the prevailing wind direction for dewatering prior to being used as fill. These stockpiles will be temporary and will be moved to a fill location after drying. Fugitive dust control measures for these stockpiles will include surface watering, use of wind barriers and if necessary, covered with polyethylene tarps.

Fill material in the backfill areas will be spread in near-horizontal layers, approximately 8 to 12 inches thick. Thicker lifts may be approved by the geotechnical engineer if testing indicates that the grading procedures are adequate to achieve the required compaction. Each lift will be spread evenly, thoroughly mixed during spreading to attain uniformity of the material and moisture in each layer, brought to near optimum moisture content and compacted by the heavy equipment to a minimum relative compaction of 85 percent in the floodway area and up to 90 percent compaction in upland areas.

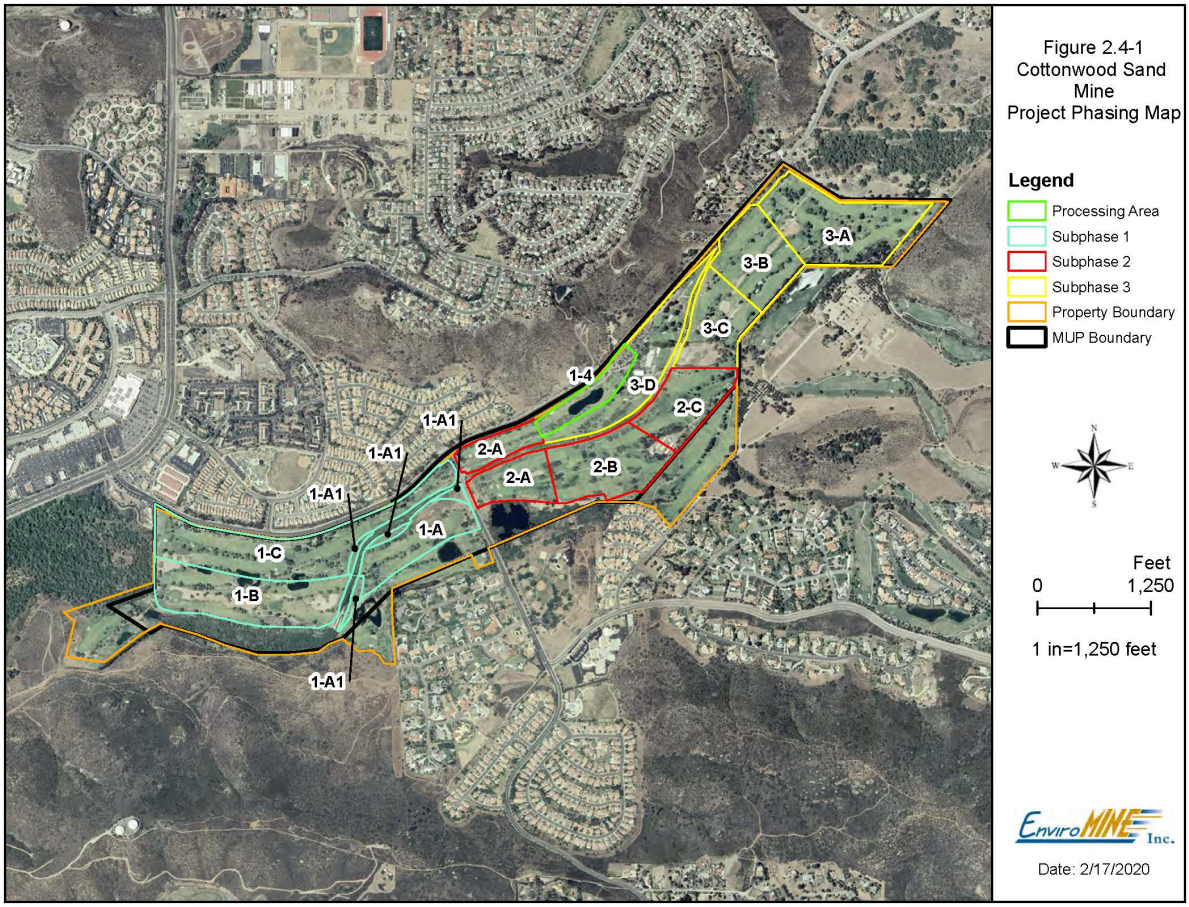
A maintenance program to control weeds on un-reclaimed disturbed ground will be established and implemented at the start of the mining process. The purpose of this effort is to prevent weed infestation of areas that are to be reclaimed in the future. This program will continue during the revegetation and monitoring periods of the project.

Reclamation will be completed as final reclaimed surfaces are established. In the final mining phase, the eastern portion of the project (Phase 3) will be extracted, and the final area of mining related disturbance reclaimed. A final phase (Phase 4) will consist of final reclamation site cleanup and removal of all equipment from the site. Revegetation monitoring will continue after completion of this phase for a minimum of 5 years or until revegetation performance standards are achieved.

At the start of each mining phase, the mining area boundary would be established through surveys that would identify the top of the cut including a setback of 50 feet from the MUP Boundary. A bulldozer or front-end-loader will begin removing vegetation and other deleterious debris from areas to be excavated. Tree stumps and

roots will be removed. Clearing and grubbing will extend to the limits of the proposed excavation and fill areas.

Slopes in working cuts may be temporarily steeper than 3:1 (H: V) during operations. If these steeper slopes are to be inactive for a period of 3, or more, weeks, these slopes will be graded to slope ratio of 3:1 (H: V) or shallower.



Phase 1

The first phase (Phase 1) will include site development for the construction of the access roads, processing area pad, and settling ponds. Following these initial site development activities, extractive operations will commence at the far western portion of the property and include an area of approximately 79 acres. During this phase, an unused residential structure located adjacent to Willow Glen Drive west of Steele Canyon Road will be demolished and all construction waste removed from the property. Phase 1 will be mined in three sub-phases of 30 acres or less and is anticipated to last 3 years or approximately 1 year per subphase. Excavation will begin in the Subphase 1A-1 area. When completed, these areas will be reclaimed immediately as excavation proceeds into the remainder of Subphase 1-A.

Initial extractive operations will salvage approximately 6-inches of topsoil from the surface. Mineral excavation will then proceed to remove all materials from the surface, generally in a southwest to northeast direction, approximately –20 - 25 ft. bgs with an excavator and wheeled front-end-loaders. During sub-phase 1-B and 1-C and area outside the existing channel, excavation may extend 20 feet into the water table using an excavator. Large front-end loaders will transport the mined material to the loading bin connected to the conveyor line. Mined material will then be moved by conveyor to the processing plant where it will be washed, screened, stockpiled and loaded for delivery.

Phase 2

Phase 2 will continue the identical extraction process in a southwest to northeast direction on the adjacent area east of Steele Canyon Road of approximately 48 acres. The conveyor line and onsite road will be moved to the east. This phase is anticipated to last approximately 3 years and will be separated by three sub-phases of less than 20 acres each. Excavation of the materials will continue and proceed eastward in the same fashion as utilized in Phase 1. Total depth of the excavation is expected to be up to 40 feet below the existing ground surface and is expected to average approximately 20 feet. Excavated materials will be loaded onto the conveyor by a wheeled front-end-loader or tracked excavator. Reclamation of each sub-phase area will begin as the final landform is established. Reclamation will include establishment of final slopes, placement of final cover, revegetation, weed control, irrigation and vegetation monitoring.

As Phase 2 nears completion, the remaining golf course building structures on the property, including the clubhouse and maintenance facility will be scheduled for demolition. All construction waste will be removed from the property when demolition is complete.

Phase 3

The excavation process in Phase 3 will continue in a similar nature as the previous phases on approximately 79 acres of the valley, northeast of the Phase 2 area. This phase will proceed from the northeastern end of the pit to the southwest and will consist of four sub-phases. Each sub-phase is expected to be completed within 1 year for a total of 4 years.

Phase 4

Phase 4 will consist of excavation in the plant area, final reclamation efforts, cleanup and equipment removal. Revegetation monitoring will continue for 5 years or until revegetation standards are met after this final phase.

Approximate acreage and estimated duration of each phase are presented in Table 2.

Table 2. Mine Phase Acreages

Mining Phase	Phase Area (acres)	Sub-phase Area (acres)	Mining Duration (years)	Mining Initiation Date (est.)	Mining Completion Date (est.)	Reclamation Completion Date (est.)
1	78.98		3	2021	2024	2026
Sub-phase 1a		22.10	1			
Sub-phase 1b		26.46	1			
Sub-phase 1c		30.42	1			
2	48.18		3	2024	2027	2029
Sub-phase 2a		15.26	1			
Sub-phase 2b		19.08	1			
Sub-phase 2c		13.74	1			
3	78.57		4	2027	2031	2033
Sub-phase 3a		29.42	1			
Sub-phase 3b		16.15	1			
Sub-phase 3c		14.13	1			
Sub-phase 3d		18.87	1			
Phase 4	8.65		1	2031	2031	2033
Total	214.4		10	-	-	

Notes:
1. Phases will have concurrent mining and reclamation operations.
2. A total of approximately 214 acres is to be reclaimed and revegetated.

Mobile Equipment

Equipment used on the site will be used for extraction and reclamation grading. Specialized equipment for seeding (such as hydroseeding trucks) will be contracted. This specialized type of equipment will be on the site for very short periods during each year throughout the project. Table 3 presents the mobile equipment to be employed on the Project.

Table 3. Project Mobile Equipment

Onsite Mobile Equipment – Extraction and Reclamation				
No.	**Make**	**Type/Model**	**Purpose**	**Usage**
2	Cat	Loader – 988K	Mineral Excavation above water table.	100%
1	Cat	Loader – 988K	Highway truck loading	80%
1	Cat	Loader – 966M-BR	Highway truck loading - backup	20%
1	Freightliner	Water Truck M2106	General dust suppression	75%
1	Cat	Excavator –349F	Mineral extraction -pond cleanout	80%
1	Cat	Dozer – D8T	Rough grading, leveling, ripping	80%

Table 3. – continued				
1	Cat	Haul Truck 730C2EJ/ Tractor Trailer	Onsite transportation of material	40%
1	Cat	Motor Grader 140K	Finish grading, maintenance	30%
1	Cat	Skid Steer Loader-246D	Variety cleanup - reclamation	50%
1	Ford	Pick Up	Transportation for site supervisors, QC	20 miles/day

2.5 Plant Operations

The Cottonwood Mine plant site will consist of aggregate processing and washing facilities, three settling ponds, loadout area and all support structures and buildings (e.g., scale, office kiosk and office trailer) as presented on Figure 2.5-1. No blasting or rock crushing will occur on site. A processing plant will be installed in a fixed location once the pad area and access road are developed.

Shielded night lighting may be installed around the processing plant for safety and security purposes. Lighting will be designed to minimize glare and reflection onto neighboring areas. Generally, mounted sodium, metal halide, fluorescent or LED lighting will be employed. Such lighting minimizes energy use, and in combination with cut-offs, reduces light pollution.

Operations shall comply with the San Diego County Light Pollution Ordinance Number 9974 and Noise Ordinance Number 9962.

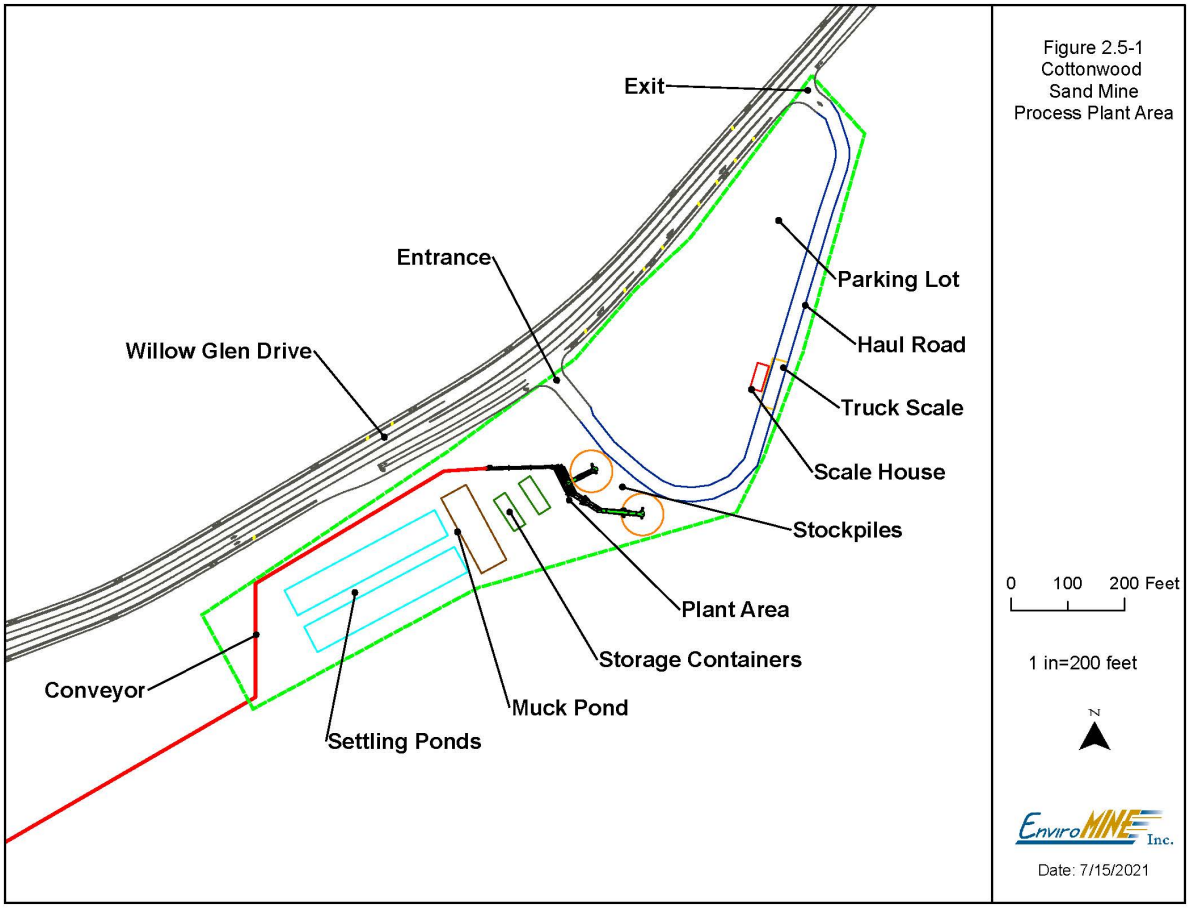
Aggregate Processing Plant

The plant will screen and wash raw material into marketable PCC grade construction aggregate material; washed concrete sand, asphalt sand, pipe bedding and some gravel. No crushing is required to process the materials extracted from the site. Water would be provided by existing groundwater wells on the property. Processed aggregates would be separated into different sizes and stored in stockpiles (up to 25 feet in height) near the plant. Customer trucks would be loaded with finished products from stockpiles by a front-end-loader and transported off-site.

Pole line-power to the plant will be installed in one of the first steps of the project startup and connected to existing power lines on, or adjacent to, the project site. Grading will begin on the pad site and settling ponds constructed. After the processing pad, conveyor line and the access road are in place, a screen deck plant capable of processing 400 tons/hour of raw material will be installed. Extraction of raw material will begin at that time.

After transport to the feed hopper, raw material is emptied directly into the hopper equipped with a water spray bar and covered with a "grizzly" of parallel bars to screen out large cobbles and rock. From the hopper, the material is moved to the belt conveyor which then transports the material to the plant.

The material will be transferred to a blade mill where material is mixed with water to start the process of separating material into different size ranges. From the blade mill, materials drop to a screen deck for final separation. Water is sprayed onto the material throughout the screening process for dust control and to wash any impurities (silt and clay-sized particles) from the material.


Exit
Entrance
Parking Lot
Haul Road
Willow Glen Drive
Truck Scale
Scale House
Stockpiles
Plant Area
Storage Containers
Conveyor
Muck Pond
Settling Ponds
Figure 2.5-1
Cottonwood
Sand Mine
Process Plant Area
0 100 200 Feet
1 in=200 feet
N
EnviroMINE Inc.
Date: 7/15/2021

The screen deck is a mechanical screening device, that is used to take granulated ore material and separate it into multiple grades by particle size. A screening machine consists of a drive that induces vibration, a screen media that causes particle separation, and a deck which holds the screen media and the drive. This drive is used to cause the vibration that moves material down the screen media. As material becomes too fine to separate by a screen, the material is moved to a fine material screw, or sand screw, for washing. These fine material washers utilize a water bath and inclined augers to separate the clay from the fine and very fine sands that are used in mortar and plaster. Clay materials are then piped to the first in a series of settling ponds where silts and clays settle.

After screening, radial stacker conveyors will be used to stockpile the sized material into individual stockpiles and wash fines are transferred to the settling pond circuit. Processed material will be ground loaded into over-the-road haul trucks using a front-end-loader and transported off site.

All equipment will be properly permitted in accordance with San Diego County APCD requirements. Components of the plant and the conveyors are presented in Table 4.

Table 4. Plant and Conveyor Equipment

No.	Type	Attachments	Size/Length	Horsepower (hp)
1	Feed Hopper - Skid Mounted	42” X 25' Belt Feeder	9' X 14'	25
5	Groundline Conveyor	NA	36” X 825'	50
1	Groundline Conveyor	NA	36” X 375'	30
1	Groundline Conveyor	NA	36” X 200'	25
1	Truss Frame Conveyor	Pit Portable Conveyor, Power Travel, Hopper, Discharge Hopper, Walkway	36” X 130'	40
1	Triple Deck Screen w Blade Mill Support	Urethane Media, Spray Manifold, Dual Motor Drive, Discharge Chutes, Rolling Box, Under Hopper, Walkway on Four Sides, Stairway	8' X 20'	50
1	Blade Mill	NA	44” x 20”	100
2	Fine Material Washer	NA	44” X 32'	50
1	Radial Stacker	Power Travel, Power Raise, Pivot, Hopper	36” X 80'	25
1	Radial Stacker	Power Travel, Manual Raise, Hopper	36” X 100'	30
1	Operations Control Room	Motor Control Center, Push Button Console, Motor Starters, In Plant Cable/Wiring, Air Conditioned	NA	NA

Office and Maintenance

The mobile modular unit used for the scale booth will be combined to serve the site’s administrative needs. Required on-site documents will be housed in this unit. Storage of tools or small equipment will be in metal cargo containers also located at the plant site.

Mobile equipment on the project will be maintained by private vendors. As such, any waste material produced from maintenance activities, such as waste oil, will be removed by the vendor upon leaving the site at the end of the workday.

Maintenance and repairs on the site's mobile mining equipment would be completed on a level area near the active excavation and away from any drainage feature. Ground protection and spill containment, which would include plastic sheeting to line a bermed sump and absorbent pads, would be placed in the work area prior to work being conducted on the equipment to contain leaks or accidental spills from reaching the ground. Available clean up materials will include absorbent pads, pillows, dry absorbent, flat nosed shovel, a broom and a waste container for any clean up materials used. All materials used to clean up a spill will be transported from the site and disposed of at a licensed facility in accordance with State and Federal requirements.

As many as 15 over-the-highway trucks may be parked each day near the processing area and entrance to the site. The processing area will be located west of the existing golf course parking lot.

Mine Personnel
Mining and processing equipment will be on site over the duration of the project. Approximately nine (9) individuals will be employed onsite.

2.6 Waste

All material extracted from the site, not designated as saleable product, will be utilized as backfill to construct the final landform. No tailings or waste piles will remain following conclusion of extractive operations. Domestic refuse shall be collected in trash bins and removed by a licensed, refuse disposal company. Equipment will be maintained on site and all used oils, fuels and solvents collected in accordance with the Department of Toxic Substances Control regulations would be removed from the site by an approved hauler for materials recycling.

2.7 Traffic

Processed and sorted materials would be loaded directly onto over-the-road haul trucks from stockpiles located in the plant area. The loaded trucks would be weighed to comply with state regulations and sprayed with water to minimize dust. Watering of the load would occur at the scales.

Haul trucks will approach the project site from Jamacha Road and Willow Glen Drive Trucks will enter the project site east of Steele Canyon Road at the access point on Willow Glen Drive and proceed to the processing area over the onsite access road. When not in active service, approximately 15 trucks may be stored onsite in a designated parking area next to the plant. All other trucks will be parked off-site at individual trucking company storage yards, arrive at the site empty, and leave with a full load. Maintenance and repairs of mining and construction equipment would be completed onsite in specified areas with containment and ground protection. During Phase 1 the maintenance area will be located near the proposed concrete access driveway across from Muirfield Drive, which is necessary due to the inability of heavy equipment to be moved on site beneath the bridge over Steele Canyon Road. In the

remaining phases, the maintenance/repair area will be in a designated location near the processing plant.

The maximum annual rate of extraction is expected to be 380,000 cubic yards (570,000 tons). This will result in approximately 1,462 cubic yards (2,192 tons) leaving the site each day. Sand extraction operations would be conducted approximately 260 days per year, on weekdays, between the hours of 7:00 a.m. to 5:00 p.m. Trucking would occur from 9:00 am to 3:30 p.m. during the week. Approximately 88 trucks would enter and exit the site daily (Table 5). No activities would occur on weekends.

Loaded trucks would utilize Willow Glen Drive to Jamacha Road to deliver the construction aggregate to local markets. The annual maximum production limit (570,000 tons in any calendar year), as well as seasonal and daily peaking factors, were used to generate conservative (worst-case-scenario) estimates; actual truck trips will be dependent on market conditions.

Truck Trips

Table 5. Daily Truck Trips

End Product	% of Total	Quantity	t/load	Loads/day	Round Trips
Aggregate	100	570,000 tons	25	88	176
Total		570,000 tons		88	176

* A cubic yard of concrete contains 1.5 tons of aggregate.

Other Vehicle Trips

Table 6. Other Traffic Trips

Trip Type	One-way trips/day	Round Trips/day
Light Vehicle Trips	14	28
Vendor Trips[1]	4	8

[1]Vendor trips include fuel, supplies, service companies, etc.

2.8 Storm Water and Erosion Control

Erosion control for the project will be accomplished through a combination of permanent and temporary structures. Permanent structures include the drop structure to prevent head cutting of the channel during infrequent, high flow events and appropriate slopes, terraces, ditches and down drains where needed. This section addresses temporary erosion control measures that will be used on the active, disturbed areas of the Project.

A Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) will be prepared and submitted to the State Water Resources Board for the project site prior to construction in accordance with the Industrial General Permit Order 2014-0057-DWQ, effective July 1, 2015. It will reflect the conditions expected to be encountered on the project site. Industrial Best Management Practices (BMPs) and post-extraction BMPs will be designed to protect water quality and in compliance with CCR section 3706, the Federal Clean Water Act, and the Porter–Cologne Water Quality Control Act.

A copy of the SWPPP will also be maintained at the Project site. The SWPPP will include an erosion control plan prepared per State and/or County guidelines.

The SWPPP and erosion control plan will define best management practices (BMPs) to prevent erosion and the discharge of sediment to surface waters. BMPs will be specified for soil stabilization, sediment control, vehicle track out, and transport of soil by wind (e.g., dust control and wind erosion BMPs). Typical soil stabilization BMPs include preservation of existing vegetation, mulch, hydroseeding, soil binders, geotextiles, lining of drainage ditches and/or velocity control structures if needed. Vehicular track out and dust related BMPs may include paved or stabilized roadway surfaces, tire washes, use of grates at vehicle entrances or exits, soil stabilizers, and water spray. The final plan may incorporate these or additional BMPs as appropriate on the site.

Erosion and sedimentation control measures, at a minimum, will be designed for the 20-year 1-hour storm event in accordance with SMARA guidelines. These measures shall be implemented throughout the project life to control surface runoff and drainage for the protection of surrounding land and water resources. Silt fencing, earthen dikes or other erosion control measures will be installed to ensure the overall direction of flow toward the pit or to small settling basins before entering the channel of the Sweetwater River. These treatments will also be used to control erosion and sedimentation in areas with the potential for offsite transport of sediment These erosion control measures will be maintained until vegetation becomes established to serve as an effective storm water and erosion control measure.

Slopes will be revegetated with native species common to the Coastal Sage Scrub or Southern Willow Scrub vegetation communities depending on location at the site. Riparian species will be planted on the edges of the river channel. Successful revegetation will minimize the potential for erosion and sedimentation. If necessary, straw wattles or silt fencing will be used on slopes to help control erosion during the revegetation process. All areas disturbed by the project will be revegetated as soon as feasible.

Erosion control measures will be implemented in accordance with the following criteria:

Class 1: No soil loss or erosion; topsoil layer intact; well-dispersed accumulation of litter from past year's growth plus smaller amounts of older litter.

NO ACTION NECESSARY

Class 2: Soil movement slight and difficult to recognize; small deposits of soil in form of fans or cones at end of small gullies or fills, or as accumulations back of plant crowns or behind litter; litter not well dispersed or no accumulation from past year's growth.

ACTION: Monitor to see if any further deterioration and action is required.

Class 3: Soil movement or loss more noticeable; topsoil loss evident, with some plants on pedestals or in hummocks; rill marks evident, poorly dispersed litter and bare spots not protected by litter.

ACTION: Any rills or gullies exceeding 8 square inches in cross sectional area and more than 10 linear feet located on finished slopes shall be arrested using straw mulch and hay bales

Class 4: Soil movement and loss readily recognizable; topsoil remnants with vertical sides and exposed plant roots; roots frequently exposed; litter in relatively small amounts and washed into erosion protected patches.

ACTION: Replant via hydroseeding or spread seed and cover with straw mulch. Regrade, compact with equipment, and install silt fences if necessary.

2.9 Utilities

2.9.1 Water and Wastewater

A water truck is used to water material stockpiles and unpaved areas periodically throughout the day for dust suppression purposes. Other water requirements include surface watering of outgoing loads, dust suppression for the processing equipment, material washing and irrigation. Operational and irrigation water needs at the site will be provided by eight existing, onsite water wells.

Water usage depends on production volume. Production volume will vary year-to-year with market demand; however, the project's estimated consumptive water use assumes the maximum annual production of 570,000 tons. Water usage for the processing operation includes water retention in materials shipped, evaporation and dust control for the project is estimated to be 64 acre-feet annually for this production rate. A single water truck will be required to control dust. Evaporation from potential pit water is 20.3 acre-feet per year assuming a 5-acre pit size. Irrigation of the right of way, the landscaping in the parking area, and revegetation is estimated to utilize approximately 55.6 acre-feet per year. Total water consumption for the project is estimated at 139.9 acre-feet per year including all processing uses, irrigation and pond evaporation. Water for all operational and reclamation purposes will be supplied by onsite groundwater wells.

Eight groundwater wells on the property currently provide irrigation water for the golf courses. These wells will be used to provide water for the operation. Water use estimates for the existing golf club operations based on information provided by the golf course superintendent (Personal Communication, 2019) and the Evapotranspiration (ET) method as described in the Groundwater Sustainability Plan for Borrego Valley (Borrego Valley Groundwater Sustainability Agency, 2019). The estimated annual water usage from well pump data provided by the course superintendent is 840 acre-feet. The estimated annual water usage using the ET method, and including evaporation from course ponds, is 804 acre-feet. Mine operations are estimated to reduce this consumptive use by approximately 80 percent per year. Wells not to be used by the property owner or for groundwater monitoring after mining and reclamation are complete will be properly abandoned. Wells in the mining footprint, or not to be used in the future, will be abandoned as each mining

phase is completed in accordance with County requirements and standards. Note the Sweetwater Authority has requested that two wells, Lakes #11 and Ivanhoe #11, remain in place after cessation of mining and reclamation activities so Sweetwater can continue groundwater monitoring in this area of the river. It is the intent of the Project to not remove these two wells unless it is required.

Water used to wash the excavated material at the plant will be retained in a series of connected settling basins near the plant. Two submersible pumps enclosed in a waterproof casing would feed and circulate the wash water. Water used in the washing operation would be continuously reused and recycled. Approximately 70 gpm of water input would be required to make up for consumptive water use on the site.

Sewage Disposal
Mining operations will utilize two portable restrooms provided by a private vendor. One restroom will be placed in the plant area and the second near the excavation area as it moves. The portable restrooms are serviced at appropriate intervals.

Drinking Water
Bottled drinking water will be provided by a private vendor.

2.9.2 Electricity and Telephone

Electrical power required for mining and processing operations will be provided by San Diego Gas & Electric through existing overhead transmission lines that will enter the site from the northwest. The project will utilize temporary power poles for the plant location and conveyor system. SDG&E easements will remain in place after the project is complete.

Telephone service will be provided by cellular service.

2.9.3 Fire and Law Enforcement Services

A fire station operated by the San Miguel Fire Protection District is located at 11501 Via Rancho San Diego, El Cajon, CA 92019 which is approximately 1.6 miles from the main access point of the project. In addition, the San Diego headquarters of Cal Fire is located 1.4 miles from the project entrance. Access to the site for both fire stations is provided by Jamacha Blvd and Willow Glen Drive.

Law enforcement services are provided by the San Diego County Sheriff's Department from the Rancho San Diego substation located at 11486 Campo Rd near the junction of Jamacha Road and Campo Road and approximately 2.4 miles from the site.

2.9.4 Equipment Fuel

Diesel will be delivered to the site daily by a private supplier to fill the onsite equipment. If gasoline is needed on the site for small tools, it will be contained in approved, five-gallon fuel cans with a maximum of 10 gallons stored at the site at any time. These gas cans will be stored in a locked container away from flammable materials. Small trucks and passenger vehicles will utilize local commercial stations for fuel. No other fuel will be stored on the site.

2.10 Safety and Security

Fencing (4-strand barbed wire) will be installed along the exterior edges of the project except along Willow Glen Drive. Chain-link fencing will be placed along Willow Glen Drive. Signage will be placed along the fence at appropriate intervals warning the public of hazards and restricted access.

Gates will be installed at the ingress/egress roads to restrict public vehicular access. These gates will be closed and locked during periods of non-operation. Signs will be posted at the entrance identifying the name of the operation, permit number and emergency contact information. The site will be patrolled on a regular basis to discourage trespass. Fire Department locks will be placed on all gates.

3.0 Reclamation and Revegetation

The Reclamation Plan describes reclamation of the extraction area and sets forth standards to assure adequacy of the plan measures. Attachment A - Plot Plan shows the proposed reclaimed landform that would be developed upon resource depletion and final backfilling. Approval of the plan will result in most resources being extracted; thus, it is possible future mining will not be economic or feasible.

The goals of this Reclamation Plan are to:

1. Maximize the recovery of aggregate in a safe and efficient manner.
2. Return extracted areas to a useful purpose following depletion of natural mineral resource.
3. Restore vegetation with the use of native species.
4. Mitigate, by design, potential environmental impacts on the land that might otherwise be created by extraction.

Resource extraction will lower the existing elevation of the golf course area by approximately 15 to 20 feet. Slopes, at maximum 3H:1V overall, will constitute the perimeters of the channel. Following completion of the mining and reclamation activities, the area disturbed by mining will be revegetated and reclaimed including recreational trails.

Reclamation will be completed for each sub-phase after the completion of mining in that specific area. For example, as mining progresses from sub-phase 1-A area into subphase 1-B area, final reclamation will begin in the sub-phase 1-A area. Final landforms will be developed, topsoil spread over the surface and the area planted with the native species identified in the Revegetation Plan. This procedure will result in approximately 75 to 80 percent of the disturbed lands being reclaimed by the time extractive operations are complete.

Reclamation is expected to continue for up to 2 years after the cessation of mining. Work completed during this period will include backfilling to grade, removal of all processing equipment, final grading, removal of roads, preparation of seed beds and planting. Weed control will continue after planting. Monitoring of the revegetation effort and areas will continue until performance standards are met. Erosion and sediment control will also be monitored and repaired if necessary.

The final landform will be a relatively flat plain that gently slopes downward from east to west. A deepened floodway will bisect the length of the site. Banks of the floodway will slope up to the plain surface at a 3H:1V ratio or shallower. The elevation difference between the bottom of the river channel and the top of the slope may be up to 25 feet. The deepened floodway is expected to average approximately 250 to 300 feet in width. In some areas, small benches may be constructed on the face of the riverbanks to accommodate vegetation types and/or recreational trails.

3.1 Slope Grading & Compaction

All slopes will be cut from native materials in compliance with geotechnical recommendations (see attached Geotechnical Report, Attachment C). All slopes will be continuously developed as the pit progresses eastward using wash fines incorporated with topsoil as a cover material. All slopes will be at a 3H:1V gradient or shallower (see Figure 3.1-1). The pad surfaces will slope gently towards the river channel. All final slopes will be reclaimed to a maximum 3H:1V gradient. Brow ditches and berms will be placed at the top of the slopes to prevent slope erosion. Appropriate erosion control materials will be installed, and drainage established. Disturbed land to be reclaimed, including roads will be approximately 214 acres. Based on the geotechnical study conducted for the site, all final, slopes will have a factor of safety in excess of 1.5 for both static and pseudostatic conditions. (Attachment C).

The onsite materials and sand production by-products should provide adequate quality fill material provided they are free from organic matter and other deleterious materials. Fill should be inorganic, non-expansive granular soils.

Fill will be spread in near-horizontal layers, approximately 8 inches thick. Thicker lifts may be approved by the geotechnical engineer if compaction testing indicates that the grading procedures are adequate to achieve the required compaction. Each lift will be spread evenly, thoroughly mixed during spreading to attain uniformity of the material and moisture in each layer, brought to near optimum moisture content and compacted to a minimum relative compaction of 85 percent in the floodway and up to 90 percent in upland areas.in accordance with ASTM D1557 or as approved by the geotechnical engineer.

The final slopes will also be track-walked to create depressions for erosion control and water retention. Disturbed areas will be seeded annually during the rainy season as final slope areas become available for hydroseeding or planting. If necessary, over-compaction of the surface soil will be relieved by ripper, disc and/or scarified to provide a suitable root zone for plant growth.

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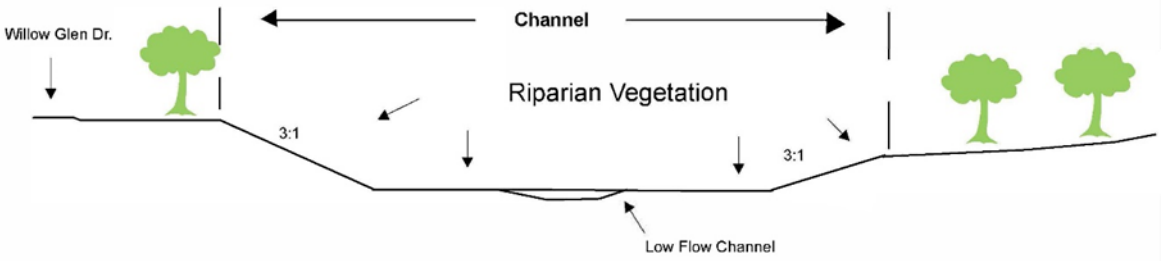

EnviroMINE Inc.

February, 2020

Figure 3.3-1
Cottonwood Sand Mine
Reclaimed Slope Design

3.2 Roads

Access to the extraction area will be through a new entrance from Willow Glen Drive located approximately 0.25 miles east of the intersection of Willow Glen Drive with Steele Canyon Road. The new access point is located approximately 0.25 miles west of the golf course parking lot in the north central part of the extraction area and will be retained for post-mining use. This road would continue to a new egress point in the approximate center of the existing parking lot (See Sheet 3, Plot Plan). The project proposes to also construct a two-way left-turn lane between the Project ingress and egress driveways, which would serve as a refuge lane for trucks to complete their outbound maneuver as they are exiting the site. A second, egress point from Willow Glen Drive will be installed approximately 0.4 miles west of the Willow Glen Drive and Steel Canyon Road intersection as shown on the Plot Plan. This access point will be constructed directly across from Muirfield Drive and consist of a concrete apron that will convert to gravel surface for a short distance on the property. All onsite roads, except a San Diego Gas and Electric maintenance access road, will be stripped of road base materials if needed, covered with 6-inches of topsoil or wash fines, ripped to relieve compaction, and revegetated by hydroseeding with the appropriate seed mix.

3.3 Removal of Equipment

All structures and equipment used in the operation will be removed from the site prior to final reclamation. This includes all loaders, bulldozers, haul trucks, storage containers, water trucks, and processing equipment. The truck scales and office trailer will be removed. Surplus equipment and supplies stored onsite will be transported off-site. Asphalt will be removed from most of the parking lot with a small parking area left in place near the entrance for use during reclamation monitoring and by the property owner for access. Gates to the property will remain in place. All trash, asphalt and miscellaneous debris will be collected and hauled to an appropriate waste disposal facility.

All existing hazardous materials located onsite shall be disposed of, and transported, in accordance with all applicable regulations/ordinances. Any wells located on the property that are not retained by the property owner shall be abandoned under permit and inspection by San Diego County Department of Environmental Health.

3.4 SMARA Revegetation

The objective of revegetation discussed in this plan is to provide vegetative cover for disturbance created by extractive operations, controlling erosion, and stabilizing slopes. Revegetation for restoration is provided in the Conceptual Revegetation Plan (Attachment B) as part of this Reclamation Plan. Plant materials to be used are capable of self-regeneration without continued dependence on irrigation, soil amendments or fertilizer.

Revegetation will be enough to stabilize the surface against the effects of long-term erosion and is designed to meet the post-extraction land use objectives of the site. Native species will be used for all revegetated areas to establish vegetative cover and are designed to meet the variety of physical characteristics present. An erosion control seed mix will be used for the flat or gently sloped areas. Revegetation plant palettes, including container stock and seed mixes, for the RP area are presented in Attachment B. Revegetation Plan.

A list of the Revegetation Plan plant palettes are as follows:

- Riparian Scrub/Forest Rehabilitation Plant Palette – 6.13 acres
- Riparian Forest Plant Palette – 15.51 acres
- Riparian Scrub Plant Palette - 85.08 Acres
- Streambed (Emergent Wetland) Seed Mix - 9.92 Acres
- Diegan Coastal Sage Scrub Plant Palette - 11.91 Acres
- Erosion Control Seed Mix – 96.06 acres

Revegetation will be conducted on the entire area disturbed by the mining activities. Prior to seeding, materials utilized as final cover will be analyzed to determine the presence of elements essential for plant growth. If the soils analysis shows that fertility levels or soil constituents are inadequate to successfully implement the revegetation program, amendments may be incorporated into the soil through hand planting, sowing and/or hydroseeding. Wire cages will be installed as necessary to protect plants from herbivore damage, if necessary.

A discussion of the methods to be used and locations to be planted with specific species are presented in the Revegetation Plan, Attachment B.

The flat or gently sloped areas outside of the riparian corridor will be hydroseeded with an erosion control mix to aid in soil stabilization and control erosion.

Container plants will be planted by hand. Seed mixes described above will be applied using mechanical hydroseeding methods or hand sown. Hydroseeding is the hydraulic application of a homogeneous slurry mixture consisting of water, seed mix, cellulose fiber and a binding agent such as "M" Binder. Fertilizer can be added if the soil analysis shows the need for addition of amendments; however, native plant communities do not tend to benefit from the use of fertilizer and can result in excessive weed infestations. As such, the use of fertilizer is not anticipated.

The hydroseed mixture shall consist of the following materials:

- 2,000 lbs./acre cellulose fiber
- 140 lbs./acre "M" Binder (tackifier)
- 200 lbs./acre Milogranite (fertilizer if required)
- Seed mix as listed.

Hydroseeding application shall be performed only at times when winds are relatively calm between November and January. These months are also selected to take advantage of the natural wet season of Southern California.

3.5 Irrigation

To assist with the propagation of reclamation revegetation, irrigation of reclaimed lands will be used over the first two years after planting to augment natural precipitation. An irrigation plan for the reclaimed area will be developed in accordance with recommendations of the Project Landscape Architect and will be submitted to the County for approval prior to implementation. Watering will only occur to assist in

establishment and/or in long periods of extended dryness. Irrigation will not be used continuously after seeding. Water from existing water wells will be utilized for irrigation. Irrigation will be completed in compliance with County's Water Conservation in Landscaping Ordinance. Evidence shall be provided demonstrating that revegetation is self-sustaining without irrigation for two years prior to the release of financial assurances.

3.6 Interim Seeding

Where final landforms have been established but are not available for final reclamation for greater than 8 months, erosion control will be provided through revegetation with a general erosion control seed mix. The application of the seed mix will be completed on an as-needed basis to control erosion and weed propagation.

3.7 Timing

Seeding shall be performed and completed generally between November 1 and January 15, although irrigation may extend these dates. All efforts will be made to plant during this time since beneficial temperatures and anticipated rainfall will aid in germination, establishment, and growth of target species.

3.8 SMARA Revegetation Performance Standards

Following seeding and before release of financial assurance, the revegetated areas must meet performance criteria. For this site, the most meaningful performance criteria for erosion control and visual mitigation are based on vegetative cover and species-richness. Comparison with off-site reference areas will be completed for the channel vegetation as this segment of the revegetation project consists of common native plant species and habitats whose parameters are established in the area. Elevated areas of the project where erosion control mixes will be used for revegetation will not be compared to reference areas. While it is expected that the revegetated slopes will have benefit to wildlife, the revegetation efforts within this plan are not intended to meet natural habitat performance standards. Habitat restoration and mitigation are presented in the Conceptual Revegetation Plan. The performance standards are presented in Table 8.

Table 8. Revegetation Performance Standards

Vegetative Cover (m: meters)	Species Composition / Species Richness	Percent Cover	Density
Seed Mixes	Target Goal: 100% of the most prevalent species shall be native species. 12 randomly placed 50 - meter by 1-meter transects.	Target Goal: 50% cover (all native species combined) 12 randomly placed 50 - meter by 1-meter transects.	N/A
Container Stock	Target Goal: 5 tree species 12 randomly placed 50-meter by 1-meter transects	N/A	Target Goal: 30 total trees per acre (80% survival) 12 randomly placed 50-meter by 1-meter transects

Revegetated areas will be monitored once per year to compare the actual revegetation success rates with the success criteria.

Since revegetation will occur concurrently with extractive operations, revegetation practices will be continually evaluated as revegetation is completed throughout the site. Records shall be kept of soil preparation, including the addition of amendments as determined to be necessary, seeding techniques and erosion control measures.

Revegetated areas shall be identified on a map and tested to assure that standards are adequately achieved to within a minimum of 80 percent confidence interval. Annual monitoring reports will be submitted to the County until the approved success criteria have been met and approved by the County. When the County agrees that revegetated areas meet success criteria for two consecutive years, no further monitoring will be required, and the operator may apply for release of financial assurances.

3.9 Test Plots Locations and Treatment

Two test plot areas will be placed in the Phase 1 area of the project. The first should be located at a lower elevation in an area of riparian plantings and second at a higher elevation that encompasses coastal sage scrub/upland plantings. Location of each test plot will be established by the Revegetation Specialist. Test plots will help to ensure successful implementation of the revegetation plan. The lead agency may waive any requirement to conduct test plots when the success of the proposed revegetation plan can be documented from experience with similar species and conditions or by relying on competent professional advice based on experience with the species to be planted.

Success of these test plots shall be judged based upon the effectiveness of the vegetation for the approved end use, and by comparing the quantified measures of vegetative cover, density, and species richness of the reclaimed mined lands to the surrounding area. Comparisons will be made by a qualified individual until performance standards have been met.

3.10 Weed Control

Primary weed species to be addressed in weed control efforts include Giant Reed, Arundo (*Arundo donax),* Mustard (*Brassica sp.),* Ripgut Brome *(Bromus diandrus),* Cheat Grass, Downy Brome *(Bromus tectorum),* Pampas Grass *(Cortaderia spp.),* Eucalyptus *(Eucalyptus spp.),* Pepperweed *(Lepidium latifolium),* Tree Tobacco *(Nicotiana glauca),* Castor Bean *(Ricinus communis),* Russian Thistle*, Tumbleweed (Salsola tragus),* and Tamarisk *(Tamarix spp.)*

After startup, the project site will be monitored periodically by means of visual observation to identify the potential for uncontrolled weed propagation. Should weed control be necessary, the operator will hire the services of a biologist or agriculturalist to make recommendations for the control of noxious weeds that may invade the project area. The operator and/or a contract vendor will carry out treatments recommended to eradicate the undesired vegetation. All vegetative debris resulting from the weed maintenance program will be removed from the property and disposed of properly.

3.11 Post Extraction Land Use

Upon completion of resource extraction, the extraction area site will be reclaimed to uses allowed under the General Plan and County Zoning Ordinance including recreational trails. After reclamation is complete and financial assurances mechanisms released, other uses will require separate entitlements. Reclamation of the site will be considered complete when revegetation standards are met on the areas disturbed by the mining operation.

3.12 Post Extraction Drainage and Erosion Control

Small de-siltation basins may be constructed at the bottom of slopes to capture sediment and avoid potential off-site impacts. In addition, silt fences, straw waddles geotextiles or lined drains may be installed as BMPs during the revegetation process. Erosion control measures will be designed for the 20-year 1-hour storm intensity event. These measures will be implemented to control surface runoff and drainage to protect surrounding land and water resources. Silt fences or other temporary erosion control devices will be removed from the site after vegetation has been established.

Slope rounding will be used along the top of slopes to prevent runoff from flowing from flat areas onto slopes. Gently sloped areas will be graded at approximately 1 percent slope to minimize the potential for erosion and sediment transport. Additional erosion and sediment controls will be implemented around work areas as mining progresses.

3.13 Post-Extraction Public Safety

No mining equipment, tailings, waste piles, refuse or dangerous material will remain onsite. Vehicular access onto the property will be blocked by locked gates at all access points onto the property. Where appropriate, during mining and reclamation the site will be protected from intruder access by fencing and warning signs posted to restrict unlawful access. Fencing will consist of a four-strand barbed wire chain link in certain areas. Security fencing will be removed after reclamation is complete at the owner's request. Fencing shall be consistent with any required County or other oversight agency guidelines.

3.14 Effect of Reclamation on Future Recovery of Mineral Resources

Extractive operations will recover unrestricted, economically recoverable resources within the project footprint. As a result, reclamation will have no effect on future mineral resource recovery if it becomes economical.

3.15 Reclamation Monitoring and Maintenance

Reclamation and post-reclamation efforts will be monitored pursuant to SMARA requirements and according to the approved Revegetation Plan. Data for cover, density, and species richness will be collected along 12 randomly placed 50-meter by 1-meter transects. The operator will be required, under SMARA (Public Resources Code §2207), to submit an annual status report on forms provided by the Department of Conservation and directs the lead agency to conduct an inspection of the operations within six months of receipt of the required Annual Report. Revegetation monitoring will continue for a minimum of 5 years per County requirements or until performance standards are met.

4.0 Financial Assurances

In addition to annual monitoring, all SMARA regulated sites are required to provide financial assurances. The financial assurances are required to ensure that the site can be reclaimed, should the operator default on this obligation. The financial assurances may be in the form of surety bonds, irrevocable letter of credit, trust funds, or other forms of financial assurances approved by the Lead Agency. The amount of the financial assurance is reviewed annually by the Lead Agency to determine the adequacy for completing reclamation.

5.0 Compliance with Reclamation Standards

5.1 Purpose

The Surface Mining and Reclamation Act requires that all newly approved Reclamation Plans incorporate verifiable standards to assure adequate completion of Reclamation Plan objectives. The verifiable standards were adopted by the State Board of Mining and Geology as regulations to implement these requirements. These regulations are known as the "Reclamation Standards" (PRC Article 9, Sections 3700 *et seq.*). The following discussion addresses compliance with these standards as outlined in the Reclamation Plan for the Cottonwood Sand Mine dated October 2018.

5.2 Financial Assurances (§3702)

The project is required to provide financial assurances to ensure reclamation is performed in accordance with the reclamation plan. Financial assurances are reviewed annually by the lead agency and adjusted, as necessary.

5.3 Wildlife Habitat (§3703)

Two federal and state listed species, coastal California gnatcatcher (federally listed as threatened) and least Bell's vireo (federally and state listed endangered) were identified onsite during focused species surveys. USFWS-designated critical habitat for the coastal California gnatcatcher, least Bell's vireo, and federal listed endangered San Diego ambrosia is present in the southwestern portion of the site. USFWS-designated critical habitat for the coastal California gnatcatcher, least Bell's vireo, and federal listed endangered San Diego ambrosia is present in the southwestern portion of the project site, and critical habitat for the federal and state listed endangered southwestern willow flycatcher occurs off-site to the west. The project would not result in impacts to southwestern willow flycatcher critical habitat, but would result in minor impacts to San Diego ambrosia, coastal California gnatcatcher, and least Bell's vireo critical habitat. The small portions of critical habitat that would be impacted currently consist of disturbed habitat associated with the golf course development that do not support habitat for these species, and small amounts (0.10 acre) of riparian forest located at the edge of the riparian habitat that would be restored to riparian habitat following project activities as part of site reclamation and the project's proposed mitigation. As part of the reclamation process, the project would preserve, enhance, rehabilitate, and restore habitat through the widening and revegetation of the Sweetwater River channel and placement within open space such that no net loss of sensitive natural communities or riparian habitat would occur. No in-stream mining is planned, however; mining shall not cause fish to be trapped in pools or off-channel pits or restrict migratory or spawning activities. The project would implement breeding

season avoidance and/or pre-construction surveys to avoid direct and indirect impacts to sensitive birds and raptors.

5.4 Backfilling, Regrading, Slope Stability, and Recontouring (§3704)

The reclamation plan calls for continued resource extraction and reclamation over an area of about 214 acres; and will result in the creation of nearly level areas and maximum slopes of 3H:1V. All cut and fill slopes shall have a minimum slope stability factor of safety that is suitable for the proposed end use and conforms to the surrounding topography. All reclaimed slopes shall follow the recommendations of the geotechnical report (See Attachment C, Soil and Geologic Reconnaissance). Areas within the reclamation boundary will be backfilled to specific elevations as shown on the Plot Plan to achieve final, reclaimed contours.

5.5 Revegetation (§3705)

The objective of revegetation is to provide vegetative cover on final slopes that will visually integrate the site with surrounding areas and stabilize the site against erosion and sedimentation. Surfaces will be ripped or disced to relieve compaction. Native plant species will be used for revegetation. Section 3.4 of this Reclamation Plan sets forth planting and maintenance practices, as well as verifiable monitoring standards to assure vegetative success. Examples of maintenance practices and verifiable monitoring standards include, but are not limited to managing noxious weeds, irrigation for establishment purposes, planting during appropriate seasons, planting methods, soil fertility analysis. Test plots are required to assist with determination of successful revegetation measures.

5.6 Drainage, Diversion Structures, Waterways, and Erosion Control (§3706)

The quality of water, recharge potential, and storage capacity of groundwater aquifers is not expected to be diminished because of reclamation of this extraction operation (GeoLogics & Assoc, 2020). Operational erosion control methods are designed in compliance with storm water regulations. Erosion and sedimentation control will be implemented during all phases of operations, according to the Drainage Report. Per Industrial General Permit Order 2014-0057-DWQ Effective July 1, 2015 requirements an NOI will be filed, a SWPPP prepared and BMPs implemented to mitigate erosion and sediment transport.

5.7 Prime Agricultural Land Reclamation (§3707)

Not applicable. The land is mapped as Urban and Built-Up Land by the California Department of Conservation.

5.8 Other Agricultural Land (§3708)

The property has been used as golf courses for more than 55 years. Prior to golf course use the site was a dry wash. Very heavy irrigation would be required for any agriculture due to the porosity of the soil materials at the site. In addition, land in the area has been developed or is in the process of being developed. The RP area is not located on lands that are currently under a Williamson Contract agreement.

5.9 Building, Structure and Equipment Removal (§3709)

All structures and equipment (mobile, portable, and fixed) will be removed from the plan area except as demonstrated to be necessary for the proposed end use by the property owner following reclamation.

5.10 Stream Protection, Including Surface and Groundwater (§3710)

Mining and reclamation activities include storm water protection measures to eliminate the potential for erosion and sedimentation discharges off-site. These measures are compliant with appropriate sections of the Federal Clean Water Act, Porter-Cologne Act, the California Regional Water Quality Control Board, and the San Diego County Watershed Protection Ordinance (WPO) No. 10410. The revegetation practices outlined in Section 3.4 of this Reclamation Plan identify measures to establish a self-regenerating vegetative complex that is designed to control erosion and sedimentation. In addition to these plan measures, the Lead Agency would conduct annual inspections to ensure implementation of these water quality protection measures.

Unavoidable impacts would occur to riparian and wetland habitat as part of proposed project activities, including the widening of the Sweetwater River channel, which would be subsequently planted with native riparian vegetation along the channel bottom, and coastal sage scrub on slopes bordering the channel. These areas support jurisdictional waters and wetlands. Impacts to jurisdictional waters and wetlands would require compensatory mitigation. ratio. The proposed mitigation ratios are consistent with County guidelines and those that would be required by the wetland permitting agencies (USACE, RWQCB, CDFW), though final mitigation requirements for impacts to jurisdictional waters and wetlands would be determined during the permitting process. Generally, these range from 1:1 to 3:1, with wetlands requiring at least a 1:1 on-site establishment/re-establishment component. The project would impact 3.70 acres of wetland and 0.34 acre of non-wetland waters of the U.S. and 21.83 acres of wetlands and waters under CDFW jurisdiction.

5.11 Topsoil Management (§3711)

Topsoil will be salvaged to aid in reclamation. It is expected that topsoil will be stripped in advance of the pit and directly placed on previously disturbed surfaces immediately prior to revegetation. This will limit damage to soil structure and preserve soil biological processes. Topsoil stockpiles will be clearly identified with signage.

5.12 Tailing and Extraction Waste Management (§3712)

Extracted material not transported off-site will be used as backfill. No stockpiles will be left on site post reclamation. Mine waste and tailings and mine waste disposal units are governed by SWRCB waste disposal regulations and shall be reclaimed in accordance with CCR Article 1. Surface Mining and Reclamation Practice. Section 3500 et seq." and "All waste shall be disposed of in accordance with State and local health and safety ordinances."

5.13 Closure of Surface Openings (§3713)

Not Applicable.

5.14 Public Safety

Public health and safety are protected in accordance with County standards for open space. Access is controlled by fencing and with locked gates at all access points to the property.

5.15 Administrative Contacts

Lead Agency Information:

Lead Agency:	County of San Diego,
Staff Contact:	Ms. Heather Steven
Address:	5510 Overland Ave, 3rd Floor, San Diego, CA 92123
Telephone:	(858) 495-5516

6.0 Project Summary

A summary of pertinent details for the Project is presented in Table 9 as follows:

Table 9. Project Summary

General Site Information	
Applicant	Cottonwood Mine
Project Proponent	New West Investment, Inc.
Property Owner (s)	Cottonwood Cajon ES, LLC
Project APN's	506-021-1900, 506-020-5200, 518-012-1300, 518-012-1400, 518-030-0500, 518-030-0600, 518-030-0700, 518-030-0800, 518-030-1000, 518-030-1200, 518-030-1300, 518-030-1500, 518-030-2100, 518-030-2200, 519-010-1500, 519-010-1700, 519-010-2000, 519-010-2100, 519-010-3300, 519-010-3400, 519-011-3700, 519-011-0300
Surface Elevation	Approximately 334' on the west to 378' AMSL on the east.
General Plan Designation	Open Space (Recreational)
Zoning	S80 - Open Space; S88 - Specific Planning Area; S90 - Holding Area
Williamson Act Contract	No
MRZ Designation	MRZ- 2 (CGS Special Report 240, 2017)
Current Land Use	Golf Courses - Recreational
Major Use Permit Boundary	251.1 acres
Reclamation Plan Boundary	214.4 acres
Additional Permits	Air Permits, Haul Truck Plans, Traffic Control Permits, Right-of-Way Encroachment Permits, Major Use Permit, Industrial General Permit, Public Improvement Plan Permit, CLOMR/FEMA approval, Resource Agency Permits 404/401 and 1602 permits
Mining	
Mining Area	Estimated 214.4 acres within the existing golf course footprint
Setback Limit	50 feet from property boundary, 100 feet from residential
Maximum Mining Depth	West: 295 feet. East:354 feet AMSL (approximately 40' below existing ground surface)
Approx. Groundwater Elevation (range)	Approximately, 310 (west end) to 354 feet (east end) AMSL.
Mining Slopes	3H:1V (horizontal: vertical) maximum
Type of Minerals	Alluvium
Maximum Total Production	3.8 million cu.yds. (5.7-million tons)
Maximum Annual Production	570 thousand tons
Commencement of Mining	Within 1 Year After Permit Approval
Duration of Project	12 years (10 years of extraction and reclamation with 2 years for final reclamation after cessation of extraction)
Mining Permit Expiration	12 years after approval date.
Reclamation	
Revegetated Area	Approximately 214.4 acres
Duration of Reclamation	Continuous starting in year 2 and extending 2 Years after cessation of mining.
Completion of Reclamation	2033 estimated

Post Mining Land-Uses	Land suitable for uses allowed by the General Plan and existing zoning.

7.0 Statement of Responsibility

I, the undersigned, hereby agree to accept full responsibility for reclamation of all mined lands as described and submitted herein and in conformance with the applicable requirements of Articles 1 and 9 (commencing with Sections 3500 et seq. and 3700 et seq., respectively) of Chapter 8 of Division 2 of Title 14 of the California Code of Regulations, the Surface Mining and Reclamation Act commencing with Section 2710 et seq., and with any modifications requested by the administering agency as conditions of approval.

Cottonwood, LLC:

Signature: _____

Title: _____

Date: _____

(final version of the Reclamation Plan will be signed)

8.0 References

Borrego Valley Groundwater Sustainability Agency. 2019. Draft Final Groundwater Sustainability Plan for the Borrego Springs Groundwater Subbasin.

California Geological Survey (CGS), 2017. Special Report 240 - Update of Mineral Land Classification: Portland Cement Concrete-Grade Aggregate in The Western San Diego County Production-Consumption Region, California. Authors: Gius, F.W., Busch, L.L. and Miller, R.V. (PG 3331)

California Regional Water Quality Control Board. 1994. Water Quality Control Plan for The San Diego Basin (9). Authors: Barker, D.T., Schwall, K.T. and Pardy, L.L.
GeoCon, Inc. 2019 (revised 2020). Soil and Geologic Reconnaissance, Cottonwood Golf Course. El Cajon, California.

Geo-Logic Associates. 2020. Groundwater Investigation Report, Cottonwood Sand Mine, Jamacha, California. November.

Helix Environmental Planning. 2019. Preliminary Biological Letter Report for The Cottonwood Sand Mine Project. January 24th.

Personal Communication. 2019. Conversation with Mr. Javier Ruiz, Cottonwood Golf Club Superintendent.

Tan, S. S. (2002a). Geology of the El Cajon 7.5' Quadrangle, San Diego County, California, 1:24,000 scale

Tan, S. S. (2002b). Geologic Map of the Jamul Mountains 7.5' Quadrangle, San Diego County, California, 1:24,000 scale

USDA. 1973, Soil Survey San Diego Area, California. Soil Conservation Service and Forest Service. Author: Bowman, R.H.