

**DRAFT**  
**SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT 597**  
**SECOND AMENDMENT TO THE 2001 PRIMA DESHECHA**  
**GENERAL DEVELOPMENT PLAN**

**VOLUME 1**

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**September 11, 2006**

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## ACRONYMS

<b>Acronym</b>	<b>Acronym and Abbreviation Description</b>
<b>A</b>	
AAM	Annual arithmetic mean
AB	Assembly Bill
ADT	Average Daily Traffic
af	Man-made fill
AGM	Annual geometric mean
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
ARAR	Applicable or Relevant and Appropriate Requirement
ASTM	American Society for Testing and Materials
ASW	Automobile Shredder Waste
<b>B</b>	
BAS	Bryan A. Stirrat & Associates
BMP	Best Management Practice
Board	Orange County Board of Supervisors
BO	Biological Opinion
<b>C</b>	
CAA	Clean Air Act
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CDMG	California Division of Mines and Geology
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
cfs	Cubic feet per second
CFR	Code of Federal Regulations
CIWMB	County of Orange Integrated Waste Management Board
CIWMP	County of Orange Integrated Waste Management Plan
CNDDB	California Natural Diversity Database
CNF	Cleveland National Forest
CNPS	California Native Plant Society
CO	Carbon Monoxide
COVC	Orange County Vector Control
CSS	Coastal sage scrub
CSSMP	Coastal Sage Scrub Mitigation Program
CUP	Conditional Use Permit
CVC	California Vehicle Code
CVWD	Capistrano Valley Water District
CWA	Clean Water Act
cy	Cubic yards



<b>Acronym</b>	<b>Acronym and Abbreviation Description</b>
<b>D</b>	
DAMP	Drainage Area Management Plan
DBH	Diameter at breast height
DSEIR	Draft Supplemental Environmental Impact Report
<b>E</b>	
EG	Emission Guidelines
EGR	Exhaust gas recirculation
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
ERF	Energy Recovery Facility
ESA	Federal Endangered Species Act
<b>F</b>	
°F	Degrees Fahrenheit
FEIR	Final Environmental Impact Report
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
ft	Feet
FTC	Foothill Transportation Corridor
fy	Fiscal year
<b>G</b>	
GDP	General Development Plan
gpm	Gallons per minute
<b>H</b>	
H <sub>2</sub> S	Hydrogen sulfide
HBP	Harbors Beaches and Parks
HCA	Orange County Health Care Agency
HCA/LEA	County of Orange Health Care Agency/Solid Waste Local Enforcement Agency
HCP	Habitat Conservation Plan
HCS	Habitat Classification System
HDPE	High density polyethelene
HHW	Household Hazardous Waste
HHWCC	Household Hazardous Waste Collection Center
hr	hour
HRMP	Habitat Reserve Management Plan
<b>I</b>	
IA	Implementation Agreement
IHLMP	Interim Habitat Loss Mitigation Plan
IS	Initial Study
IWMB	Integrated Waste Management Board
IWMD	Integrated Waste Management Department

<b>Acronym</b>	<b>Acronym and Abbreviation Description</b>
<b>J</b>	
JTD	Joint technical document
<b>K</b>	
km	Kilometers
kV	Kilovolt
<b>L</b>	
lbs/day	Pounds per day
LBV	least Bell's vireo
LCRS	Leachate Collection and Recovery System
LCSA	Load Check Storage Area
LEA	Local Enforcement Agency
LFG	Landfill Gas Generation
<b>M</b>	
mcy	Million cubic yards
MDL	Method detection limit
MEP	Materials Exchange Program
mg/L	Milligrams per liter
MM	Mitigation Measure
MMRP	Mitigation Monitoring and Reporting Program
MPAH	Master Plan of Arterial Highways
MOU	Memorandum of Understanding
MPRR	Monitoring Program and Reporting Requirements
MRF	Materials Recovery facility
MSAA	Master Streambed Alteration Agreement
msl	Mean Sea Level
MW	Monitoring Well
<b>N</b>	
NCCP	Natural Communities Conservation Plan
NCCP/HCP	Natural Communities Conservation Plan/Habitat Conservation Program
NEPA	National Environmental Policy Act
NG	Native grassland
NMFS	National Marine Fisheries Service
NO <sub>2</sub>	Nitrogen Dioxide
NOCLATS	North Orange County Landfill and Alternative Technologies Study
NOI	Notice of Intent
NOP	Notice of Preparation
NOx	Nitric Acid
NPDES	National Pollution Discharge Elimination System
NRCS	Natural Resources Conservation Service
NSPS	New Source Performance Standards

<b>Acronym</b>	<b>Acronym and Abbreviation Description</b>
<b>O</b>	
O <sub>3</sub>	Ozone
OCCP	Orange County Circulation Plan
OCFA	Orange County Fire Authority
<b>P</b>	
Pb	lead
PDF	Project Design Feature
PDL	Prima Deshecha Landfill
PDSD	Planning and Development Services Department
PM2.5	Particulate Matter – Fine
PM10	Particulate Matter
ppm	Parts per million
PQL	Practical quantitation limit
<b>Q</b>	
Q <sub>100</sub>	100-year flood
<b>R</b>	
RCB	Reinforced concrete box
RCP	Reinforced concrete pipe
RDMD	Orange County Resources and Development Management Department
RDMD/HBP	Orange County Resources Development and Management Department, Department of Harbors, Beaches, and Parks
REEOP	Regional Environmental Enhancement Opportunities Plan
RHMP	Riparian Habitat Mitigation Program
RMV	Rancho Mission Viejo Company, LLC
ROG	Reactive Organic Gas
RWQCB	Regional Water Quality Control Board
<b>S</b>	
SAA	Streambed Alteration Agreement
SAMP	Special Area Management Plan
SAMP/MSAA	Special Area Management Plan/Master Streambed Alteration Agreement
SB	Senate Bill
SCA	Standard Condition of Approval
SCAB	South Coast Air Basin
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SCGC	Southern California Gas Company
SCPWD	San Clemente Public Works Department
SCTM	San Clemente Traffic Model
SCWD	San Clemente Water Department
SDG&E	San Diego Gas and Electric
SDRWQCB	San Diego Regional Water Quality Control Board
SEIR	Supplemental Environmental Impact Report
SJCTM	San Juan Capistrano Traffic Model
SMWD	Santa Margarita Water District
SO <sub>2</sub>	Sulfur Dioxide

<b>Acronym</b>	<b>Acronym and Abbreviation Description</b>
SO <sub>4</sub>	Sulfate
SOS	Supplemental Open Space
SO <sub>x</sub>	sulfur oxides
SWF	Solid Waste Facility
SWFP	Solid Waste Facilities Permit
SWPPP	Storm Water Pollution Prevention Program
SWRCB	State Water Resources Control Board
<b>T</b>	
T-BACT	Toxics–Best Available Control Technology
TCA	Transportation Corridor Agency
TCO	Technical Change Order
tpd	tons per day
<b>U</b>	
UCI	University of California, Irvine
USACE	United States Army Corps of Engineers
USEPA	US Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
<b>V</b>	
VCD	Vector Control District
VMT	Vehicle miles traveled
VOC	Volatile Organic Compounds
VPL	Viewshed Protection and Landscaping Plan
VPP	Viewshed Protection Program
<b>W</b>	
WDR	Waste Discharge Requirements
WMU	Waste Management Unit
WMU1	Waste Management Unit 1
WMU2	Waste Management Unit 2
<b>Symbols</b>	
µg/m <sup>3</sup>	micrograms per cubic meter

## GLOSSARY

**Adverse Impact:** A term used to describe unfavorable, harmful, or detrimental environmental changes. Adverse impacts may be significant or not significant (see Significant Impact).

**Agricultural Land Use:** The use of land primarily for farming, ranching, horse breeding, dairy farming and other forms of food and crop production. From a planning perspective, agricultural land use connotes primary economic use of the property.

**Agriculture:** Farming, including animal husbandry and the production and management of crops (including aquatic crops) for food, fiber, fuel, and ornament (source: Moorpark Municipal Code Section 17.08.010).

**Air Basin:** An area of the state designated by the Air Resources Board pursuant to Subdivision (a) of §39606 of the California Health and Safety Code for air quality planning purposes.

**Air Monitoring:** The periodic or continuous sampling and analysis of air pollutants in ambient air or from individual pollutant sources.

**Air Pollutants:** Substances that are foreign to the atmosphere or are present in the natural atmosphere to the extent that they may result in adverse effects on humans, animals, vegetation, and materials. Common air pollutants are ozone, nitrogen dioxide, particular matter, and carbon monoxide. Air pollution is defined in the *California Health and Safety Code* as any discharge, release, or other propagation into the atmosphere and includes, but is not limited to, smoke, charred paper, dust, soot, grime, carbon, fumes, gases, odors, particulate matter, acids, or any combination thereof.

**Air Pollution Control District (APCD):** A local agency with authority to regulate stationary sources of air pollution (such as refineries, manufacturing facilities, and power plants) within a given county and that is governed by a District Air Pollution Control Board composed of elected county supervisors and city representatives.

**Air Quality Management Plan (AQMP):** A plan prepared by an air pollution control district or agency to comply with either the federal Clean Air Act or the California Clean Air Act. An AQMP contains measures that will be taken to attain and maintain federal and state ambient air quality standards. In California, air districts prepare air quality management plans that are included in the state's State Implementation Plan (SIP) that is required by the federal Clean Air Act. Such plans are also referred to as Clean Air Plans or Clean Air Attainment Plans.

**Air Quality Model:** An algorithmic relationship between pollutant emissions and pollutant concentrations used in the prediction of a project's pollutant impact.

**Air Quality Standards:** Standards promulgated by state or federal pollution control districts. It is the specified average concentration of an air pollutant in ambient air during a specified time period at or above which undesirable effects may be produced.

**Air Toxics:** Any air pollutant for which a national ambient air quality standard (NAAQS) does not exist (i.e., excluding ozone, carbon monoxide, PM10, sulfur dioxide, nitrogen dioxide) that may reasonably be anticipated to cause cancer, developmental effects, reproductive dysfunctions, neurological disorders, heritable gene mutations, or other serious or irreversible chronic or acute health effects in humans.

**Ambient Noise:** The background noise associated with a given environment, usually a composite of sounds from many sources near and far. The ambient noise level constitutes the normal or existing level of environmental noise at a given location.

**Applicant:** An applicant is a person who proposes to carry out a project which needs a lease, permit, license, certificate, or other entitlement for use or financial assistance from one or more public agencies when that person applies for the governmental approval or assistance (source: CEQA Guidelines §15351).

**Approval:** An approval is the decision by a public agency which commits the agency to a definite course of action in regard to a project intended to be carried out by any person. The exact date of approval of any project is a matter determined by each public agency according to its rules, regulations, and ordinances. Legislative action in regard to a project often constitutes approval. With private projects, approval occurs upon the earliest commitment to issue or the issuance by the public agency of a discretionary contract, grant, subsidy, loan, or other form of financial assistance, lease, permit, license, certificate, or other entitlement for use of the project (source: CEQA Guidelines §15352).

**Aquifer:** A natural underground formation that is saturated with water, and from which water can be withdrawn. A geologic formation of sand, rock, and gravel through which water can pass and which can store, transmit, and yield significant quantities of water to wells and springs.

**Artifact:** A single, portable man-made or man-altered object; usually culturally diagnostic.

**Attainment:** Achieving and maintaining the air quality standards (both state and federal) for a given air pollutant.

**Attainment Area:** An area considered to have air quality as good as or better than the National Ambient Air Quality Standard as defined in the Clean Air Act. An area may be an attainment area for one pollutant and a non-attainment area for others.

**Automobile Shredder Waste:** California's Automobile Shredder Waste Initiative (Initiative) was financed with grant funds provided by the United States Environmental Protection Agency through the Resource Conservation and Recovery Act. The goals of the Initiative were three fold: evaluate the adequacy of the Department of Toxic Substances Control's (DTSC) automobile shredder waste policy; affirm the regulatory status of the automobile shredders operating in California; and ensure compliance by the automobile shredders with the existing statutes and regulations.

**Average Daily Traffic (ADT):** The number of vehicles (trips) passing a given point on a road going in a direction during a 24-hour period.

**Background Concentration:** Air pollutant concentration due to natural sources and distant unidentified man-made sources.

**Background View:** View beginning at a distance from the observer and extending as far toward the horizon as the eye can detect the presence of objects. Skylines or ridge lines against other land surfaces are the strongest visual elements of the "background."

**Base Flood:** In any given year, a 100-year flood that has a one percent likelihood of occurring and is recognized as a standard for acceptable risk.

**Base Flow:** River surface flow, not counting storm flow and/or purchased imported water.

**Baseline conditions:** see existing conditions.

**Basin Plan:** A water quality control plan developed by a Regional Water Quality Control Board (RWQCB) for a specific geographic area. The Basin Plan identifies beneficial uses of waters, the water quality objectives needed to maintain these beneficial uses, and an implementation plan.

**Beneficial Uses:** The resources, services, and qualities of state waters that may be protected against quality degradation. The uses include, but are not limited to, domestic, municipal, agricultural and industrial supply, power generation, recreation, aesthetic enjoyment, navigation, and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves. The specific uses such as “cold freshwater habitat” and “water contact recreation” are defined in Section 2 of the Regional Water Quality Control Boards’ Basin Plans. Beneficial Uses are defined in *California Water Code*, Section 13050.

**Best Management Practice (BMP):** A BMP is any program, technology, process, siting criteria, operating method, measure, or device which controls, prevents, removes, or reduces pollution.

**Biotic Community:** A group of living organisms characterized by a distinctive combination of both animal and plant species in a particular habitat.

**Buffer Zone:** An area of land separating two distinct land uses that acts to soften or mitigate the effects of one land use on the other.

**Buildout:** Development of land to its full potential or theoretical capacity as permitted under current or proposed planning or zoning designations. Buildout also refers to the year in which project construction has been completed.

**California Air Resources Board (CARB):** California’s lead air quality agency, consisting of a nine-member Governor-appointed board that is responsible for motor vehicle air pollution control and that has oversight over California’s air pollution management program.

**California Ambient Air Quality Standards (CAAQS):** These are specified concentrations of air pollutants, recommended by the California Department of Health Services and adopted into regulation by the Air Resources Board, which relate the intensity and composition of air pollution to undesirable effects. CAAQS are the standards that must be met per the requirements of the California Clean Air Act.

**California Clean Air Act (CCAA):** A California law passed in 1998 that provides the basis for air quality planning and regulation independent of federal regulations and which establishes new authority for attaining and maintaining California’s air quality standards by the earliest practicable date. A major element of the CCAA is the requirement that local Air Pollution Control Districts in violation of the California Ambient Air Quality Standards must prepare attainment plans that identify air quality problems, causes, trends, and actions that must be taken for attainment.

**California Code of Regulations (CCR):** The regulations that implement California laws.

**California Department of Transportation (Caltrans):** The state government agency responsible for the construction, maintenance, and operation of state and federal highways in California.

**California Endangered Species Act:** The California Endangered Species Act (CESA) (Fish & Game Code §§ 2050, *et seq.*) generally parallels the main provisions of the Federal Endangered Species Act and is administered by the California Department of Fish and Game (CDFG).

**California Environmental Protection Agency (CalEPA):** The state agency that incorporates the State Water Resources Control Board, the Integrated Waste Management Board, and other agencies with environmental responsibilities.

**California Environmental Quality Act (CEQA):** The California Environmental Quality Act, *California Public Resources Code*, Sections 21000 *et seq* (Source: CEQA Guidelines §15353).

**Carbon Dioxide (CO<sub>2</sub>):** A colorless gas that enters the atmosphere as the result of natural and artificial combustion processes. It is also a normal part of the ambient air.

**Carbon Monoxide (CO):** A colorless, odorless gas resulting from the incomplete combustion of fossil fuels. CO interferes with the blood's ability to carry oxygen to the body's tissues and can result in adverse health effects. CO is a criteria air pollutant.

**Carbon Monoxide Hot Spot:** An area, usually an intersection or congested segment of a highway, that exceeds the federal or state carbon monoxide standard.

**Catch Basin:** A storm drain inlet having a sump below the outlet to capture settled solids.

**Clean Air Act (CAA):** A federal law passed in 1970 (and amended in 1977 and 1990) that sets primary and secondary National Ambient Air Quality Standards for major air pollutants and forms the basis for the national air pollution control effort.

**Clean Water Act (CWA):** Growing public awareness and concern for controlling water pollution led to enactment of the Federal Water Pollution Control Act Amendments of 1972. As amended in 1977, this law became commonly known as the Clean Water Act. The Act established the basic structure for regulating discharges of pollutants into the waters of the United States. It gave the EPA the authority to implement pollution-control programs such as setting wastewater standards for industry. The Clean Water Act also set water quality standards for all contaminants in surface waters. The Act made it unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a permit was obtained under its provisions. It also funded the construction of sewage treatment plants under the Construction Grants Program and recognized the need for planning to address the critical problems posed by non-point source pollution. Subsequent enactments modified some of the earlier Clean Water Act provisions. Revisions in 1981 streamlined the municipal construction grants process, improving the capabilities of treatment plants built under the program. Changes in 1987 phased out the construction grants program and replaced it with the State Water Pollution Control Revolving Fund, more commonly known as the Clean Water State Revolving Fund. This new funding strategy addressed water quality needs by building on EPA-State partnerships.

**Code of Federal Regulations (CFR):** The document that codifies all rules of the executive departments and agencies of the federal government. It is divided into 50 volumes, known as titles. Title 40 of the CFR (referenced as 40 CFR) lists all the environmental regulations.

**Community Noise Equivalent Level (CNEL):** A noise compatibility level established by *California Administrative Code*, Title 21, Section 5000. It represents a time-weighted 24-hour average noise level based on the A-weighted decibel. The CNEL scale includes an additional 5 dB adjustment to sounds occurring in the evening (7 PM to 10 PM) and a 10 dB adjustment to sound occurring in the late evening and early morning between (10 PM and 7 AM).



**Compost:** The product resulting from the controlled biological decomposition of organic wastes that are source-separated from the municipal solid waste stream or which are separated at a centralized facility. Compost includes vegetable, yard, and wood wastes which are not hazardous wastes (*Public Resources Code*, Section 40116).

**Conditional Use:** A land use which is not permitted by right, but which may be appropriate in a given zoning district under certain circumstances. The use may occur only upon approval of a conditional use permit.

**Conditional Use Permit (CUP):** A permit based on a discretionary decision that is required prior to the initiation of particular uses that are not allowed as a matter of right. Such permits are subject to site plan review and may be conditioned at the time of approval (source: Moorpark Municipal Code Section 17.44.030).

**Conformity:** A requirement of the federal Clean Air Act that no department, agency, or instrumentality of the federal government shall engage in, support in any way, or provide financial assistance for license, permit, or approve any activity that does not conform with the State Implementation Plan (SIP) by causing or contributing to an increase in air pollution emissions, violation of an air pollution standard, or frequency of violating that standard.

**Construction:** Any site preparation, assembly, erection, substantial repair, alteration, or similar action for or of public or private rights-of-way, structures, utilities, or similar property.

**Contiguous:** Lands or legal subdivisions having a common boundary; lands having only a common corner are generally not contiguous.

**Contour Grading:** A grading technique which uses curvilinear, horizontal, and vertical undulations in order to simulate the characteristics of natural topography.

**Co-Permittee:** A permittee to a National Pollutant Discharge Elimination System (NPDES) permit that is only responsible for permit conditions relating to the discharges from its area of jurisdiction.

**Cumulative Impact:** A cumulative impact refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonable foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time (source: CEQA Guidelines §15355).

**Cumulatively considerable:** This term can be used to describe the proposed project if, when compared to other projects occurring or that will occur in the area, will cause a significant impact.

**Debitage:** Debris; waste products or by-products of the manufacturing process. Lithic debitage would include unused flakes, exhausted cores, and broken artifacts.

**Decibel (dB):** A unit for expressing the relative intensity (loudness) of sounds. The decibel is the logarithm of the ratio of the intensity of a given sound to the faintest sound discernible by the human ear.

**Decibel, A-Weighted (dBA):** A-weighting is a frequency correction that correlates overall sound pressure levels with the frequency response of the human ear.

**Decision-making Authority:** Decision-making authority means any person or body vested with the authority to make recommendations or act on application requests. The final decision-making authority is the one which has the authority to act on a request by approving or denying the request. This may include the Community Development Director or his/her designee, the Planning Commission, or the City Council.

**Decision-making Body:** Any person or group of people within a public agency that is permitted by law to approve or deny the project at issue (source: CEQA Guidelines §15356).

**Deep Percolation:** The percolation of surface water through the ground beyond the lower limit of the root zone of plants into a groundwater aquifer.

**Demolition:** Any dismantling, intentional destruction, or removal of structures, utilities, public or private rights-of-way surfaces, or similar property.

**Desilting:** The physical process of removing suspended particles from water.

**Density:** The gross site area which shall include local roadways, slopes, and open space areas, unless otherwise specified. Density is usually expressed “per acre.” For example, a development with 100 dwelling units located on 20 acres has a density of 5 units per acre.

**Detention Device:** Facilities designed to collect and temporarily detain the initial volume of storm water runoff for a specified period of time to permit settlement of particulate pollutants.

**Discretionary approval:** An action taken by a government agency that calls for the exercise of judgment in deciding whether to approve or how to carry out a project.

**Direct Effects:** Effects which are caused by an action and occur at the same time and place.

**Dispersion:** The process by which atmospheric pollutants disseminate due to wind and vertical stability.

**Drainage:** An area that collects and diverts rain water and urban runoff down slope.

**Drainage Area:** The portion of the earth’s surface from which precipitation or other runoff flows to a given location. With respect to a highway, this location may be a culvert, the farthest point of a channel, or an inlet to a roadway drainage system.

**Effects:** “Effects” and “impacts,” as used in the CEQA Guidelines, are synonymous. Effects include: (a) Direct or primary effects which are caused by the project and occur at the same time and place; (b) Indirect or secondary effects which are caused by the project and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect or secondary effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on air and water and other natural systems, including ecosystems. Effects analyzed under CEQA must be related to a physical change (source: CEQA Guidelines §15358).

**Effluent:** Wastewater or other liquid, partially or completely treated or in its natural state, flowing from a treatment plant.

**Emission:** An air contaminant released to the atmosphere. The act of passing into the atmosphere of air contaminant or a gas stream that may or may not contain an air contaminant or the material so passed into the atmosphere (source: Ventura Air Pollution Control District).

**Emission Standards:** The federal Environmental Protection Agency (EPA), California Air Resources Board (ARB), or South Coast Air Quality Management District (SCAQMD) standards or limits for air contaminant emissions.

**Encroachment:** The occupancy of project right-of-way by non-project structures or objects of any kind or character; also, activities of other parties within the operating right-of-way.

**Endangered Species Act:** The Federal Endangered Species Act of 1973 provides a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species, and to take such steps as may be appropriate to achieve the purposes of the treaties and conventions set forth in subsection (a) of the Endangered Species Act.

**Energy Recovery Facility:** The EPA expects about 30 percent of waste to be recycled or composted, leaving approximately 150 million tons of waste to be managed. This remaining waste will be handled using other elements of EPA's integrated waste management approach, primarily landfilling and energy recovery, also referred to as waste-to-energy (WTE). Energy recovery plants burn waste to heat water to produce steam in much the same way power plants burn coal, oil, natural gas, or wood. The steam can drive a turbine to produce electricity or be used directly for industrial processes or community heating. Today, there are 114 energy recovery plants that operate in 32 states throughout the United States. The EPA estimates that energy recovery plants will dispose of more than 15 percent of the nation's waste by the year 2000. These plants perform the following services:

- Burn about 15 percent of the waste generated nationwide, or about 101,000 tons each day.
- Generate enough electricity to meet the power needs of 1.2 million homes and businesses.
- Generate enough energy to replace nearly 30 million barrels of oil annually.
- Serve the disposal needs of more than 40 million people.

**Environment:** The physical conditions which exist within the area which will be affected by a proposed project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance. The area involved shall be the area in which significant effects would occur either directly or indirectly as a result of the project. The "environment" includes both natural and man-made conditions (source: CEQA Guidelines §15360).

**Environmental Documents:** Environmental documents means Initial Studies, Negative Declarations, draft and final EIRs, documents prepared as substitutes for EIRs, and Negative Declarations under a program certified pursuant to *Public Resources Code*, Section 21080.5 and documents prepared under NEPA and used by a state or local agency in the place of an Initial Study, Negative Declaration, or an EIR (source: CEQA Guidelines §15361).

**Environmental Impact Report:** A detailed statement prepared under the California Environmental Quality Act (CEQA) that describes and analyzes the significant environmental effects of a project and discusses ways to mitigate or avoid the effects. The term "EIR" may mean either a draft or a final EIR depending on the context. A Draft EIR means an EIR containing the information specified in CEQA Guidelines §§15122–15131. A Final EIR means an EIR containing the information contained in the draft EIR, comments (either verbatim or in

summary) received in the review process, a list of persons commenting, and the response of the Lead Agency to the comments received (source: CEQA Guidelines §15362).

**Environmental Impact Statement:** An environmental impact document prepared pursuant to the National Environmental Policy Act (NEPA). NEPA uses the term “EIS” instead of the term “EIR,” which is used in CEQA (source: CEQA Guidelines §15363).

**Environmental Protection Agency (EPA):** The EPA is the federal agency with primary responsibility for the implementation of federal environmental statutes, including the Clean Water Act, Clean Air Act, Safe Drinking Water Act, and the Resource Conservation and Recovery Act. California is included within EPA Region IX, which is headquartered in San Francisco.

**Equivalent Noise Level (Leq):** A single-number representation of the fluctuating sound level in decibels over a specified period of time. It is a sound-energy average of the fluctuating level.

**Erosion:** The process by which material is removed from the earth’s surface (including weathering, dissolution, abrasion, and transportation), most commonly by wind or water.

**Erosion Control:** The stabilization of cut-and-fill slopes and other areas.

**Existing conditions:** These are the regional and local settings that occur on the site at the time the Notice of Preparation/Initial Study was issued.

**Expansive Soils:** Soils that swell when they absorb water and shrink as they dry.

**Farmland of Local Importance:** These are lands of importance to the local agricultural economy and are determined by each county's board of supervisors and local advisory committee. Each county has developed its own definition of Farmland of Local Importance. (Source: Natural Resource Conservation Service)

**Farmland of Statewide Importance:** Lands similar to Prime Farmland but with minor shortcomings, such as greater slopes or with less ability to hold and store moisture. These lands have the same reliable source of adequate quality irrigation water available during the growing season as required for Prime Farmland. The land must have been used for the production of irrigated crops at some time during the two update cycles prior to the mapping date. (Source: U.S. Department of Agriculture Soil Conservation Service)

**Fault:** A fracture in the earth’s crust forming a boundary between rock masses that have shifted. An active fault is a fault that has moved recently and which is likely to again. An inactive fault is a fault which shows no evidence of movement in recent geologic time and no potential for movement in the relatively near future.

**Feasible:** If something is feasible it is capable of being accomplished in a successful manner within a reasonable period of time when taking into account economic, environmental, legal, social, and technological factors (source: CEQA Guidelines §15364).

**Filtration:** The mechanical process that removes particulate matter from water by passing through sand or other media.

**Flood:** A general and temporary condition of partial or complete inundation of normally dry land areas from: (1) overflow of inland or tidal waters; (2) the unusual and rapid accumulation or runoff of surface waters from any source; (3) mudslides (i.e. mudflows) which are proximately caused by flood, and are akin to a river of liquid and flowing mud on the surface of normally dry

land areas, as when earth is carried by a current of water and deposited along the path of the current; and (4) the collapse or subsidence of land along the shore of a lake or other body of water as a result of erosion or undermining caused by waves or currents of water exceeding the cyclical levels which result in flood.

**Flood, 100-Year ( $Q_{100}$ ):** The magnitude of a flood expected to occur on the average every 100 years, based on historical data. The 100-year flood has a 1/100, or one percent, chance of occurring in any given year.

**Floodplain:** Any land area susceptible to being inundated by flood waters from any source. It is the relatively level land area on either side of the banks of a stream regularly subject to flooding. That part of the floodplain subject to a one percent chance of flooding in any given year is designated as an “area of special flood hazard” by the Federal Insurance Administration.

**Flow:** A flow is a sudden movement of a soil mass in which individual particles travel separately in a fluid motion. Debris and mudflows are rapid and can be related to excess rainfall on slopes, often where vegetation has been removed. Debris flows often have the consistency of cement and can result in catastrophic effects to structures.

**General Development Plan:** see General Plan

**General Plan:** A compendium of city or county policies regarding long-term development, in the form of maps and accompanying text. A General Plan is a legal document required of each local agency by *State of California Government Code*, Section 65301 and adopted by a city council or board of supervisors. California law requires the preparation of seven elements or chapters in a General Plan: Land Use, Housing, Circulation, Conservation, Open Space, Noise, and Safety. Additional elements are permitted.

**Geomorphic:** Relating to the form or surface features of the earth.

**Glare:** A light source, either reflected or direct, that is annoying or distracting. The effect produced by lighting sufficient to cause annoyance, discomfort, or loss of visual performance and visibility. Glare can occur when the luminaire or associated lens of a light fixture is directly viewable from a location off the property that it serves (Source: Moorpark Municipal Code Section 17.30.020)

**Grade:** Adjacent ground level. For purposes of building height measurement, grade is the average of the finished ground level at the center of all walls of a building or other datum point established by the division of building and safety (source: Moorpark Municipal Code, Section 17.08.010).

**Grading:** Grading is the alteration of existing slope and shape of the ground surface.

**Ground Failure:** Ground Failure is ground movement or rupture caused by strong shaking during an earthquake. It includes landslide, lateral spreading, liquefaction, and subsidence.

**Ground Shaking:** This is ground movement that results from the transmission of seismic waves during an earthquake.

**Groundwater:** The term usually refers to the “saturated” zone in the ground where all the pore space between the soil particles is occupied by water. Water under the earth's surface, often confined to aquifers capable of supplying wells and springs, does not include water which is being produced with oil in the production of oil and gas or in a genuine mining operation.

**Groundwater Basin:** A groundwater reservoir defined by the entire overlying land surface and the underlying aquifers that contain water stored in the reservoir. Boundaries of successively deeper aquifers may differ and make it difficult to define the limits of the basin.

**Grub:** This is the process of removing vegetation by mechanical or manual methods.

**Habitat:** A place where a plant or animal naturally or normally lives or grows.

**Habitat Conservation Plan (HCP):** In 1983 Congress adopted Section 10 of the Endangered Species Act as a way to promote “creative partnerships between the public and private sectors and among governmental agencies in the interest of species and habitat conservation.” Section 10 authorizes states, local governments, and private landowners to apply for an Incidental Take Permit for otherwise lawful activities that may harm listed species or their habitats. To obtain a permit, an applicant must submit an HCP outlining what he or she will do to “minimize and mitigate” the impact of the permitted take on the listed species.

**Habitat linkage:** Areas of natural habitat that function to join two larger blocks of habitat.

**Hazardous Material:** Dangerous, poisonous, corrosive, oxidizing, volatile, flammable, explosive, or toxic materials for which federal, state, or local industrial safety or other limits have been established. It is a material or form of energy that could cause injury or illness to persons, livestock, or the natural environment.

**Hazardous Waste:** A waste or combination of wastes that, because of its quantity, concentration, or physical, chemical, or infectious characteristics may either cause or significantly contribute to an increase in mortality or an increase in serious irreversible illness or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed. A hazardous waste possesses at least one of four characteristics—ignitability, corrosivity, reactivity, or toxicity—or appears on special EPA or state lists. Hazardous waste is regulated under the federal Resource Conservation and Recovery Act and the *California Health and Safety Code*.

**Herbicides:** Chemical compounds that are used to destroy or control the growth of weeds and other undesirable plants.

**High Fire Hazard Areas:** Certain areas in the unincorporated territory of the county classified by the county fire protection district and defined as any areas within 500 feet of uncultivated brush, grass, or forest-covered land wherein authorized representatives of said district deem a potential fire hazard to exist due to the presence of such flammable material (source: Moorpark Municipal Code Section 17.08.010).

**Hillside Area:** Any property containing slope areas of 20 percent or greater. The steepness of a slope is defined as the relationship (the ratio) between the changes in elevation (rise) and the horizontal distance (run) over which that change in elevation occurs. The percent of steepness of any given slope is determined by dividing the rise by the run on the natural slope of land, multiplied by 100. (Source: City of Moorpark)

**Household Hazardous Waste Collection Center (HHWCC):** A collection center that gives residents a legal and cost-free way to dispose of unwanted household chemicals that cannot be disposed of in the regular trash.

**Hydrology:** The study of the water cycle.

**Impact:** The effect, influence, or imprint of an activity on the environment. Impacts include: direct or primary effects which are caused by the project and occur at the same time and place; indirect or secondary effects which are caused by the project and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect or secondary effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate and related effects on air and water and other natural systems, including ecosystems.

**Impervious Surface:** Ground surface that cannot be penetrated by water. It includes paved and compacted surfaces, as well as those covered by buildings.

**Indirect Impact:** Effects caused by an action that are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.

**Indirect Source:** Any structure or installation which attracts an activity that creates emissions of pollutants. For example, a major employment center, a shopping center, an airport, or a stadium can all be considered to be indirect sources. For purposes of air quality, facilities, buildings, structures, properties, and/or roads which, through their construction, indirectly contribute to air pollution. This can also include projects and facilities that attract or generate mobile sources activity (autos and trucks), such as shopping centers, employment sites, schools, and housing developments that result in emissions of any regulated air pollutant.

**Infiltration:** The introduction of underground water, such as groundwater, into wastewater collection systems. Infiltration results in increased wastewater flow levels.

**Infiltration System:** An infiltration system is a basin that is designed to capture runoff volume from the water quality design storm and infiltrate it to the soil.

**Inflow:** Surface water, such as rainfall runoff, that enters a wastewater collection system through manhole covers and joints or cracks in pipes. Inflow results in increased wastewater flow levels.

**Infrastructure:** Permanent utility installations, including roads, water supply lines, sewage collection pipes, and power and communications lines.

**Initial Study:** Under CEQA, a preliminary analysis that the lead agency prepares in order to determine whether an EIR, a Negative Declaration, or Mitigated Negative Declaration must be prepared, or to identify the significant environmental effects to be analyzed in an EIR (source: CEQA Guidelines §15365).

**Integrated Waste Management Board (IWMD):** The state agency within CalEPA responsible for solid waste management (non-hazardous).

**Isolated Landform:** An isolated landform is a parcel which has an isolated topographical feature that has a slope greater than 20 percent, a horizontal run of less than 200 feet, and a vertical rise of less than 50 feet.

**Kilowatt (kW):** One kilowatt is equal to 1,000 watts. Refers to the instantaneous amount of electricity used or generated.

**Kilovolt (kV):** A kilovolt is a unit of potential equal to a thousand volts.

**Landfill:** An area of land or an excavation in which wastes are placed for permanent disposal, and that is not a land application unit, surface impoundment, injection well, or waste pile.

**Landmark:** (1) A building, site, object, structure, or significant tree that has historical, architectural, social, or cultural significance and marked for preservation by the local, state, or federal government; (2) A visually prominent or outstanding structure or natural feature that functions as a point of orientation or identification.

**Landscape linkage:** see habitat linkage.

**Landslide:** A landslide is downslope movement of soil and/or rock, which typically occurs during an earthquake or following heavy rainfall.

**Land Use:** The purpose or activity for which a piece of land or its buildings is designed, arranged, or intended, or for which it is occupied or maintained.

**Land Use Classification:** A system for classifying and designating the appropriate use of properties.

**Land Use Plan:** An adopted map depicting the approximate location of residential, commercial, public, semi-public and private uses, open space, and road systems with a statistical summary of areas and densities for these land uses.

**Lateral Spreading:** Lateral spreading is the lateral movement of soil, often as a result of liquefaction, during an earthquake.

**Leachate Collection and Recovery System (LCRS):** Landfills generate leachate, a liquid that is a complex mixture of organic and inorganic pollutants. Leachate is produced as precipitation, groundwater, or other forms of moisture reacts with the waste material within the landfill. The exact composition of the leachate is dependent on site-specific conditions such as waste composition, temperature, pH, and site nutrients. In order to protect the environmental quality of nearby ground and surface waters, leachate collection, control, and treatment is a required component for all types of waste-disposal operations. A leachate collection system must be in place and operating prior to the placement of any waste material. In addition, the collection system must continue to operate effectively over the entire lifespan of the landfill.

**Lead Agency:** The public agency which has the principal responsibility for carrying out or approving a project. The Lead Agency will decide whether an EIR, Mitigated Negative Declaration, or Negative Declaration will be required for the project and will cause the document to be prepared (source: CEQA Guidelines §15367).

**Liquefaction:** A geologic phenomenon in which surface and near-surface materials (soils, alluvium, etc.) behave like a liquid during seismic shaking, often causing failure of soils to support structures.

**Local Agency:** Local agency means any public agency other than a state agency, board, or commission. Local agency includes but is not limited to cities, counties, charter cities and counties, districts, school districts, special districts, redevelopment agencies, local agency formation commissions and any board, commission, or organizational subdivision of a local agency when so designated by order or resolution of the governing legislative body of the local agency (source: CEQA Guidelines §15368).

**Local Enforcement Agency (LEA):** The local government entity that acts in the capacity as solid waste enforcement agency (14 CCR 18011[a][14]).



**Mass Grading:** A grading technique in which all lots, building pads, and streets are generally graded over the entire area resulting in the disruption of the majority of the on-site natural grade and vegetation and/often resulting in, but not required to result in, a successive pad/terrace configuration.

**Master Plan of Arterial Highways (MPAH):** A diagram in the Circulation Element which illustrates the arterial designation of roadways. Each arterial designation defines the number of ultimate lanes planned for a given roadway. Arterial designations include: Freeway, Transportation Corridor, Expressway, Major Highway, Primary Highway, Secondary Highway, and Commuter Highway.

**Materials Exchange Program:** A program designed to help businesses find markets for non-hazardous materials which they have traditionally discarded.

**Materials Recovery Facility (MRF):** A solid waste facility where solid wastes or recyclable materials are sorted or separated (by hand or by use of machinery) for the purposes of recycling or composting. (14 CCR 18720[a][36]).

**Maximum Credible Earthquake:** The largest Richter magnitude (M) seismic event that appears to be reasonably capable of occurring under the conditions of the presently known geological framework.

**Memorandum of Understanding (MOU):** An informal written record containing the terms of a transaction or agreement between two or more parties. An MOU is generally not legally binding.

**Mineral Resource:** Land on which known deposits of commercially viable mineral or aggregate deposits exist. This designation is applied to sites determined by the State Division of Mines and Geology as being a resource of regional significance, and is intended to help maintain the quarrying operations and protect them from encroachment of incompatible land uses.

**Mitigation:** Mitigation refers to: (1) avoiding the impact altogether by not taking a certain action or parts of an action; (2) minimizing impacts by limiting the degree or magnitude of the action and its implementation; (3) rectifying the impact by repairing, rehabilitating, or restoring the impacted environment; (4) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; or (5) compensating for the impact by replacing or providing substitute resources or environments (source: CEQA Guidelines §15370).

**Mitigation Measure:** Action taken to reduce or eliminate environmental impacts. Mitigation includes: avoiding the impact altogether by not taking a certain action or parts of an action; minimizing impacts by limiting the degree or magnitude of the action and its implementation; rectifying the impact by repairing, rehabilitating, or restoring the affected environment; reducing or eliminating the impact over time by preservation and maintenance during the life of the action; and compensating for the impact by replacing or providing substitute resources or environments.

**Mudflow (Mudslide):** A river flow or inundation of liquid mud down a hillside, usually as a result of a dual condition of loss of brush cover and the subsequent accumulation of water on or under the ground, preceded by a period of unusually heavy or sustained rain.

**National Pollutant Discharge Elimination System (NPDES):** NPDES is the national program for administering and regulating discharges to waterways according to the Clean Water Act (CWA), Sections 401 and 402. In California, the State Water Resources Control Board and the nine Regional Water Quality Control Boards are responsible for administering the NPDES storm water program.

**Natural Communities Conservation Plan (NCCP):** The NCCP is an unprecedented effort by the State of California and numerous private and public partners that takes a broad-based ecosystem approach to planning for the protection and perpetuation of biological diversity. An NCCP identifies and provides for the regional or area-wide protection of plants, animals, and their habitats, while allowing compatible and appropriate economic activity.

**Natural Grade:** The grade unaffected by construction techniques such as fill, landscaping, or berming.

**National Environmental Policy Act (NEPA):** Enacted in 1969, the National Environmental Policy Act established a national policy for the environment to provide for the establishment of a Council on Environmental Quality, and for other purposes.

**New Source Performance Standards:** Section 111 of the Clean Air Act, “Standards of Performance of New Stationary Sources,” requires the EPA to establish federal emission standards for source categories which cause or contribute significantly to air pollution. These standards are intended to promote use of the best air pollution control technologies, taking into account the cost of such technology and any other non-air quality, health, and environmental impact and energy requirements.

**Nitrogen Dioxide (NO<sub>2</sub>):** A secondary contaminant formed through a reaction between nitric oxide (NO) and atmospheric oxygen, irritates the lungs at high concentrations and contributes to ozone formation.

**Nitrogen Oxides (NO<sub>x</sub>):** Chemical compounds containing nitrogen and oxygen; NO<sub>x</sub> reacts with volatile organic compounds in the presence of heat and sunlight to form ozone. It is also a major precursor to acid rain.

**Noise:** Annoying, harmful, or unwanted sound.

**Noise Attenuation:** Reduction of the level of a noise source using a substance, material, or surface, such as earth berms and/or solid concrete walls.

**Noise Barrier:** A wall or other solid structure constructed with the objective of attenuating (i.e., reducing) noise behind the barrier; commonly, a noise wall along a roadway.

**Noise Contour:** A line connecting points of equal noise level as measured on the same scale. Noise levels greater than the 60 Ldn (Day-night average sound level) contour (measured in dBA) require noise attenuation in residential development.

**Noise Disturbance:** Any sound which exceeds the noise standards by the County of Orange, the City of San Juan Capistrano, and the City of San Clemente.

**Noise-sensitive Land Use:** Any land use (i.e., residential development) or designated geographic area (i.e., hospital complex) where “intrusive noise” is incompatible with the conduct of the noise-sensitive uses or constitutes a “noise disturbance” for residents or works.

**Non-attainment:** The condition of not achieving a desired or required level of performance. This term is frequently used in reference to air quality.

**Notice of Intent (NOI):** Notice of intent to prepare an environmental impact statement.

**Notice of Preparation (NOP):** A brief notice sent by a Lead Agency to notify responsible agencies, trustee agencies, and involved federal agencies that the Lead Agency plans to

prepare an EIR for the project. The purpose of the notice is to solicit guidance from those agencies as to the scope and content of the environmental information to be included in the EIR. Public agencies are free to develop their own formats for this notice (source: CEQA Guidelines §15375).

**Objective:** A description of a desired condition for a resource. Objectives can be quantified and measured and, where possible, have established time frames for achievement.

**Open Space:** Land that has been left in its natural state and has not been developed with primary or accessory structures.

**Ordinance:** A law or regulation set forth and adopted by a governmental authority, usually a city or county.

**Oxides of Nitrogen:** A reddish-brown gas with an odor similar to bleach. The major source of this pollutant is the high temperature combustion of fossil fuels. Health effects include irritation and damage to lungs and lower resistance to respiratory infections.

**Ozone (O<sub>3</sub>):** A compound consisting of three oxygen atoms that is the primary constituent of smog. It is formed through chemical reactions in the atmosphere involving volatile organic compounds, nitrogen oxides, and sunlight. Ozone can irritate the lungs as well as damage to trees, crops, and materials. There is a natural layer of ozone in the upper atmosphere which shields the earth from harmful ultraviolet radiation. Ozone is a criteria pollutant.

**Paleontological Site:** Any area or location containing a trace, an impression, or the remains of plants or animals from past ages.

**Parcel:** The basic unit of land entitlement. A designated area of land established by plat, subdivision, or otherwise legally defined and permitted to be used or built upon.

**Particulate Matter–Fine (PM<sub>2.5</sub>):** PM<sub>2.5</sub> is a mixture of very small particulates with an aerodynamic diameter equal to or less than 2.5 microns. PM<sub>2.5</sub> consists of particles directly emitted into the air and particulates formed in the air from the chemical transformation of gaseous pollutants. PM<sub>2.5</sub> particulates are emitted from activities such as industrial and residential combustion, and from vehicle exhaust. Particles 2.5 microns or smaller infiltrate the deepest portions of the lungs and increase the risks of long-term disease, including chronic respiratory disease, cancer, and increased and premature death.

**Particulate Matter (PM<sub>10</sub>):** PM<sub>10</sub> is any particulate matter with an aerodynamic diameter equal to or less than 10 microns. PM<sub>10</sub> consists of particles directly emitted into the air and particulates formed in the air from the chemical transformation of gaseous pollutants. PM<sub>10</sub> particulates are emitted from activities such as industrial and residential combustion, and from vehicle exhaust. PM<sub>10</sub> causes adverse health effects and atmospheric visibility reduction. It is a criteria pollutant.

**Permeability (soil):** That quality of the soil or other geologic formations that enables it to transmit water or air.

**Permit:** The possession of a permit issued by the city, or where no permits are issued, the sanctioning of the activity by the jurisdiction as noted in a public record.

**Pesticide:** Any material used to control pests. This encompasses insecticides, herbicides, and rodenticides.

**pH:** A measure of acidity or alkalinity of a material, liquid, or solid. It is measured on a scale of 0 to 14 with 7 representing a neutral state, 0 representing the most acid, and 14 the alkaline.

**Prime Farmland:** Lands with the best combination of physical and chemical features able to sustain long-term production of agricultural crops. The land must be supported by a developed irrigation water supply that is dependable and of adequate quality during growing season. The land must have been used for the production of irrigated crops at some time during the two update cycles prior to the mapping date (source: Natural Resource Conservation Service).

**Project:** Project means the whole of an action which has a potential for resulting in either a direct physical change in the environment, has a reasonably foreseeable indirect physical change in the environment, and that is any of the following: (a) an activity directly undertaken by any public agency including but not limited to public works construction and related activities, clearing or grading of land, improvements to existing public structures, enactment and amendment of zoning ordinances, and the adoption and amendment of local General Plans or their elements, pursuant to *Government Code*, Sections 65100–65700; (b) an activity undertaken by a person which is supported in whole or in part through public agency contacts, grants, subsidies, loans, or other forms of assistance from one or more public agencies; or (c) an activity involving the issuance to a person of a lease, permit, license, certificate, or other entitlement for use by one or more public agencies. The term “project” does not include: (a) Proposals for legislation to be enacted by the State Legislature; (b) Continuing administrative or maintenance activities, such as purchases for supplies, personnel-related actions, general policy and procedure-making (except as they are applied to specific instances covered above); (c) The submittal of proposals to a vote of the people of the state or of a particular community; (d) The creation of government funding mechanisms or other government fiscal activities, which do not involve any commitment to any specific project which may result in a potentially significant physical impact on the environment. The term “project” refers to the activity which is being approved and which may be subject to several discretionary approvals by governmental agencies. The term “project” does not mean each separate governmental approval. Where the Lead Agency could describe the project as either the adoption of a particular regulation under subsection (a)(1) or as a development proposal which will be subject to several governmental approvals under subsections (a)(2) or (a)(3), the Lead Agency shall describe the project as the development proposal for the purpose of environmental analysis. This approach will implement the Lead Agency principle as described in Article 4 (source: CEQA Guidelines §15378).

**Prominent Landform or Ridgeline:** A visually prominent landform or ridgeline means any landform visible from the valley floor that forms a part of the skyline or is seen as a distinct edge against a backdrop of land at least 500 feet horizontally behind it.

**Public Agency:** Public agency includes any state agency, board, or commission and any local or regional agency, as defined in the CEQA Guidelines. It does not include the courts of the state. This term does not include agencies of the federal government (source: CEQA Guidelines §15379).

**Public Facilities:** Institutional response to basic human needs, such as health, education, safety, recreation, and inspiration. Also, includes facilities and services such as, but not limited to, police, fire, libraries, parks, and flood control.

**Reactive Organic Compound (ROC)/Reactive Organic Gases (ROG):** Any organic compound containing at least one carbon atom, except for specific exempt compounds found to be non-photochemically reactive and thus not participating in smog formation. Classes of hydrocarbons (olefins, substituted aromatics, and aldehydes) that are likely to react with ozone and nitrogen dioxide in the atmosphere to form photochemical smog. These are also referred to as non-methane organic compounds or volatile organic compounds.

**Recharge:** The physical process where water naturally percolates or sinks into a groundwater basin.

**Recharge Basin:** A surface facility, often a large pond, used to increase the infiltration of surface water into a groundwater basin.

**Regional:** Pertaining to activities or economies at a scale greater than that of a single jurisdiction, and affecting a broad geographic area.

**Responsible Agency:** A public agency which proposes to carry out or approve a project, for which a Lead Agency is preparing or has prepared an EIR or Negative Declaration. For the purposes of CEQA, the term "Responsible Agency" includes all public agencies other than the Lead Agency which have discretionary approval power over the project (source: CEQA Guidelines §15381).

**Risk Assessment:** The qualitative and quantitative evaluation of the risk posed to human health and/or the environment by the actual or potential presence and/or use of specific pollutants.

**Risk of Upset:** The risk associated with potential explosions, fires, or release of hazardous substances in the event of an accident or natural disaster.

**Special Area Management Plan (SAMP):** The goal of Special Area Management Plans (SAMPs) is to achieve a balance between aquatic resource protection and reasonable economic development. SAMPs are designed to be conducted in geographic areas of special sensitivity under intense development pressure. These comprehensive and complex efforts require the participation of multiple local, state, and federal agencies. In addition, the U.S. Army Corps of Engineers considers public and stakeholder involvement an essential part of a successful SAMP.

**Sanitary Landfill:** The controlled placement of refuse within a limited area, followed by compaction and covering with a suitable thickness of earth and other containment material.

**Sanitary Sewer:** A system of subterranean conduits that carries refuse liquids or waste matter to a plant where the sewage is treated, as contrasted with storm drainage systems (that carry surface water) and septic tanks or leech fields (that hold refuse liquids and waste matter on the site). This can also refer to underground pipes that carry off only domestic or industrial waste, not storm water.

**Sediment:** Organic or inorganic material that is carried by or is suspended in water and that settles out to form deposits in the storm drain system or receiving waters.

**Sedimentation:** Process by which material suspended in water is deposited in a body of water.

**Seismic:** Caused by or subject to earthquakes or earth vibrations.

**Sensitive Receptors:** Locations where individuals especially sensitive to chemical exposure (such as children, the infirm, and the elderly) or are expected to be located on a regular basis. These sites include hospitals, daycare centers, and schools. Sensitive receptors were evaluated with residential exposure duration assumptions.

**Significance threshold:** A quantitative, qualitative, or performance level of a particular environmental effect that would normally be determined to be significant by the (lead) agency if the threshold is exceeded (CEQA).

**Significant Impact or Significant Effect on the Environment:** As defined by the CEQA Guidelines, a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. It also refers to a social or economic change related to a physical change that may be considered in determining whether the physical change is significant. The lead agency will determine whether a project may have a significant effect on the environment based on substantial evidence in light of the whole record (source: CEQA Guidelines §15382).

**Slide:** A slide is a downslope movement of a soil or rock mass occurring dominantly on shallower slopes at surfaces of rupture or on relatively thin zones of intense shear strain. The displaced mass often slides beyond the toe of the surface rupture covering the original ground surface of the slope. Slides consist of two main types: rotational and translational. Rotational slides move along a surface of rupture that is curved and concave. Translational slides move along a planar or undulating surface of rupture

**Slope Face:** The slopes located directly below, or leading up to, the crest of a significant ridgeline or prominent landform.

**Slope Steepness:** The relationship (the ratio) between the change in elevation (rise) and the horizontal distance (run) over which that change in elevation occurs. The percent of steepness of any given slope is determined by dividing the rise by the run on the natural slope of land, multiplied by 100.

**Solid Waste:** Any non-hazardous garbage, refuse or sludge, which is primarily solid but may also include portions of liquid, semi-solid, or contained gaseous material that results from residential, industrial, commercial, agricultural, mining operations, and community activities.

**South Coast Air Basin (SCAB):** A geographic area defined by the San Jacinto Mountains to the east, the San Bernardino Mountains to the north, and the Pacific Ocean to the west and south. The SCAB is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD).

**South Coast Air Quality Management District (SCAQMD):** The agency responsible for protecting public health and welfare through the administration of federal and state air quality laws, regulations, and policies in the South Coast Air Basin.

**Southern California Association of Governments (SCAG):** The organization, known in federal law as a Council of Governments or Metropolitan Planning Organization. As the designated Metropolitan Planning Organization, SCAG represents the counties of Imperial, Riverside, San Bernardino, Orange, Los Angeles, and Ventura, and the cities within these six counties. SCAG is mandated by the federal government to research and prepare plans for transportation, growth management, hazardous waste management, and air quality. Additional mandates exist at the state level.

**Storm Water:** Storm water means storm water runoff, snow melt runoff, and surface runoff and drainage.

**Structure:** Anything, including a building, located on the ground in a permanent location or attached to something having a permanent location on the ground.

**Subsidence:** Sinking of the land surface due to a number of factors, of which groundwater extraction is one.

**Sulfur Dioxide (SO<sub>2</sub>):** A colorless, extremely irritating gas or liquid. Sulfur dioxide enters the atmosphere as a pollutant mainly as a result of burning high sulfur-content fuel oils and coal and from chemical processes occurring at chemical plants and refineries. There are National Ambient Air Quality Standards and California Air Quality Standards for sulfur dioxide.

**Sump:** In drainage, any low area that does not permit the escape of water by gravity flow.

**Swale:** An elongated or depressed landform within a landscaped area, which is designed to carry storm or other runoff.

**Take:** Significantly modifying the habitat of a listed endangered animal or habitat (FESA). The “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill” (CESA, *California Fish and Game Code*, Section 86).

**Threshold of Significance:** Impact criteria which determines whether a project causes a significant impact.

**Travel route:** A landscape feature (such as a ridgeline, drainage, canyon, or riparian strip) within a larger natural habitat area that is used frequently by animals to facilitate movement and to provide access to necessary resources (e.g., water, food, cover, den sites).

**Trustee Agency:** A state agency having jurisdiction by law over natural resources affected by a project which are held in trust for the people of the state of California. Trustee agencies include the California Department of Fish and Game, State Lands Commission, the State Department of Parks and Recreation, and the University of California (with regard to sites within the Natural Land and Water Reserves System) (source: CEQA Guidelines §15386).

**Unavoidable significant adverse impact:** An effect that either cannot be mitigated or that remains significant even after mitigation is incorporated into the Proposed Project.

**Unique Farmland:** Lands of lesser quality soils used for the production of the state's leading agricultural cash crops. These lands are usually irrigated but may include non-irrigated orchards or vineyards as found in some climate zones in California (Source: Natural Resource Conservation Service).

**Urban:** Of, relating to, characteristic of, or constituting a city. Urban areas are generally characterized by moderate and higher density residential development (i.e., three or more dwelling units per acre), commercial development, and industrial development, and the availability of public services required for that development, specifically central water and sewer, an extensive road network, public transit, and other such services (e.g., safety and emergency response). Development not providing such services may be “non-urban” or “rural.” CEQA defines “urbanized area” as an area that has a population density of at least 1,000 persons per square mile (Public Resources Code 21080.14[b]).

**Urbanized Area:** Urbanized area means a central city or a group of contiguous cities with a population of 50,000 or more, together with adjacent densely populated areas having a population density of at least 1,000 persons per square mile. A Lead Agency shall determine whether a particular area meets the criteria in this section either by examining the area or by referring to a map prepared by the U.S. Bureau of the Census which designates the area as urbanized. Use of the term “urbanized area” in Section 15182 is limited to areas mapped and designated as urbanized by the U.S. Bureau of the Census. (Source: CEQA Guidelines §15387).

**Viewshed:** The surface area that is visible from a given viewpoint or series of viewpoints. It is also the area from which that viewpoint or series of viewpoints may be seen (a collection of viewpoints). The viewshed aids in identifying the views that could be affected by the proposed action.

**Volatile Organic Compound (VOC):** Any organic compound containing at least one carbon atom, except for specific exempt compounds found to be non-photochemically reactive and thus not participating in smog formation. VOC is synonymous with reactive organic gases and reactive organic compounds.

**Waste Stream:** Any and all waste that has been generated and is being processed toward permanent disposition.

**Wastewater:** Water that has been previously used by a municipality, industry, or agriculture and has suffered a loss of quality as a result of use.

**Wastewater Reclamation:** Treatment and management of municipal, industrial, or agricultural wastewater to produce water of suitable quality for additional beneficial uses.

**Watershed:** The drainage basin contributing water, organic matter, dissolved nutrients, and sediments to a stream, estuary, or lake.

**Wildlife corridor:** A piece of habitat, usually linear in nature, that connects two or more large blocks of habitat that would otherwise be fragmented or isolated from one another.

**Wildlife crossing:** A small, narrow area, relatively short in length and generally constricted in nature, that allows wildlife to pass under or through an obstacle or barrier that otherwise hinders or prevents movement.

**Zone:** A specifically delineated area or district in a municipality within which regulations and requirements uniformly govern the use, placement, spacing and size of land and buildings.



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## EXECUTIVE SUMMARY

### SECOND AMENDMENT TO THE 2001 PRIMA DESHECHA GENERAL DEVELOPMENT PLAN AND SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT 597

**Introduction.** The 2001 General Development Plan (GDP), as currently amended, represents the latest planning document that guides actions and activities for the Prima Deshecha Landfill and does so through the landfill's projected closure in 2067. Environmental Impact Report (EIR) 575 contains a detailed environmental analysis of the 2001 GDP, and its conclusions and commitments remain applicable to the project. Amendment No. 2 updates the GDP with proposed new or revised project elements, and Supplemental Environmental Impact Report (SEIR) 597 analyzes the impacts of these new features of the Proposed Project. The Proposed Project elements in Amendment No. 2 are: (1) project features for which detailed information is now available (as they have moved into preliminary or final design); (2) project feature revisions needed for landslide stabilization of the site; and/or (3) project features required for maintenance of environmental mitigation and restoration areas. SEIR 597 will also provide an analysis of project elements that may require State and Federal agency permits.

Accordingly, SEIR 597 analyzes the incremental effects of the Proposed Project that are contained within Amendment No. 2 to the 2001 GDP, and it incorporates EIR 575 by reference.

**Proposed Project Overview.** In Amendment No. 2, the Proposed Project, discussed in greater detail below, addresses updates to the Landfill and Recreation elements of the GDP and consists of the following changes and/or additions to the approved project:

- An increase in the temporary limits of disturbance around the perimeter of the 2 landfill zones by approximately 278 acres to accommodate features for site-stabilization purposes and landfill-support activities (Zones 1 and 4)
- Re-design of the de-silting system for Zone 4
- Implementation of features to supplement water supply in Prima Deshecha Cañada stream channel
- Presentation of potential excavation phasing limits for Zone 4 and an update of Zone 1's fill phasing limits
- Development of a Pre-mitigation Program to offset project-related biological impacts
- Development of a Regional Environmental Enhancement Program that identifies environmental enhancement opportunities on site

**Location.** The 1,530-acre Prima Deshecha Landfill (PDL) site is located in the hills of southeastern Orange County, and includes acreage within the jurisdictions of the cities of San Juan Capistrano (570 acres) and San Clemente (133 acres). The remaining 827 acres are located within unincorporated Orange County. The Prima Deshecha Cañada watercourse traverses the site from the northeast to the southwest.

**The 2001 GDP.** The 2001 GDP and its first amendment were accompanied by EIR 575 (Notice of Determination was issued on November 6, 2001). This document serves as the planning guide for the PDL site and represents the product of updates to previous GDPs (1979 GDP, 1995 GDP); it was drafted to incorporate additional landfill design considerations and actions

required for remediation of an on-site landslide in 1998. Amendment No. 1 to the 2001 GDP incorporated additional design amendments and boundary constraints that were negotiated with the Rancho Mission Viejo Company, LLC (adjacent landowner).

The GDP utilizes a five-zone concept to guide planning decisions at the PDL site and to manage landfill operations. Zone 1 is the area of current landfill operation; Zone 2 represents the recreational trail area around the perimeter of the site; Zone 3 is an area of designated open space; Zone 4 represents the area where future landfilling operations will occur once Zone 1 has been closed (estimated around the year 2019); and Zone 5 is the Master Plan of Arterial Highways (MPAH) alignment of the La Pata Avenue extension through the center of the site. The 2001 GDP as amended, provides the baseline condition for the assessment of the impacts that are associated with Amendment No. 2 which are contained within SEIR 597.

The GDP identifies multiple uses for the Prima Deshecha site including solid waste management; regional park and recreational development; and circulation and transportation linkages. Accordingly, the GDP considers three primary focal points: a landfill element, a recreation element, and a circulation element. The Proposed Project addresses updates to the Landfill and Recreation elements of the GDP within Amendment No 2.

EIR 575 concluded that implementation of the 2001 GDP would result in impacts that remain significant after mitigation to in the following areas: topography, aesthetics, and biological resources; all other project impacts were found to be less than significant.

**Purpose and Need for Amendment No. 2 to the 2001 GDP.** Amendment No. 2 contains project modifications necessary to accomplish the goals discussed below.

**Provide for physical site stability.** The PDL site is comprised of bedrock which has had extensive landslides and which is prone to instability and slope failure. Slope-stabilization regulatory requirements must be met for future development of the landfill and for updates to the solid waste disposal permits that are needed to continue landfill operations. Without updated solid waste disposal permits, future landfill operations would prematurely cease and would trigger the transport of a significant amount of waste that was originally designated for disposal at the PDL to other, more distant, facilities. Amendment No. 2 and SEIR 597 considers the increase in the temporary limits of ground disturbance within and around Zones 1 and 4 that are likely required to construct the landslide remediation features that are needed for site stabilization.

**Accommodate future, landfill-related support features.** These features could include environmental-control facilities such as landfill gas perimeter probes, extraction wells and/or header lines, stockpile areas, temporary construction staging areas, or other support features. Although these features were anticipated in the 2001 GDP, Amendment No. 2 increases the temporary limits of ground disturbance that are associated with construction and operation of these facilities in order to assess biological impacts and obtain long-term resource agency permits. As these temporary limits of disturbance are conservative, they represent an area larger than may actually be necessary for these project features; however, the resource agency permits must be acquired before facility installation is required to ensure a seamless continuation of landfill operations throughout the life of the landfill.

**Make adjustments in Zone 4 to improve drainage and to avoid sensitive biological resources.** The Prima Deshecha Cañada stream originates from an existing spring in Zone 4 and is an important source of water that sustains biological resources downstream (including existing mitigation areas) at the project site. Impact to the spring and/or its recharge area could potentially result in adverse environmental impacts to

these biological resources. In addition, the original GDP-designated location for a desilting basin between Zones 1 and 4 directly impacts the least Bell's vireo, a federally listed endangered bird species. Amendment No. 2 re-configures the Zone 4 desilting system in an effort to avoid or reduce impacts to this species and sustain surface water flows to riparian resources downstream.

**Acquire long-term resource agency permits to ensure seamless continuation of landfill operations and to integrate landfill activities with regional planning efforts.** Landfill closure is not expected to occur until approximately the year 2067. Operations must proceed seamlessly in order to ensure the landfill functions as needed. Implementation of landslide remediation measures and landfill support features; impacts associated with an increase in the temporary limits of disturbance for these features; and the progression of landfill operations into Zone 4 will all require new resource agency and updated landfill operating permits. While updated landfill operating permits are not anticipated to be required until right before Zone 4 development is initiated. The IWMD intends to pursue biological resource agency permits at this time in order to implement a Pre-mitigation Program years ahead of the occurrence of any impact. Development (and coordination) of a comprehensive Pre-mitigation Program to offset these future impacts is necessary to ensure the PDL has the necessary resource agency approvals to proceed with Zone 4 development where required. In addition, the South Orange County Natural Communities Conservation Plan/Habitat Conservation Plan program (NCCP/HCP), a subregional conservation planning program, is being coordinated with all major stakeholders in the region in order to provide long-term protection of natural vegetation and wildlife diversity while allowing compatible land uses and appropriate development and growth. Amendment No. 2 incorporates the NCCP/HCP planning goals in the GDP through the proposed Pre-mitigation Program, and through a proposed regional environmental enhancement program that identifies enhancement opportunities on site that are consistent with the NCCP/HCP.

**The Proposed Project.** The Proposed Project for Amendment No. 2, as analyzed within SEIR 597 (Exhibit ES-1), will include the following elements:

1. An increase in the temporary limits of disturbance for the 2 landfill zones within the PDL site from 800 acres (2001 GDP) to 1,078 acres. This represents an increase of 278 acres (or 35 percent). Of this 278 acres, approximately 110 acres are around the perimeter of Zone 1 and 168 acres are around the perimeter of Zone 4. It should be noted that it may not be necessary to impact all 278 acres; this is intended to be a conservative estimate to provide for the development of a comprehensive Pre-mitigation Program for the maximum anticipated impacts to biological resources based on available documentation.
2. The re-design of the PDL desilting basin for Zone 4 that was originally proposed downstream of Zone 4. It includes construction of 4 desilting basins around the perimeter of Zone 4 for rainfall collection, runoff, and sediment management in lieu of the 2001 GDP desilting basin location that was originally proposed to be located between Zones 1 and 4.
3. Implementation of features to supplement water supply in the Prima Deshecha Cañada stream channel that includes the of construction of one or more sub-surface reservoirs beneath the relocated desilting basin(s) for flow storage and release over time into the downstream channel.

4. Presentation of the potential excavation phasing limits for Zone 4 to accommodate the construction of landslide remediation features. Fill phasing limits in Zone 1 have also been updated based on anticipated landslide areas.
5. Development, coordination, and implementation of a comprehensive Pre-mitigation Plan to compensate for biological impacts.
6. Development of a comprehensive conceptual plan that identifies regional environmental enhancement opportunities on site.

These elements represent the features of the Proposed Project which are contained within Amendment No. 2. However, **the following should be noted:**

- The Proposed Project for Amendment No. 2 does not change the landfill refuse prism or the amount of tonnage that is brought into the PDL.
- The increase in the temporary disturbance limits around the site (278 acres) is a conservative estimate for environmental pre-mitigation and agency coordination purposes; it is possible that landfill activities will not impact this entire acreage.
- The subsurface reservoir is a potentially promising concept for supplementing water supply in the Prima Deshecha Cañada stream channel. However, implementation of this feature is dependent on additional investigations to confirm engineering and operations maintenance feasibility, and permitting requirements; SEIR 597 contains other water supply alternatives that may be implemented if it is determined that the sub-surface reservoir concept is not feasible.

**Environmental Analysis.** SEIR 597 is a Supplemental EIR authorized by CEQA to address circumstances where changes have been made in the previously analyzed project, but only minor additions or changes are necessary to make the existing EIR (EIR 575) adequate. SEIR 597 analyzes the incremental effects of the Proposed Project for Amendment No. 2 over the effects that were already identified in the GDP. Based on the nature of the Proposed Project elements, a detailed analysis is presented for geophysical resources, hydrology and water quality, air quality, biological resources, and utilities and service systems. Environmental resource categories that do not require substantial additional analysis include land use and planning, agriculture, population and housing, transportation and circulation, noise, aesthetics, cultural resources, recreation, mineral resources, hazards, and public services.

SEIR 597 concludes that all impacts from the Proposed Project can be mitigated to a less-than-significant level with the exception of air quality. However, with the implementation of updated mitigation measures and best available control measures, the PDL will have taken every reasonable effort to reduce emissions from the project site to the maximum extent practicable.

**Project Alternatives.** Five final alternatives, including the no project alternative, were analyzed in detail in SEIR 597 in addition to the Proposed Project. Several other alternatives were considered for detailed analysis but eliminated due to infeasibility.

**Final Alternatives:** The five final alternatives to the Proposed Project (as analyzed within SEIR 597) are as follows:

**The No Project Alternative.** The No Project Alternative consists of the approved project in the 2001 GDP, as revised by Amendment No. 1 and the Memoranda of Understanding between the County of Orange and the cities of San Juan

Capistrano and San Clemente. This alternative includes a desilting basin downstream of Zone 4 within the Prima Deshecha Cañada stream channel.

**Alternative 1:** This alternative would maintain the 2001 GDP Zone 4 footprint and shift the detention/desilting basin between Zones 1 and 4 to the north and out of the stream channel in order to reduce impact(s) to sensitive species.

**Alternative 2:** Alternative 2 would maintain the 2001 GDP Zone 4 footprint and relocate the detention/desilting basin between Zones 1 and 4 with surface water augmentation.

**Alternative 3:** This alternative would modify the Zone 4 footprint in order to avoid permanent impacts to 3 least Bell's vireo territories.

**Alternative 4:** Alternative 4 would shift the Zone 4 footprint southwest for recharge purposes.

***Alternatives Eliminated from Further Consideration:***

**Reduce the Zone 4 Footprint and Deepen to Maintain Capacity.** Significant uncertainties relative to site stability and potential impacts on local and regional groundwater resources eliminated this alternative from further analysis.

**Shift the Zone 4 footprint over the ridge into Segunda Deshecha.** The value of this area as an open space preserve and existing viewshed commitments resulted in the elimination of this alternative from further consideration.

**Shift the Zone 4 footprint to the northeast.** Significant impacts accrue from this alternative to utility line right-of-ways through the project site which resulted in the elimination of this alternative from further consideration.

***Environmental Analysis of the Proposed Project***

***Environmental Impacts.*** Table ES-1 summarizes the environmental impacts of the Proposed Project. All impacts can be mitigated to a level that is less than significant except those for air quality. Implementation of updated mitigation measures and best available control technology will minimize air quality impacts to the maximum extent practicable, but not below significance thresholds.

***Growth-Inducing Impacts.*** The Proposed Project does not include elements that alter refuse capacity at the site, create permanent employment opportunities, or affect regional housing trends. Accordingly, there will be no growth-inducing impacts.

***Cumulative Impact Analysis.*** A thorough cumulative impact analysis was completed for the 2001 GDP within EIR 575. As a supplement to EIR 575, SEIR 597 has refined the analyses and updated mitigation measures as appropriate. It, therefore, does not induce cumulative effects above those identified within EIR 575.

The **La Pata Avenue Gap Closure Study** and the Proposed Project, as defined in Amendment No. 2/SEIR 597, have been closely coordinated to ensure that alternatives under consideration for the La Pata extension (and any mitigation requirements that are likely to arise) are compatible with one another, and that they do not result in unacceptable cumulative impacts to the area. If an alternative alignment is eventually chosen for the La Pata Avenue extension that

is different from the alignment shown in the MPAH, supplemental documentation will be completed at that time, if necessary.

***Recommended Mitigation Measures and Updates for the Proposed Project***

The following Executive Summary table (Table ES-1) contains a comprehensive list of all identified potential impacts, their associated mitigation measures, and the level of significance following mitigation for the Second Amendment to the 2001 Prima Deshecha General Development Plan and Supplemental Environmental Impact Report 597. All previously adopted mitigation measures and the level of significance following mitigation for the 2001 GDP and EIR 575 can be found in Section 2.2, Overview of the General Development Plan (Existing Conditions); Table 2.2-4, Previously Adopted Mitigation, the 2001 GDP; and in EIR 575.

**TABLE ES-1  
MITIGATION AND PROJECT DESIGN FEATURE (PDF) SUMMARY FOR IMPACTS ASSOCIATED WITH  
AMENDMENT NO. 2 TO THE 2001 GDP**

<b>AESTHETICS</b>	<b>Level of Significance after Mitigation</b>
No additional mitigation measures are required for the Proposed Project.	
<b>AIR QUALITY</b>	<b>Level of Significance after Mitigation</b>
<p><b><u>Recommended Mitigation Measure Updates for the Proposed Project</u></b></p> <p><b>Particulate Emission (PM<sub>10</sub>) Control</b></p> <p>MM 5.4-1: IWMD and its contractors shall be required to comply with regional rules to reduce air pollutant emissions. SCAQMD Rule 401 sets limits on the opacity of visible plumes of dust resulting from activities at the landfill. SCAQMD Rule 402 requires that air pollutant emissions generated at the landfill not be a nuisance off-site. SCAQMD Rule 403 requires that fugitive dust be controlled with the best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. Two options are presented in Rule 403: monitoring of particulate concentrations, or active control. Monitoring involves a sampling network around the project with no additional control measures unless specified concentrations are exceeded. The active control option does not require any monitoring, but requires that a list of measures be implemented on a daily basis.</p> <p>SCAQMD Rule 403 requires that “best available control measures” be utilized whenever a dust-generating activity occurs in the Air Basin. These measures are listed in Table 1 of Rule 403 and are presented in Section 5.4, Air Quality. It is important to note that all applicable measures from Table 5.4-6 should be implemented to achieve the required PM<sub>10</sub> emissions reductions.</p> <p>Rule 403 requires that “Large Projects” implement additional measures. A Large Project is defined as “any active operations on property which contains 50 or more acres of disturbed surface area; or any earth-moving operation with a daily earth-moving or throughput volume of 3,850 cubic meters (5,000 cubic yards) or more than three times during the most recent 365 day period. The Prima Deshecha Landfill would be considered a Large Project under Rule 403. Therefore, the landfill is required to implement the applicable actions specified in Table 2 of the Rule. Table 2 from Rule 403 is presented in Section 5.4, Air Quality.</p> <p>As a Large Operation, the landfill will also be required to:</p> <ul style="list-style-type: none"> <li>• Submit a fully executed Large Operation Notification (SCAQMD Form 403N) to the SCAQMD Executive Officer within 7 days of qualifying as a large operation;</li> <li>• Include, as part of the notification, the name(s), address(es), and phone number(s) of the person(s) responsible for the submittal, and a description of the operation(s), including a map depicting the location of the site;</li> <li>• Maintain daily records to document the specific dust-control actions taken, maintain such records for a period of not less than three years; and make such records available to the Executive Officer upon request;</li> <li>• Install and maintain project signage with project contact signage that meets the minimum standards of the <i>Rule 403 Implementation Handbook</i>, prior to initiating any earthmoving activities;</li> </ul>	<p>Significant</p> <p>The Prima Deshecha Landfill is currently implementing several mitigation measures to reduce potential air quality impacts. Implementation of the mitigation measures described in Section 5.4.4 would help to further reduce air quality impacts that result from operations at the Prima Deshecha Landfill. However, even with implementation of all existing and recommended mitigation measures, operations at the Prima Deshecha Landfill would continue to result in significant and unavoidable air quality impacts.</p>

**TABLE ES-1 (Continued)  
MITIGATION AND PROJECT DESIGN FEATURE (PDF) SUMMARY FOR IMPACTS ASSOCIATED WITH  
AMENDMENT NO. 2 TO THE 2001 GDP**

AIR QUALITY	Level of Significance after Mitigation
<ul style="list-style-type: none"> <li>• Identify a dust-control supervisor that is employed by or contracted with the property owner or developer, is on the site or available on-site within 30 minutes during working hours, has the authority to expeditiously employ sufficient dust mitigation measures to ensure compliance with all Rule requirements, and has completed the AQMD Fugitive Dust Control Class and has been issued a valid Certificate of Completion for the class; and</li> <li>• Notify the SCAQMD Executive Officer in writing within 30 days after the site no longer qualifies as a large operation.</li> </ul> <p>Rule 403 also requires that the construction activities “shall not cause or allow PM<sub>10</sub> levels to exceed 50 micrograms per cubic meter when determined by simultaneous sampling, as the difference between upwind and down wind sample.” Large Projects that cannot meet this performance standard are required to implement the applicable actions specified in Table 3 of Rule 403. Table 3 from Rule 403 is presented in Section 5.4, Air Quality.</p> <p>Further, Rule 403 requires that that the project shall not “allow track-out to extend 25 feet or more in cumulative length from the point of origin from an active operation.” All track-out from an active operation is required to be removed at the conclusion of each workday or evening shift. Any active operation with a disturbed surface area of five or more acres, or with a daily import or export of 100 cubic yards or more of bulk materials must utilize at least one of the measures listed in Table 5.4-9 (see Section 5.4, Air Quality) at each vehicle egress from the site to a paved public road.</p> <p><b>Mobile Equipment Emission Control</b></p> <p>MM 5.4-2: To reduce equipment emissions, the following measures shall be implemented when feasible.</p> <ul style="list-style-type: none"> <li>• Use low emission mobile construction equipment. “CARB Certified” heavy construction equipment conforms to the latest off-road CARB emission standards and is the lowest polluting equipment available. The use of this equipment would reduce heavy equipment NO<sub>x</sub> emissions by approximately 30 percent and heavy equipment PM<sub>10</sub> emissions by approximately 50 percent from the emissions levels shown in Tables 5.4-3 through 5.4-5. This is a substantial reduction but will not reduce emissions to less than the significance thresholds.</li> <li>• Maintain construction equipment engines by keeping them tuned.</li> <li>• Use low sulfur fuel for stationary construction equipment. This is required by SCAQMD Rules 431.1 and 431.2.</li> <li>• Utilize existing power sources (i.e., power poles) when feasible. This measure would minimize the use of higher polluting gas or diesel generators.</li> <li>• Use aqueous diesel fuel where feasible and reasonably commercially available.</li> <li>• Use cooled exhaust gas recirculation (EGR) where feasible and reasonably commercially available.</li> </ul>	<p>See above.</p>



**TABLE ES-1 (Continued)  
MITIGATION AND PROJECT DESIGN FEATURE (PDF) SUMMARY FOR IMPACTS ASSOCIATED WITH  
AMENDMENT NO. 2 TO THE 2001 GDP**

<b>AIR QUALITY</b>	<b>Level of Significance after Mitigation</b>
<p>Several of the mitigation measures listed above are advanced emission control technologies that are currently not commercially available. For example, aqueous diesel fuel reduces NO<sub>x</sub> formation by reducing combustion temperatures, resulting in lower NO<sub>x</sub> emissions. According to the SCAQMD, the current availability of this fuel technology is limited, and it may not be available for use at the landfill. In addition, with EGR diesel engines, a small amount of hot exhaust gas is routed through a cooler and mixed with fresh air entering the engine. The exhaust gas helps reduce the temperature during combustion, which lowers the formation of thermal NO<sub>x</sub>. EGR technology is in the development phase, and has not been fully commercialized. To the extent that the advanced emissions control technologies become reasonably commercially available, or are required by the CARB from grading contractors, then such advanced emissions control technologies will be used.</p> <p>Furthermore, a requirement to install diesel particulate filters on construction equipment used at the landfill was considered to further reduce emissions. However, the availability of construction equipment retrofitted with diesel particulate filters is limited. This is a result of operational problems in diesel engines equipped with these filters. Therefore, this potential mitigation measure for construction is considered infeasible.</p>	
<b>BIOLOGICAL RESOURCES</b>	<b>Level of Significance after Mitigation</b>
<p><b><u>Recommended Mitigation Measures/Updates for the Proposed Project</u></b></p> <p><b>Additional Provisions for Thread-Leaved Brodiaea</b></p> <p>MM 5.5-1: Prior to the Initiation of construction within Phase C3, OCIWMD will obtain authorization to take the thread-leaved brodiaea may be obtained from CDFG through the provisions of Section 2081(b) of the California Fish and Game Code if no federal nexus is present such as a USACE Section 404.</p> <p>If a USACE Section 404 Permit is being pursued, IWMD would request consultation with the USFWS under Section 7 of the FESA. Consultation is required between the USFWS and a federal agency (such as the USACE) whenever a federal action is likely to adversely affect species listed as Threatened or Endangered, such as thread-leaved brodiaea. The anticipated federal action is the issuance/amendment of a 404 permit that will affect the thread-leaved brodiaea.</p> <p>At the conclusion of the consultation, the USFWS will prepare a Biological Opinion based upon its review of the information provided herein. The final Biological Opinion may include an incidental take statement.</p> <p>As part of the consultation process under Section 7 of the FESA, the California Department of Fish and Game (CDFG) will be consulted pursuant to Section 2080.1 of the California Fish and Game Code. Because the Project will affect a state-listed species, the thread-leaved brodiaea, CDFG concurrence with the Project conservation measures is required. The mitigation for the thread-leaved brodiaea will include the following requirements:</p> <ul style="list-style-type: none"> <li>• A pre-construction survey during the peak flowering period, approximately March through June, will be conducted by a qualified biologist. The limits of each brodiaea location within the impact area will be clearly delineated with lath and brightly colored flagging.</li> </ul>	<p>Less Than Significant</p> <p>The Proposed Project will affect approximately 255.02 additional acres that are needed to address the landslide remediation requirements necessary to stabilize the existing landslide complexes within Zones 1 and 4. Of this amount, approximately 55.24 acres contains sensitive habitats. With the implementation of the Pre-mitigation Plan that requires the installation and establishment of coastal sage scrub and southern needlegrass grassland prior to the occurrence of any impacts to these habitat types, the long-term net habitat values associated with these habitat types within the region will be sustained through project buildout with no cumulative loss.</p>

**TABLE ES-1 (Continued)  
MITIGATION AND PROJECT DESIGN FEATURE (PDF) SUMMARY FOR IMPACTS ASSOCIATED WITH  
AMENDMENT NO. 2 TO THE 2001 GDP**











<b>BIOLOGICAL RESOURCES</b>	<b>Level of Significance after Mitigation</b>
<ul style="list-style-type: none"> <li>• The loss of thread-leaved brodiaea will be mitigated by seed and bulb collection, and revegetation into suitable mitigation site(s). A qualified biologist shall prepare a mitigation plan for review/approval by the United States Fish and Wildlife Service and oversee its implementation. The detailed mitigation plan shall include the following requirements:               <ul style="list-style-type: none"> <li>○ The known populations of thread-leaved brodiaea on the project site shall be determined and mapped as the "collection area". The collection area shall include only areas within the impact footprint.</li> <li>○ The existing locations of thread-leaved brodiaea shall be monitored every two weeks by a qualified biologist to determine when the seeds are ready for collection. A qualified seed collector shall collect all of the seeds from the plants within the collection area when the seeds are ripe. The seeds will be cleaned and stored by a qualified nursery or institution with appropriate storage facilities.</li> <li>○ Following the seed collection, the bulbs should be removed by an approved method (e.g., bulb collection or block transplantation). The bulbs shall either be transplanted directly or stored by a qualified nursery or institution with appropriate storage facilities. If the bulbs are collected and the block transplantation method is not used, then the top 12 inches of topsoil from the thread-leaved brodiaea locations shall be scraped, stockpiled, and used at the selected mitigation site.</li> <li>○ The mitigation site(s) shall be located in open space. The site(s) shall not attempt to enhance existing populations and shall be located so as not to be impacted by any pesticides or herbicides used on adjacent properties.</li> <li>○ The thread-leaved brodiaea mitigation site(s) will be prepared for seeding as described in a conceptual restoration plan.</li> <li>○ The topsoil shall be re-spread in the selected location as approved by the project biologist. Approximately 60 percent of the seeds and bulbs collected shall be spread/placed in the fall following soil preparation. Forty percent of the seed and bulbs shall be kept in storage for subsequent seeding, if necessary.</li> <li>○ A detailed maintenance and monitoring plan shall be developed by a qualified biologist. The plan shall include detailed descriptions of maintenance appropriate for the site, monitoring requirements, and annual report requirements, and shall have the full authority to suspend any operation in the study area which is, in the qualified biologist's opinion, not consistent with the restoration plan. Any disputes regarding the consistency of an action with the restoration plan will be resolved by the appropriate Project Applicant and the biologist.</li> <li>○ The performance criteria shall be developed in the maintenance and monitoring plan and approved by a qualified biologist. The performance criteria shall also include percent cover, density, and seed production requirements. These criteria shall be developed by a qualified biologist following habitat analysis of an existing high-quality thread-leaved brodiaea population. This information will be recorded by a qualified biologist.</li> </ul> </li> </ul>	<p>Therefore, impacts associated with the removal of this additional habitat will be reduced to a less-than-significant level through the implementation of this plan.</p> <p>In addition, SEIR 597 identifies potential impacts to the increased least Bell's vireo numbers as well as the identification of potential impacts to San Diego fairy shrimp, Riverside fairy shrimp, and western spadefoot toad that were not addressed in EIR 575. Implementation of the mitigation measures included in the SEIR will reduce the effects of this project to less-than-significant levels.</p>

**TABLE ES-1 (Continued)  
MITIGATION AND PROJECT DESIGN FEATURE (PDF) SUMMARY FOR IMPACTS ASSOCIATED WITH  
AMENDMENT NO. 2 TO THE 2001 GDP**

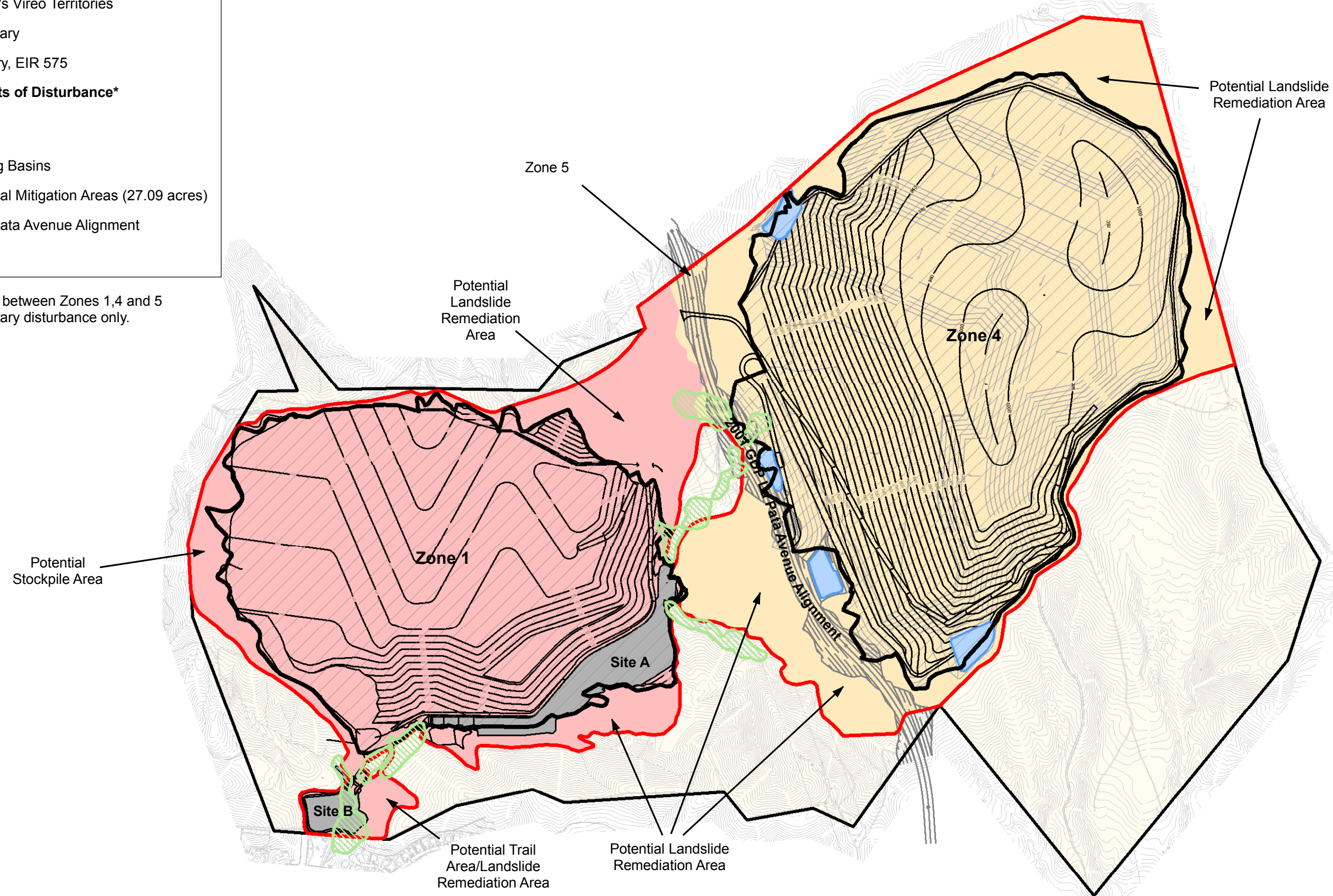
<b>BIOLOGICAL RESOURCES</b>	<b>Level of Significance after Mitigation</b>
<ul style="list-style-type: none"> <li>○ If the germination goal is not achieved following the first season, remediation measures shall be implemented prior to seeding with the remaining 40 percent of seed and bulbs. Remedial measures shall include at a minimum: soils testing, control of invasive species, soil amendments, and physical disturbance (to provide scarification of the seed) of the planted areas by raking or similar actions. Additional mitigation measures may be suggested as determined appropriate by the project biologist.</li> <li>○ Potential seed sources from additional donor sites shall also be identified in case it becomes necessary to collect additional seed for use on the site following performance of remedial measures.</li> </ul> <p>IWMD is currently pursuing authorization to collect seed and propagate the brodiaea as well as transplantation of the plants and soils containing plants from CDFG under Section 2081(b).</p>	
<p><b>Fairy Shrimp Surveys</b></p>	
<p>MM 5.5-2: Prior to the initiation of construction activities that involve the removal of any pond within Zone 4, the IWMD shall have focused surveys conducted for the San Diego fairy shrimp and Riverside fairy shrimp by a biologist possessing the necessary resource agency permits. The surveys will be performed during the winter season prior to any construction activities on the site that may impact appropriate habitat for the fairy shrimp (i.e., ponds). The surveys will follow the protocol developed by the USFWS for these species. If it is determined that either or both fairy shrimp species are not present, then no further mitigation is necessary. However, if one or both fairy shrimp species are present, then consultation with the USFWS will be necessary in order to obtain a take authorization prior to any construction activities that may impact the species. The permitting process would require the preparation of a Biological Assessment which would include a mitigation plan to avoid or minimize impacts on this species.</p>	<p>Less than significant</p>
<p><b>Western Spadefoot Toad Surveys</b></p>	
<p>MM 5.5-3: Prior to the initiation of construction activities that involve the removal of habitat that is known and/or has the potential to support the western spadefoot toad, the IWMD shall have a focused survey conducted, where appropriate, on the project site prior to any potential impacts and during the breeding season for this species (February through May). The survey results will be submitted within 30 days after completion of the last survey to the CDFG for concurrence. Based on the May 3, 2005 survey results, a relocation program will be developed for western spadefoot on the project site. The relocation program will include a detailed methodology for locating, capturing, and relocating individuals prior to construction. The program will identify a suitable location for relocation of the western spadefoot prior to capture. The relocation program will require a biologist with the necessary permits for handling the western spadefoot. Prior to implementation of the relocation program, the program and the biologist(s) implementing the program will be subject to approval of the CDFG.</p>	<p>Less than significant</p>

**TABLE ES-1 (Continued)**  
**MITIGATION AND PROJECT DESIGN FEATURE (PDF) SUMMARY FOR IMPACTS ASSOCIATED WITH**  
**AMENDMENT NO. 2 TO THE 2001 GDP**

<b>BIOLOGICAL RESOURCES</b>	<b>Level of Significance after Mitigation</b>
<b>Existing Mitigation and Future Pre-Mitigation</b>	
MM 5.5-4: Any disturbance to existing or future mitigation areas, including those created by the Pre-mitigation Plan or the Regional Environmental Enhancement Plan contained herein shall be restored by the IWMD at the completion of the landfilling activity during the next growing season using a hydroseed mix consistent with the appropriate approved mitigation plan. All restored areas will be maintained to remove non-native invasive plant species for a maximum of three years. Implementation of this mitigation measure shall constitute full compliance with the provisions of SEIR 597 and the approved CSS/NG Mitigation Plan. No further mitigation will be assessed against IWMD by the resource agencies.	Less than significant
<b>CULTURAL/SCIENTIFIC RESOURCES</b>	<b>Level of Significance after Mitigation</b>
No additional mitigation measures are required for the Proposed Project.	
<b>GEOPHYSICAL</b>	<b>Level of Significance after Mitigation</b>
No additional mitigation measures are required for the Proposed Project.	
<b>HAZARDS/HAZARDOUS MATERIALS</b>	<b>Level of Significance after Mitigation</b>
No additional mitigation measures are required for the Proposed Project.	
<b>HYDROLOGY AND WATER QUALITY</b>	<b>Level of Significance after Mitigation</b>
<b><u>Recommended Mitigation Measures/Updates for the Proposed Project</u></b>	
<b>Water Quality</b>	
MM 5.3-1: The Proposed project will comply with Section 7 of the Drainage Area Management Plan (DAMP) for Orange County through the development of a Water Quality Management Plan.	Less Than Significant
<b>LAND USE AND PLANNING</b>	<b>Level of Significance after Mitigation</b>
No additional mitigation measures are required for the Proposed Project.	
<b>NOISE</b>	<b>Level of Significance after Mitigation</b>
No additional mitigation measures are required for the Proposed Project.	
<b>UTILITIES AND SERVICE SYSTEMS</b>	<b>Level of Significance after Mitigation</b>
<b><u>Recommended Mitigation Measures/Updates for the Proposed Project</u></b>	
PDF 5.6-1: SCE and SDG&E electrical transmission facilities will be relocated or re-routed, if necessary, in order to avoid service interruptions during construction of landslide remediation measures through the center of the site. IWMD will coordinate closely with SCE and SDG&E in the development of a plan to ensure cost-effective and efficient temporary facility relocation and post-construction re-establishment of transmission lines through the site.	Less than Significant

-  2005 Least Bell's Vireo Territories
-  Property Boundary
-  Impact Boundary, EIR 575
-  **Proposed Limits of Disturbance\***
-  Zone 1
-  Zone 4
-  Zone 4 Desilting Basins
-  Existing Biological Mitigation Areas (27.09 acres)
-  2001 GDP La Pata Avenue Alignment
-  Project Grading

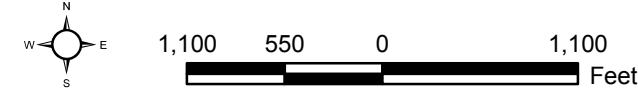
\*Note: Areas of overlap between Zones 1,4 and 5 represent temporary disturbance only.



Source: BAS, 2005

**Proposed Project**

Prima Deshecha Landfill  
 Supplemental Environmental Impact Report 597



**Exhibit ES-1**



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## SECTION 1.0 INTRODUCTION

### 1.1 PURPOSE OF THE DRAFT SUPPLEMENTAL EIR

#### 1.1.1 AUTHORITY

This Supplemental Environmental Impact Report (SEIR) has been prepared in accordance with the California Environmental Quality Act (CEQA), *Public Resources Code*, Section 21000 *et seq.*; the State CEQA Guidelines (Section 15000 *et seq.* of Title 14, *California Code of Regulations*); and the guidelines adopted by the County of Orange. Specifically, this Draft SEIR was prepared in accordance with the most recently adopted State CEQA Guidelines which were last amended on July 11, 2006.

As with project or program Environmental Impact Reports (EIRs), an SEIR is an informational document prepared pursuant to CEQA to provide for informed decision-making. That is, it provides decision-makers, public agencies, and the public in general with detailed information about the potential significant environmental effects of a proposed project. It also identifies the ways in which the significant effects of a project might be avoided, minimized or mitigated, and addresses alternatives to the project. In situations where an EIR has been finalized for a proposed project, Section 15163 of the State CEQA Guidelines states that where only minor changes or additions would be necessary to make the previous EIR adequate for the project as revised, the lead agency may prepare a Supplemental EIR, rather than a subsequent EIR. Since this is the case with this project, SEIR 597 need only contain the information necessary to make the previous EIR adequate.

In cases where a program EIR has been prepared, SEIRs will usually contain the same major topical elements of the program EIR; however, pursuant to State CEQA Guidelines, SEIRs may focus discussion solely on new effects, which had not been considered in the previous document. Within the context of a focused analysis of incremental project changes and their effects, the general elements of an SEIR usually contain the following:

- Executive Summary
- Project Description
- Environmental Setting, Impacts, and Mitigation Measures
- Alternatives to the Proposed Project
- Cumulative Impacts
- Growth-Inducing Impacts
- Effects Not Found to be Significant
- Organizations and Persons Consulted

#### 1.1.2 PREPARATION OF A SUPPLEMENTAL EIR

In accordance with State CEQA Guidelines, the County of Orange Integrated Waste Management Department (IWMD) will act as the lead agency in the preparation of a supplemental EIR for this Prima Deshecha Landfill (PDL) project. The PDL 2001 General Development Plan (GDP) and its First Amendment were accompanied by EIR 575 for which a Notice of Determination was issued on November 6, 2001. EIR 575 served as a Project EIR for near-term projects and as a Programmatic EIR for long-term projects which covered known actions at the project site related to: current and future project operations; foreseeable and known site improvements related to regional transportation requirements; and subsequent land uses through the post-buildout period of project completion. At the time EIR 575 was issued, engineering designs had still not been developed for future (above and beyond the design in EIR 575) operations, and engineering and geotechnical considerations for future phases of

project operation had not been fully addressed with respect to impacts on biological resources. Accordingly, EIR 575 stated its intent to function as a Program EIR for these portions of the project site. Specifically mentioned within this context were landfill operations in the eastern portion of the site and unanticipated projects elsewhere on the property. Accordingly, EIR 575 was intended to simplify and narrow the scope of the necessary documentation that is required by CEQA for these portions of the site once additional project information became available.

Amendment No. 2 to the 2001 GDP further defines the extent of ground disturbance at the PDL site over the boundaries identified within EIR 575 and the 2001 GDP. Although there is no change to the refuse prism or refuse volumes being accepted at the PDL, additional information has become available regarding probable future operational activities that will result in a larger area being affected by temporary ground disturbance. These activities include landslide remediation requirements and implementation of landfill-related support features; adjustments to the Zone 4 desilting system; and measures needed to ensure the long-term success of the environmental mitigation and restoration components of the overall GDP (required for long-term State and Federal agency permits). Although consistent in concept with the 2001 GDP, these elements constitute incremental additions, refinements, or minor changes to the approved 2001 GDP, the effects of which are analyzed within SEIR 597. Prior to approval of the Proposed Project (Section 4.0, Proposed Project Description), the Board of Supervisors will consider Final EIR 575 as updated and revised by Supplemental EIR 597.

### **1.1.3 INCORPORATION BY REFERENCE**

Pursuant to Section 15150 of the State CEQA Guidelines, SEIR 597 has incorporated by reference the entirety of the 2001 GDP (as previously amended), Final EIR 575, and relevant technical studies, analyses, and reports. Information from these documents (Appendices B and D) have been briefly summarized in the appropriate section(s) that follow; the relationship between the incorporated part of the referenced document and the Draft SEIR has also been described. The documents and other sources that have been used in the preparation of Draft SEIR 597 are identified in Section 11.0 (References). In accordance with Section 15150(b) of the State CEQA Guidelines, the location where the public may obtain and review these referenced documents and other sources used in the preparation of Draft SEIR 597 is listed below in Section 1.1.6, Availability of the Supplemental EIR.

SEIR 597 incorporates by reference all stated project objectives, overall project information, environmental analyses, mitigation measures, and construction elements contained within the Final EIR 575, and all supporting documentation. Analyses contained within Final EIR 575 for the 2001 GDP will be summarized, but will not be reiterated in detail unless there is a change in the analysis that has been necessitated by the Proposed Project.

### **1.1.4 INTENDED USES OF THE DRAFT SUPPLEMENTAL EIR**

This Draft SEIR is necessarily broad in analytical approach in an effort to address certain elements of the Proposed Project that are part of the long-range program for full buildout of the Prima Deshecha Landfill. These elements are typically scheduled for implementation well into the future (e.g., 15 years or beyond from the date of issuance), and assumptions made regarding the specifics of project execution will be confirmed through final design efforts as implementation nears. This document also provides more in-depth analysis and environmental documentation on one or more specific projects contained within the 2001 GDP, for which additional design information is now available (refer to Section 4.0, Project Description).

## **Discretionary Approvals**

A “discretionary approval” is an action taken by a government agency that calls for the exercise of judgment in deciding whether to approve or how to carry out a project. For this project, the lead agency responsible for SEIR certification is the Orange County Board of Supervisors.

### ***County of Orange***

To approve and implement the Proposed Project as outlined in Amendment No. 2 to the *2001 Prima Deshecha General Development Plan*, the following specific discretionary actions by the Orange County Board of Supervisors are required:

- Certification of Final EIR 575 as modified by Supplemental EIR 597
- Approval of Amendment No. 2 to the *2001 Prima Deshecha General Development Plan*

Full implementation of the proposed project would also require the following subsequent discretionary actions by the County of Orange Health Care Agency/Solid Waste Local Enforcement Agency (HCA/LEA) and the Regional Water Quality Control Board (RWQCB):

- Approval of Amended Waste Discharge Requirements (WDRs)
- Approval of Revised Solid Waste Facility Permit (SWFP)

It is likely that these permits will be issued as operations in Zone 4 near initiation. In addition to the four approvals identified above, County agencies may also be required to approve new and updated utility permits, including but not limited to: building, grading, encroachment, electrical, gas, fire, water, and other various permits. This document will provide information (as available) to support these permit application processes.

## **Integration of Site Planning into Larger-Scale Regional Planning Efforts**

On-site environmental resources and restoration and enhancement opportunities at the PDL make the site an important partner in a number of significant and ongoing regional planning efforts. These planning efforts include, but are not limited to, the development of a San Juan Creek and Western San Mateo Creek Watershed Special Area Management Plan (SAMP); the Proposed Southern Subregion Natural Communities Conservation Plan (NCCP) for the Orange County Southern Subregion; and the La Pata Avenue Gap Closure Study (all of which are discussed in greater detail in Section 4.3.4 and Section 8.0). In accordance with the County of Orange’s commitment to actively participate and further the goals of natural resources conservation efforts within its jurisdictional areas, SEIR 597 will be used as a framework within which to integrate proposed project actions at the PDL with these larger-scale regional planning efforts.

### **1.1.5 AGENCIES HAVING JURISDICTION**

The lead agency for this SEIR is the:

County of Orange  
 Integrated Waste Management Department  
 320 North Flower Street, Suite 400  
 Santa Ana, CA 92703



Advisory bodies to the Board of Supervisors include the Orange County Planning Commission; Orange County Waste Management Commission; and the Orange County Harbors, Beaches and Parks Commission.

Responsible agencies expected to utilize Amendment No. 2 to the 2001 GDP and SEIR 597 in their decision-making and permitting processes (see **Error! Reference source not found.** below) include, but are not limited to, the following:

- Orange County Fire Authority (OCFA)
- Orange County Health Care Agency, Solid Waste Local Enforcement Agency (HCA/LEA)
- Orange County Resources and Development Management Department (RDMD)
- City of San Juan Capistrano
- City of San Clemente
- South Coast Air Quality Management District (SCAQMD)
- California Regional Water Quality Control Board, San Diego (SDWQCB)
- California Integrated Waste Management Board (CIWMB)
- United States Army Corps of Engineers (USACE)
- United States Fish and Wildlife Service (USFWS)
- California Department of Fish and Game (CDFG)

The approval process for Amendment No. 2 to the 2001 GDP and SEIR 597 will include a hearing at the County of Orange Planning Commission with a recommendation; the project will then proceed to the Board of Supervisors. Once the SEIR for the project is certified by the Board, local and state responsible agencies can rely on the environmental clearance for issuing or updating permits and for implementing projects, as appropriate. As discussed in Section 1.1.4, issuance of Amended WDRs for Zone 4 landfill operations is not anticipated until Zone 4 landfill operations near.

This document was specifically prepared to pursue resource agency permits and approvals that are necessary for the Proposed Project elements discussed below. The agencies expected to use SEIR 597 in their decision-making include the OCFA, the HCA/LEA, the RDMD, the City of San Juan Capistrano, the City of San Clemente, the SCAQMD, the SDRWQCB, the CIWMB, the USACE, the USFWS, and the CDFG. Additional detail on these agency actions may be found in Tables 1.1-1 and 1.1-2.

**TABLE 1.1-1  
LIST OF LEAD AGENCY AND LOCAL AND STATE RESPONSIBLE  
AGENCIES FOR AMENDMENT NO. 2 TO THE 2001 PRIMA DESHECHA  
GENERAL DEVELOPMENT PLAN**

Agency	Approval/Permit
<b>County of Orange (Lead Agency)</b>	
Board of Supervisors	Second Amendment to the 2001 General Development Plan Certification of Final EIR 575 as amended by SEIR 597
<b>Responsible State Agencies</b>	
Regional Water Quality Control Board	Section 401 Certification Waste Discharge Requirements (WDRs) National Pollution Discharge Elimination System (NPDES) Permit
Department of Fish and Game	Section 1602 Streambed Alteration Agreement NCCP Authorization (Note: MSA may be approved for this)
South Coast Air Quality Management District	New Source Performance Standards (NSPS)/Emission Guidelines (EG) Title V (1990 Clean Air Act) – Regulation XXX Rule 1150 (Excavation of Landfill Sites) Rule 1150.1 (Landfill Gas Emissions) Rule 431.1 (Sulfur Content of Gaseous Fuels) Rule 431.2 (Sulfur Content of Liquid Fuels)
California Integrated Waste Management Board	Solid Waste Facilities Permit Revision (Concurrence)
<b>Responsible County of Orange Agencies</b>	
Orange County Fire Authority	Fuel Modification Plan and Program Fire Break Roads
Orange County HCA/Local Enforcement Agency	Solid Waste Facilities Permit Revision
Planning & Development Services Department	Grading/Miscellaneous Permits
Source: EIR 575, as modified	

Federal agencies and their respective permits and/or approvals are identified in Table 1.1-2. Section 4.3.3 provides an expanded discussion of these approvals and permits as they apply to the PDL site.

**TABLE 1.1-2  
FEDERAL PERMITTING AGENCIES FOR  
AMENDMENT NO. 2 TO THE  
2001 PRIMA DESHECHA GENERAL DEVELOPMENT PLAN**

Agency	Approval/Permit
<b>Federal Agencies</b>	
U.S. Fish and Wildlife Service	Section 7 or 10(a) Permit or NCCP Authorization
U.S. Army Corps of Engineers	Section 404 Permit

### 1.1.6 AVAILABILITY OF THE SUPPLEMENTAL EIR

The County of Orange has complied with Sections 15063 and 15082 of the State CEQA Guidelines by preparing and issuing a Notice of Preparation (NOP) of a Draft SEIR. The NOP, which was distributed on February 9, 2004, included a brief description of Proposed Project elements covered by this Draft SEIR. The NOP was circulated to responsible agencies and potential interested groups and parties, as required by CEQA; the review and comment period for the NOP officially ended on March 3, 2004. The Initial Study responses and NOP comments were used to establish the scope of the issues addressed in this Draft SEIR. Appendix A contains a copy of the NOP, its distribution list, and comment letters received. A total of 8 letters were received during the NOP comment period from the public agencies, and are listed in Table 1.1-3 below. Copies of these letters can be found in Appendix A.

The Draft SEIR and all related technical studies are available for review at the County of Orange, Integrated Waste Management Department. All agencies, organizations, and individuals are invited to comment on the information presented in the Draft SEIR during the public review period. Specifically, comments are requested on the scope and adequacy of the environmental analysis. Respondents are also asked to provide or identify additional environmental information that is germane but that may not have been used in the analysis. Following the public review period, a response to all substantive public comments will be prepared and compiled into a Final SEIR, which will be considered by the Orange County Board of Supervisors (Board) for certification. Any parties interested in reviewing the SEIR and/or the documents incorporated by reference may do so at the following location:

County of Orange  
Integrated Waste Management Department  
320 North Flower Street, Suite 400  
Santa Ana, CA 92703

Contact Persons for the Proposed Project are:

For telephone and email comments:

Linda Hagthrop  
Public Information Officer  
(714) 834-4176 (phone)  
linda.hagthrop@iwmd.ocgov.com

For written comments via mail or fax:

Rochelle Carpenter  
Project Manager  
Orange County Integrated Waste  
Management Department  
320 N. Flower St., Suite 400  
Santa Ana, CA 92703  
(714) 834-4001 (fax)

**TABLE 1.1-3  
LETTERS RECEIVED ON THE NOP**

<b>Agency</b>	<b>General</b>	<b>Traffic</b>	<b>Air Quality</b>	<b>Biological Resources</b>
Talega Associates, LLC	Reserves right to future comment; wants to be kept informed			
Transportation Corridor Agency (TCA)	Foothill Transportation Corridor alternatives may impact landfill operations; wants to review future documents			
OC Fire Authority (OCFA)	No comment; wants to be provided with updated information for Emergency Business Plan			
California Department of Transportation (Caltrans)	wants to be kept informed	<ol style="list-style-type: none"> <li>1. Would like traffic study for future La Pata work for regional traffic impacts, any changes in Level of Service (LOS), and types of traffic on the road.</li> <li>2. "Lead Agency should include the DOT Department of Transportation in its close coordination on regional transportation needs with regards to La Pata Avenue."</li> <li>3. "Care should be taken to contain loads resulting from construction and operation of the landfill, from blowing over or onto State Right of Way or facilities"</li> </ol>		
OC Health Care Agency (Local Enforcement Agency [LEA])	Clarify "landfill footprint" vs. "waste footprint"; Clarify which zones will be affected.			
California Integrated Waste Management Board (CIWMB)	No comments; If proposed project changes landfill operations, the Board will have comments on Draft SEIR			
SCAQMD	Use 1993 CEQA Air Quality Handbook		Calculate impacts from construction operations, indirect sources, and all toxic air contaminants; Utilize all feasible mitigation measures	
CDFG	CDFG appreciates and encourages pre-mitigation measures.	Include Analysis of Alternative La Pata Alignments, and potential effects of wildlife movement/design of preserve. Project should ensure that construction and operation of road does not affect NCCP.		Minimize impacts to existing resources; include measures to ensure wildlife connectivity not precluded

## 1.2 **METHODOLOGY AND APPROACH**

SEIR 597 analyzes the impacts of the Proposed Project for Amendment No. 2 to the 2001 GDP (herein referred to as the 'Proposed Project'). Accordingly, the approved project in the 2001 GDP provides the existing condition, or baseline condition, from which the incremental impacts of the Proposed Project are assessed. Section 2.0 of SEIR 597 presents an overview and description of the 2001 GDP and contains exhibits that illustrate the existing project condition at the site. The history of project actions on the site is summarized, as are mitigation measures in EIR 575.

Section 3.0 presents the purpose and need for the Proposed Project and Amendment No. 2 to the GDP. Section 4.0 then describes the Proposed Project elements which constitute new information, changed conditions, or increased detail over the 2001 GDP and Amendment No. 1. All exhibits within Section 4.0 illustrate features or elements of the Proposed Project.

Section 5.0 contains an analysis of those resource categories for which the Proposed Project results in either a new significant impact or an impact that is more severe than that analyzed in previous project environmental documentation. For these resources, organization of each topical section will vary slightly depending upon the environmental impact generated by the Proposed Project. Due to the nature of the Proposed Project, certain resource categories require in-depth analysis in order to conclude an impact designation of "no substantial change." These resources and detailed analyses are also presented in Section 5.0.

Section 6.0 presents those resources that were identified in the NOP/Initial Study (IS) and the accompanying environmental checklist provided by the County as sustaining "no substantial change" from implementation of the Proposed Project. For these resources, detailed analyses were not required; the results of prior analyses are briefly discussed in Section 6.0, along with an explanation of why Amendment No. 2 generates no substantial incremental environmental effect. For more information or detail on prior impact analyses conducted for the 2001 GDP, refer to FEIR 575 (2001).

Each resource category in Sections 5.0 and 6.0 is presented according to the outline below. As indicated above, the analyses in Section 5.0 are discussed in greater detail than those in Section 6.0:

- Existing Environmental Setting
- Significance Criteria
- Environmental Impact Analysis
- Mitigation Measures
- Level of Significance After Mitigation

### 1.2.1 **EXISTING ENVIRONMENTAL SETTING**

This section introduces the resource under consideration by describing the existing conditions related to each resource in the Draft SEIR. In accordance with Section 15125 of the State CEQA Guidelines, both the local and regional settings are discussed as they exist at the time of NOP issuance which is prior to implementation of the Proposed Project. In this case, the environmental setting will include a description of the resource under existing conditions including, if appropriate, conditions as affected by approved actions at the project site. This documentation will serve as the baseline upon which the Proposed Project-related impacts will be evaluated. Section 15125 also stipulates that an EIR shall discuss the inconsistencies between the Proposed Project and any applicable General and Regional plans including (but not limited to) habitat conservation plans (HCPs), NCCPs, and regional land use plans.

## 1.2.2 SIGNIFICANCE CRITERIA

The specific criteria upon which the significance of the project-related potential impacts are determined are considered the same as those utilized within FEIR 575. These have been derived from the significant effects identified in local (i.e., County of Orange), state, and/or federal policies and programs that may apply to the project as well as other commonly accepted technical and non-technical standards determined to be appropriate by the lead agency (pursuant to Section 15064.7 and Appendix G [Environmental Checklist] of the State CEQA Guidelines).

## 1.2.3 ENVIRONMENTAL IMPACT ANALYSIS

The environmental analysis for each issue is contained in Section 5.0 of this document. The extent of the analysis and documentation for each issue analyzed in the Draft SEIR were identified in the Initial Study (Appendix A). In some cases, the discussion will be a summary of the analysis conducted for FEIR 575; in other instances a technical study may have been prepared to specifically analyze the project-related impacts of the Proposed Project. In such cases, the technical report will be summarized to present the existing environmental conditions; to provide an assessment of the potential project-related impacts; and to identify and/or recommend appropriate mitigation measures in order to ensure that the environmental consequences are eliminated or reduced to a less-than-significant level, if feasible. All project-related impacts, including those associated with all phases of the Proposed Project, will be clearly and adequately analyzed in accordance with the State CEQA Guidelines. With respect to each potential effect, an analysis will be conducted to determine if, in fact:

- The project causes the identified “effect”;
- The effect produces a substantial or potentially substantial change in the physical conditions within the area affected by the project as measured against the significance criteria and the previously identified effects as analyzed within FEIR 575; and
- The changed conditions are “adverse.”

Where the investigation of a potential effect concludes that the effect is too speculative for evaluation, that conclusion is noted and the discussion of that effect is ended. In cases where the investigation demonstrates that a potential effect does or may (without undue speculation) occur but is beneficial, that conclusion is noted. Similarly, if the investigation demonstrates that a potential effect is not significant or not adverse, that conclusion is noted.

## 1.2.4 CUMULATIVE IMPACTS

Section 15130 of the CEQA Guidelines requires that an EIR discuss the cumulative impacts of a project when the project’s incremental effect is “cumulatively considerable.” A cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. Section 15130(d) indicates that previously approved land use documents such as general plans may be used in cumulative impact analyses for consistency and demonstration of cumulative effect. Section 8.0 of the document considers the incremental effects of the Proposed Project together with the effect of other projects in the region in accordance with these Guidelines.

## 1.2.5 MITIGATION MEASURES

Where the analysis described above demonstrates that a potential effect does or may occur and is found to have a substantial or potentially substantial and adverse impact above those identified in FEIR 575, that conclusion is noted and:

- Mitigation measures are provided which will minimize these effects and, in most cases, reduce them to less-than-significant levels; and/or
- If feasible mitigation measures are not identified which can reduce the significant effects to less-than-significant levels, the effect will be identified as one which will result in “significant unavoidable adverse impacts.”

### **1.2.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION**

Unavoidable significant adverse impacts are those effects that either cannot be mitigated or that remain significant even after mitigation is incorporated into the Proposed Project. These significant effects, if any, will be identified in the Draft SEIR. If significant unavoidable impacts are identified with the Proposed Project and are found as such by the decision-makers, it will be necessary for the Orange County Board of Supervisors to adopt a Statement of Overriding Considerations that identifies and describes public benefit(s) associated with project implementation which the Board finds sufficient to offset or override the significant impacts. This Statement of Overriding Considerations must be adopted in order to approve the Proposed Project if unavoidable significant adverse impacts occur.

## **SECTION 2.0 EXISTING CONDITIONS: HISTORY AND EVOLUTION OF THE 2001 GENERAL DEVELOPMENT PLAN**

### **2.1 BACKGROUND AND EVOLUTION OF THE GDP**

In February 1973, the Board of Supervisors established the Prima Desecha Landfill (PDL) as a multi-use concept for refuse disposal and recreation. The landfill began accepting municipal waste in 1976 in an area now known as Waste Management Unit 2 (WMU2). In December 1976, a General Development Plan (GDP) was initiated to combine both refuse disposal and, ultimately, recreational plans for the site upon closure.

An Interim Project Report/Environmental Impact Analysis for the PDL site was submitted in August 1978 to the County of Orange (County) Harbors, Beaches, and Parks (HBP) Commission. The report contained an Interim Plan and two ultimate Alternative Schematic Plans. Alternative 2 (an 81 million cubic yard refuse plan covering 800 acres of landfill area and 200 acres of borrow area) was recommended by the Commission and subsequently adopted by the Board in December 1978. That Alternative Schematic Plan was further refined and provided the basis for the 1979 Prima Deshecha GDP as well as the initial and current Solid Waste Facilities Permit (SWFP) No. 30-AB-0019 for the site. In 1980, the disposal operations were moved to a second active area known as Waste Management Unit 1 (WMU1) (Exhibit 2.1-1).

In 1994, an updated draft GDP was prepared and analyzed in a Program Environmental Impact Report (EIR 548), which was circulated for public review and comment in September and October of 1995. On November 21, 1995, the Board certified Final EIR 548 as adequately assessing potential environmental impacts associated with the 1994 GDP, but decided not to approve the 1994 GDP project in an effort to address viewshed concerns of the City of San Clemente. At Board direction, a revised plan was developed, and a Memorandum of Understanding (MOU) was executed between the City of San Clemente and the County of Orange for the Prima Deshecha property on July 1, 1997 (Appendix C).

The negotiated design amendments and boundary constraints were incorporated into the 2001 GDP (EIR 575), which now serves as the future planning guide for the Prima Deshecha site. This latest GDP utilizes a five-zone concept to guide planning decisions at the PDL site (see Section 2.2.2 and Exhibit 2.1-1) and to manage landfill operations. The 2001 GDP resembles the 1994 GDP but reflects the plan agreed to by the City of San Clemente and also incorporates actions required for remediation of a landslide which occurred in May 1998 in a stockpile area south of the Prima Deshecha Cañada stream (Exhibit 2.1-2). This landslide was first observed on May 21, 1998, following severe El Niño rains.

The landslide remediation measures incorporated into the 2001 GDP involved removing the landslide material from the soil stockpile, recompacting the materials within the Prima Deshecha Cañada stream, and rerouting the stream as a natural channel south of the compacted material. The recompacted material was designed to serve as a buttress to stabilize the area and to provide a stable subgrade for Zone 1 refuse disposal. Mitigation requirements for these landslide remediation activities have also been incorporated into the 2001 GDP, and are being implemented within the Zone 1 boundaries as coordinated with the Resource Agencies (see Section 2.3.2 for additional information on project biological mitigation activities to date).

### **2.2 OVERVIEW OF THE GENERAL DEVELOPMENT PLAN (EXISTING CONDITIONS)**

As summarized above, the 2001 GDP is the product of updates to previous GDPs (1979 GDP, 1994 GDP) and was drafted to reflect a landfill plan agreed to by the cities of San Clemente and



San Juan Capistrano. The 2001 GDP also addresses additional landfill design considerations and actions required for remediation of the 1998 on-site landslide (Exhibit 2.1-2). Mitigation measures adopted in EIR 575 for the 2001 GDP are currently being implemented within Zone 1, as coordinated with the State and Federal Resource Agencies.

Since the site began operations in 1976, there has been substantial residential development in the region, particularly to the south within the cities of San Clemente and San Juan Capistrano. Accordingly, the 2001 GDP took the current and projected proximity of urban development into consideration.

The 2001 GDP, updated as appropriate with recent on-site additional information, provides the basis for the existing description of the site and the baseline for analyses contained within this SEIR. The following sections provide an overview of the objectives of the 2001 GDP and a corresponding description of existing conditions at the project site.

### **2.2.1 OBJECTIVES OF THE 2001 GENERAL DEVELOPMENT PLAN**

The established objectives of the 2001 GDP remain applicable for the Proposed Project in Amendment No. 2, which is analyzed within this SEIR. The GDP identifies multiple uses for the Prima Deshecha site which encompass solid waste management, regional park and recreational development, and circulation and transportation linkages. It is important to note that the primary objective for the site is its function as a solid waste disposal facility; this objective has and will continue to take precedence over other identified future uses until such time as the landfill achieves full build out and can transition to recreational and open space uses once closure is complete. Secondary objectives include the provision of interim and ultimate recreational opportunities for the general public and the accommodation of regional highway circulation alignments. Listed below are the specific project objectives that are contained within the 2001 GDP and which were used to guide the development of the Proposed Project for Amendment No. 2. The purpose and need for the Proposed Project for Amendment No. 2 directly supports these GDP objectives.

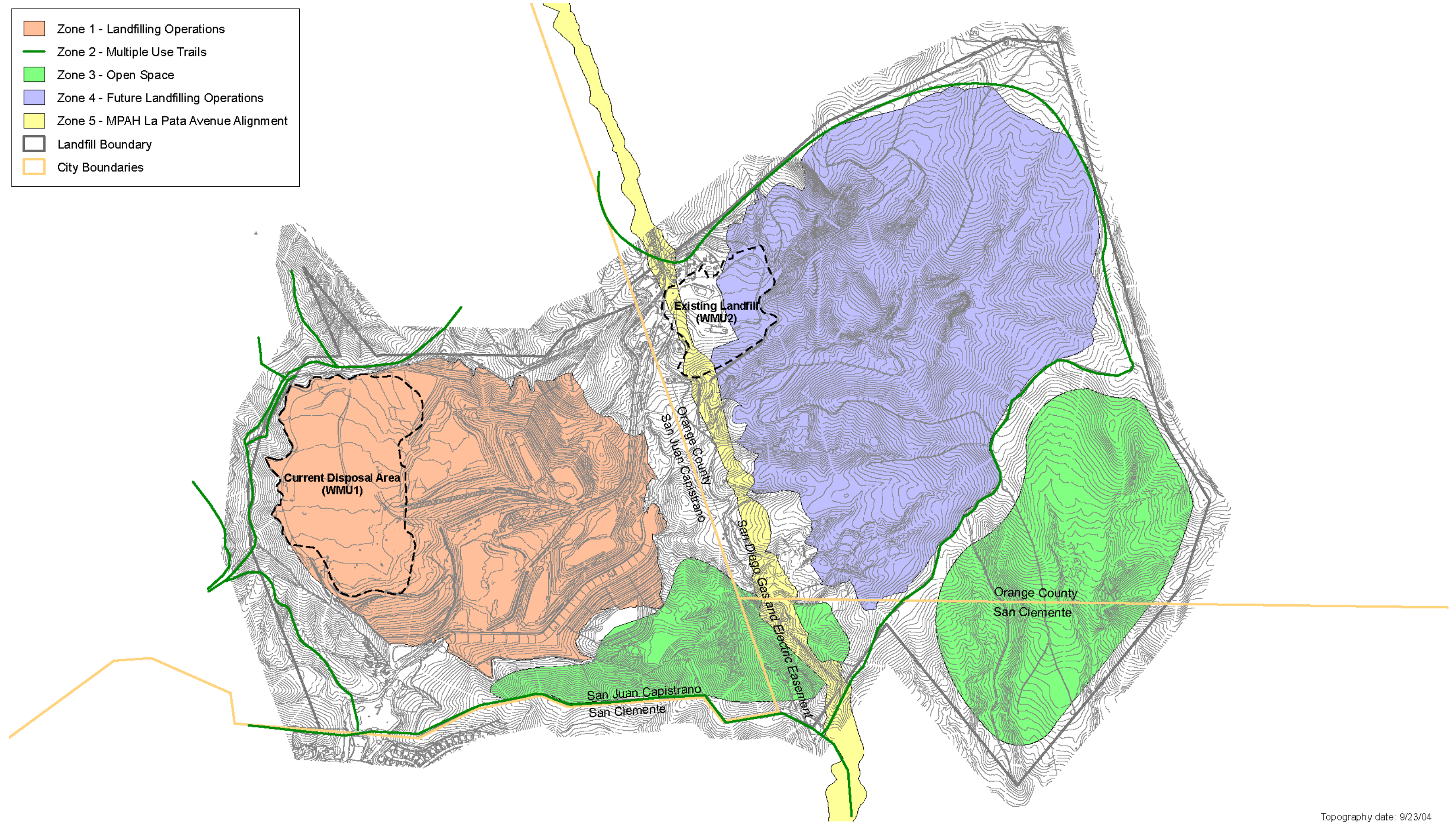
#### **Solid Waste Management Objectives**

- Optimize the use of the site as a long-term waste disposal facility which operates in compliance with local, state, and federal regulations governing landfill operations, and in compliance with regulations protecting the environment.
- Provide for consistency with the County of Orange Integrated Waste Management Plan (CIWMP), adopted County and applicable City General Plans and zoning regulations, and compliance with City MOU design and operational conditions.
- Provide a long-term, regional solid waste management facility with appropriate safeguards to protect public health and safety as well as water, air, soil and other important resources which exist on-site and on surrounding property.

#### **Circulation Objectives**

- Provide for regional as well as local access to landfill operations and recreational activities on the site.
- Accommodate adopted Master Plan of Arterial Highways (MPAH) arterial highway alignments through the site.

- Zone 1 - Landfilling Operations
- Zone 2 - Multiple Use Trails
- Zone 3 - Open Space
- Zone 4 - Future Landfilling Operations
- Zone 5 - MPAH La Pata Avenue Alignment
- Landfill Boundary
- City Boundaries

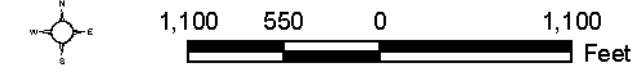


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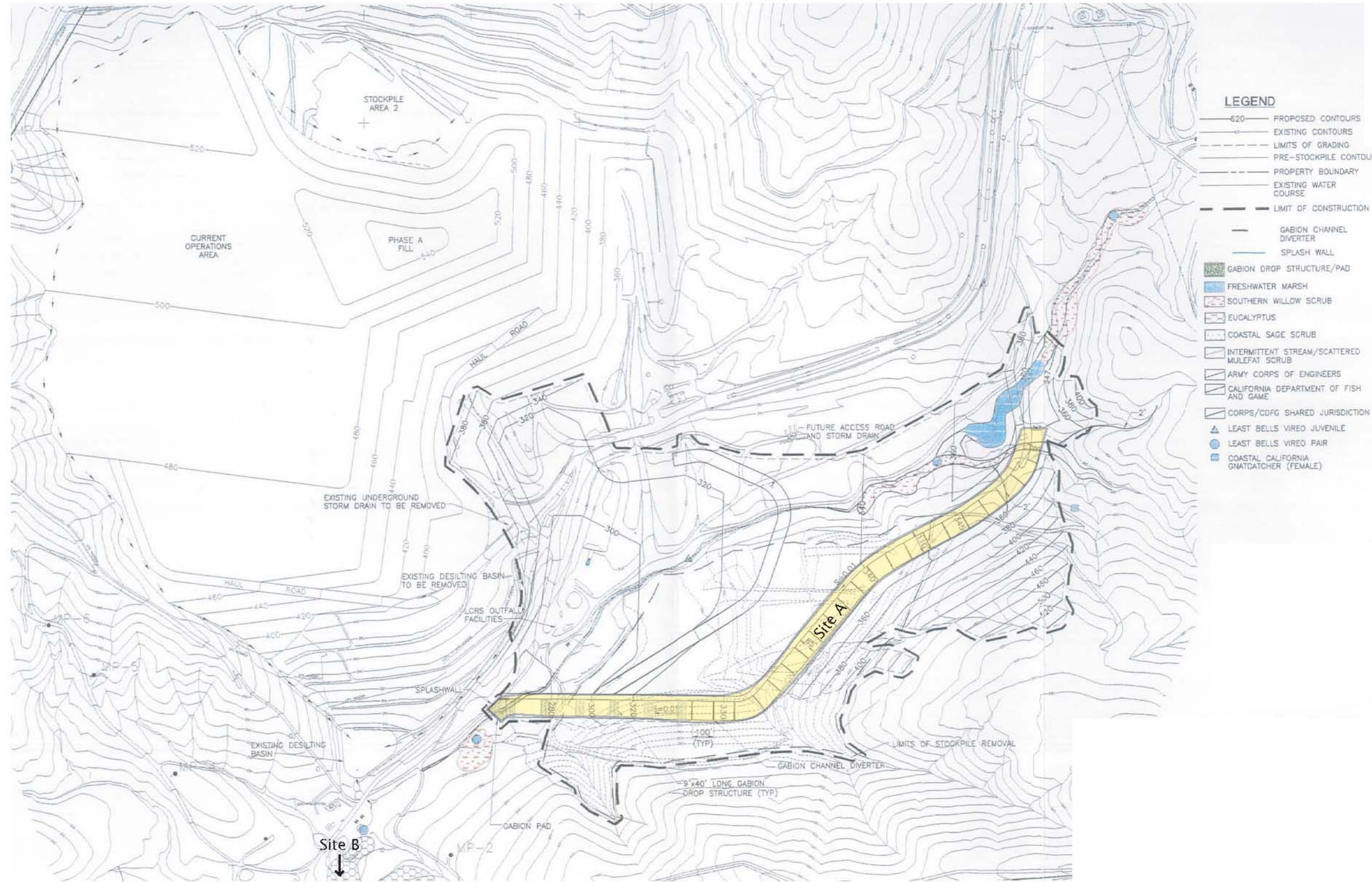
**General Plan Zones as Contained Within the 2001 GDP**

**Exhibit 2.1-1**

Prima Deshecha Landfill  
 Supplemental Environmental Impact Report 597



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### 2001 GDP Landslide Remediation Area and Project Elements

### Exhibit 2.1-2

Prima Deshecha Landfill  
 Supplemental Environmental Impact Report 597

Source: EIR 575  
 Scale: 1" = Approximately 500'



## **Recreation and Open Space Objectives**

- Identify preferred activities that include a variety of passive and limited active recreational uses which respond to the changing recreational needs in the region.
- Provide a phased recreation concept for implementation of both interim and ultimate recreational uses as solid waste management activities allow.
- Consider recreation goals and objectives of the Orange County Master Plan of Regional Parks as well as with those identified in the Orange County Master Plan of Regional Riding and Hiking Trails and the San Juan Capistrano and San Clemente General Plans.
- Provide opportunities for the benefit of the public to develop and operate recreation facilities within the regional park.
- Provide essential linkages to the existing multiple use trails in the area which will also serve the recreation elements of the GDP.
- Preserve regionally significant habitat on the site which will be set aside as natural reserves and which can be used throughout the region for educational purposes.
- Provide linkage and open space opportunities for wildlife corridors.

### **2.2.2 2001 GENERAL DEVELOPMENT PLAN ELEMENTS: PROJECT SITE DESCRIPTION, EXISTING CONDITIONS**

The 2001 GDP serves as the currently approved planning document that guides actions and activities at the PDL. The primary elements of the GDP, as currently approved, are summarized here and represent a current site description, as well as the baseline condition for impact analysis of the Proposed Project for Amendment No. 2 (as described in Section 4.0).

The Prima Deshecha 2001 GDP provides for the effective management of multiple uses on the site including solid waste disposal; various regional park and recreational uses included in the Orange County Master Plan of Regional Recreational Facilities; and implementation of a key arterial highway and road extension included in the Master Plan of Arterial Highways (MPAH), Orange County Circulation Plan (OCCP), and Circulation Elements of the Cities of San Juan Capistrano and San Clemente. It incorporates three primary elements including a Landfill Plan, a Circulation Plan, and a Recreation Plan. The 2001 GDP updated future project implementation plans with modifications to five planning zones. These modifications consist of zone boundary adjustments, landfill grading, and height limits which were developed through discussions with regional partners about updated design information.

The following sections describe existing conditions at the site (as covered by the approved 2001 GDP), subsequent modifications adopted with Amendment No. 1, and permitted project features and actions implemented to date. The focus of this section is the Landfill Plan Element of the 2001 GDP, as Amendment No. 2 primarily focuses on modifications to future landfill planning. A summary of the environmental impacts and mitigation measures incorporated into project commitments as a part of the 2001 GDP is then presented. (Note: *All exhibits and references in this section refer to the approved existing condition at the site and do not reflect Proposed Project modifications.*)

## **Description of Existing GDP Project Features**

**Zone 1:** Zone 1 is currently designated for landfilling operations and comprises a total area of 327 acres, which includes non-refuse cut areas and the currently active refuse disposal area. WMU1 is located within Zone 1 (Exhibit 2.1-1). This zone provides for refuse disposal within 271 acres and will be filled over the next 13-year period. At the time of closure (anticipated in the year 2019), Zone 1 is expected to be completely filled; this is based on current assumptions for refuse inflow rates, daily cover use, and diversion. After closure activities have been completed, satisfactory access has been established and sufficient settlement has occurred, a needs analysis will be conducted to identify the recreational uses that are considered to be both compatible with the site and desirable for the general public.

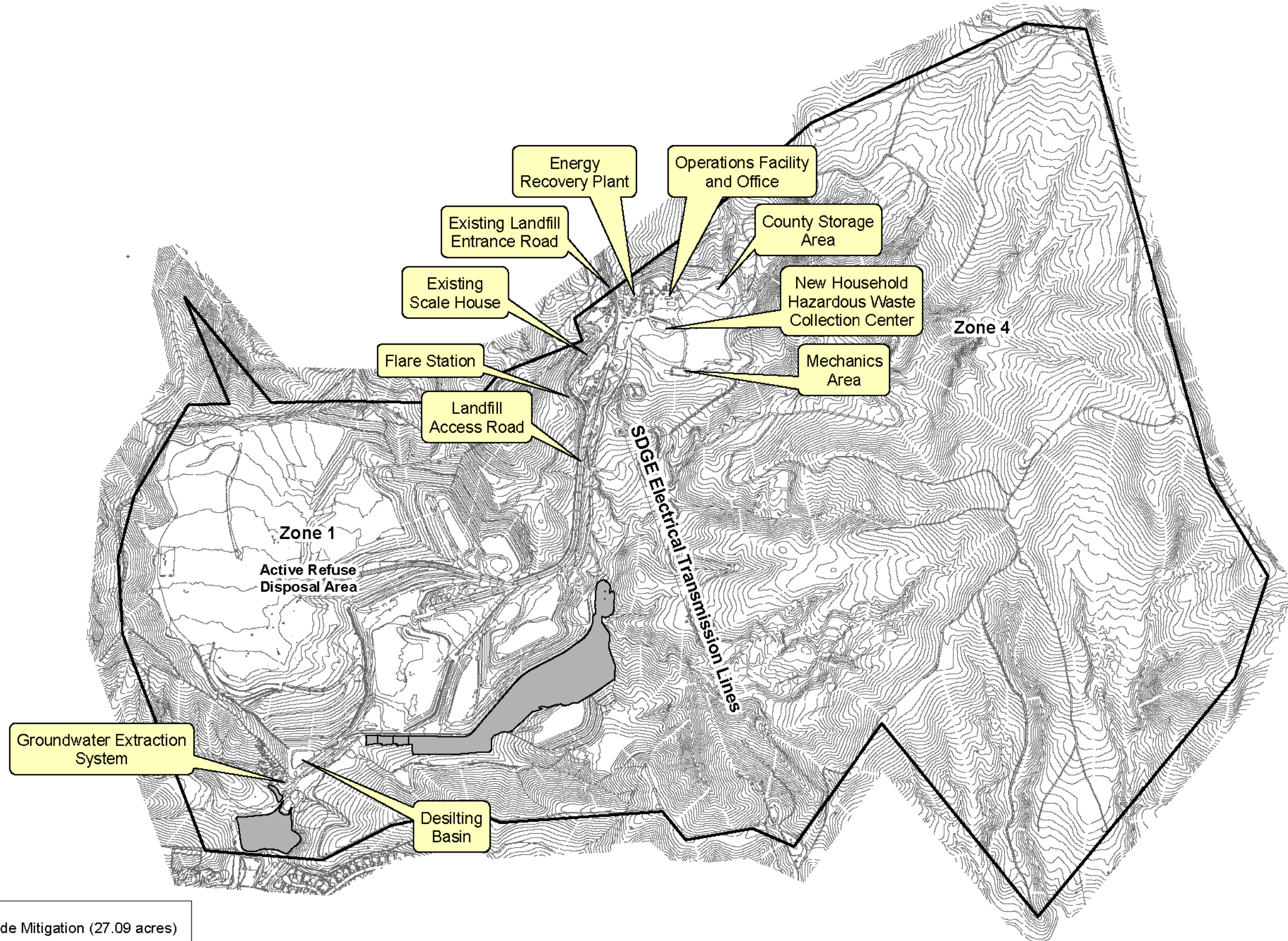
The major phases of development for Zone 1 (as originally contained in the 2001 GDP) include Phases A, B, C, and D. Several subphases of fill and excavation within major Phases A through D are being implemented for the full development of Zone 1; they are Phases A, B, and C3. Filling has occurred in landfill areas designated as WMU1 (Summer 1980), Phases A (February 1999), A1 (November 2000), C1 (July 2002), B (July 2004), A2 (September 2005), and B1 (December 2005). Future development will continue to the east of these active landfill areas. Phase C2 is currently under construction (completion expected in October 2006). The ultimate development of Zone 1 will provide a total of 271 acres for refuse fill.

### ***On-Site Facilities***

The San Juan Capistrano Regional Household Hazardous Waste Collection Center (HHWCC) was constructed adjacent to Zone 1 as a temporary facility and opened in August 1991 (Exhibit 2.2-1). A new facility has recently been constructed near the landfill entrance and will function as a permanent facility (replacing the temporary facility) to meet current regulatory standards. The new facility consists of: (1) a secured area with covered storage to collect and store various household hazardous wastes in designated areas and (2) a Materials Exchange Program (MEP) area which allows materials received through the HHWCC to be set aside and reused by the public (at no cost) if regulatory requirements are met. The location of the new HHWCC is near the landfill entrance to provide for quick public access. In addition, the PDL's new Load Check Storage Area (LCSA) will be relocated adjacent to the new, permanent HHWCC. Both the LCSA and the HHWCC were sited in areas designated within the GDP for ancillary facilities. The original HHWCC was demolished as part of the construction for Phase B1. Collected household hazardous waste that is temporarily stored in the HHWCC is disposed off site or recycled appropriately; no hazardous waste is permanently disposed at the PDL.

### **Landfill Operations**

Landfill operations are proceeding in phased increments with soil excavation and installation of a liner system prior to refuse disposal and cover. Recently completed actions within the Zone 1 area include the installation of a liner system between 2 areas of the Zone 1 landfill in order to facilitate existing landfill operations. The presently completed Phase A2 liner system, located in the mid-northern portion of the site, was constructed as a small easterly extension of the Phase A1 liner to eliminate a gap between the Phase A1/C1 liner areas (see Section 2.2, Project Phasing). The recently completed Phase B1 area connects the existing liner system within Phase B (to the south) and Phase C1 (to the north). The Phase A2/B1 liner construction was completed in December 2005.



Existing Landslide Mitigation (27.09 acres)

Source: BAS, 2005  
Topography date: 9/23/04

**Existing Facilities**

Prima Deshecha Landfill  
Supplemental Environmental Impact Report 597

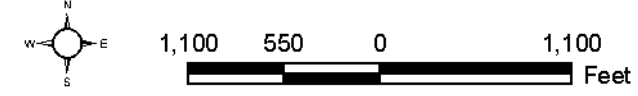


Exhibit 2.2-1



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## Landslide Remediation Features

Landslide remediation activities implemented to date within Zone 1 have included: (1) the removal and re-compaction of stockpile and landslide materials as a buttress fill within an approximately 88-acre area, including a portion of the Prima Deshecha Cañada stream; (2) the relocation of the stream to the south into a new 85-to-101-foot-wide channel on coarse-grained alluvial-type soil material underlain with a low-permeability clay layer; (3) the planting of the stream channel with 7.1 acres of riparian and wetland habitat; and (4) the installation of gabion drop structures for channel erosion control within mitigation Site A of the realigned channel (see Section 2.3 and Exhibit 2.1-2).

Mitigation for landslide remediation activities, as coordinated and permitted by the resource agencies, also occurred at a 7-acre site known as mitigation Site B (see Section 2.3.2) within Zone 1 and consisted of site excavation, planting of 4.5 acres of riparian and wetland vegetation, and construction of a stilling basin and a low-flow sediment release pipe. This mitigation program was initiated in Sites A and B in the spring of 2003 with the planting of Site B, followed by the planting of Site A in spring 2004. Section 2.3.2 provides additional detail and exhibits on the implementation and status of existing mitigation areas.

## Aesthetic Requirements

Final landfill grades for Zone 1 are to be kept below the major ridgelines which form the northern and western edges of the landfill site boundary. This will ensure that landfill grades will not be visible from Ortega Highway, the valleys of San Juan Capistrano, and the Truman Benedict Elementary School in San Clemente's Forster Ranch community which will be consistent with the MOUs on record with the cities of San Juan Capistrano and San Clemente.

A Viewshed Protection Plan (VPP) is also required to protect views from the south in the City of San Clemente, and will be developed cooperatively between the County and the City as part of a condition for certification of EIR 575. The VPP needs to be implemented prior to Zone 4 operations.

Additional aesthetic mitigation requirements are discussed in Sections 2.2.4, 2.2.5, and 2.2.6.

## Desilting Features

The 2001 GDP proposed enlargement of the existing desilting basin at the south end of Zone 1. This enlargement was completed in 2005, with a basin capacity increase from 9 acre-feet (af) to approximately 18 af (to the spillway bottom). Other basin improvements included lining the earthen facility with concrete to facilitate access (so earthmoving equipment could remove collected silt) and the construction of a new basin riser and emergency spillway. An existing dirt service road was also paved with an all-weather surface, and a bridge was installed for vehicles using the service road to safely travel over the new spillway. A pedestrian trail that crosses the southern and western limits of the basin was also incorporated into the basin improvement project. The Zone 1 basin improvements required resource agency permit modifications due to the removal of 0.09 acre of low quality mule fat scrub.

Lastly, a small portion of the stream bank (approximately 0.008 acre) at the interface between the newly realigned Prima Deshecha Cañada channel bank (Site A) and the existing riparian zone had been subject to potential erosion. A rock gabion structure approximately 60 feet in length and 4-to-6 feet in height was recently installed to provide a more permanent resource management and protection solution. The structure was installed within the realigned channel area and no vegetation was disturbed.

**Zone 2:** Zone 2 is designated for Multiple Use Trails and identifies the recreational trails that will eventually circumnavigate the landfill property (Exhibit 2.1-1). On-site public trails around Zone 1 can be used throughout the Zones 1 and 4 development as long as protection of public health and safety can be provided. Existing trails on the west and north sides of Zone 1 are currently in use. Trails depicted along the perimeter of Zone 4 will be available for interim recreational use during filling operations in Zone 1. When landfill operations move to Zone 4, this trail will be closed or relocated to protect public safety. When landfilling operations in Zone 4 are completed, the perimeter trails will be reconstructed and made available for use. The trails along the perimeter of Zone 4 will be restricted per the agreements between the County of Orange and Rancho Mission Viejo Company LLC (RMV) to a location 10 feet below and southwest of the existing ridgeline between the PDL property and adjacent RMV property to the north and east (this agreement is the basis for Amendment No. 1 to the 2001 GDP; a copy can be found in Appendix D). The GDP proposes to eventually connect the County trail along the edge of Zone 4 with on-site City trails proposed along Zone 1 to provide a complete loop for trail users. Discussions are ongoing with the Cities of San Clemente and San Juan Capistrano to identify specific trail alignments around Zone 1. The on-site trail connections would not be completed until Zone 4 is closed. A trail crossing under the future La Pata Avenue would have to be provided as part of an internal loop trail.

**Zone 3:** Zone 3 occurs within the Segunda Deshecha Cañada and the southern portions of the landfill. This zone contains native vegetation, including coastal sage scrub habitat used by the California gnatcatcher and mixed chaparral. Two open space areas on the site comprise Zone 3 and are proposed to be protected or restored to their natural state in concert with the Southern Subregion NCCP program currently under development by the County of Orange, landowners, environmental resource groups, and the Resource Agencies.<sup>1</sup> The intent of the GDP is to retain the majority of Zone 3 in a native state. Habitat restoration or enhancement could be implemented in Zone 3 where portions of these areas have been disturbed. Other opportunities exist in Zone 3 to provide mitigation for impacts associated with the development of the GDP in other zones, or as mitigation for impacts associated with other off-site development efforts in Orange County. These opportunities have been incorporated into the Proposed Project and are described in Section 4.0.

**Zone 4:** Zone 4 of the 2001 GDP is a 473-acre open space area (including non-refuse cut acreage) of which 409 acres is to be used for future refuse fill operations (Exhibit 2.1-1). Development of Zone 4 has a maximum elevation of 1,010 feet in accordance with MOU requirements between IWMD and the City of San Clemente. The final slopes and deck area have also been modified per the MOU to provide a more natural, undulating appearance. Additional aesthetic considerations were addressed in an agreement between the County of Orange and the RMV in 2002; this agreement constituted Amendment No. 1 to the 2001 GDP (Appendix C).

The scalehouse entrance facilities, personnel offices, equipment maintenance facilities, Energy Recovery Facility, and landfill gas flare station are located in the north-central portion of the site just west of Zone 4 (Exhibit 2.2-1). Fuel, water, and gas-condensate tanks are also located in this area. Additional facilities or modifications to existing facilities at the entrance to the landfill will be occurring prior to the La Pata Avenue extension project. However, there are no plans currently available so they are not considered in the Proposed Project (and are therefore not included in this SEIR).

<sup>1</sup> Resource Agencies include the US Fish and Wildlife Service, the California Department of Fish and Game, and the U.S. Army Corps of Engineers.



## Landfill Operations

Zone 4 is planned for future refuse disposal activities after Zone 1 is filled to capacity; this is currently projected to occur in 2019. Zone 4 would be in active operation for approximately 48 years based on current projections for refuse inflow rate, daily cover use, and diversion. Landfill operations within this zone will fill a substantial portion of the Prima Deshecha Cañada channel. The 2001 GDP proposes 9 major refuse fill phases of development (Phases A through I) for Zone 4. Prior to the final closure of Zone 1, the IWMD will prepare Zone 4 to receive refuse. Zone 4 will then serve as the final refuse disposal area on the property.

## Landslide Remediation Features

The 2001 GDP discusses a major landslide feature located within the Zone 4 refuse footprint and proposes an extensive shear key for stabilization of the refuse prism. However, the potential limits of excavation for construction of a shear key in Zone 4 were not identified in the 2001 GDP.

## Desilting System

The 2001 GDP originally envisioned a detention and desilting basin to be located between Zones 1 and 4 to meet stormwater requirements for ultimate development of the landfill in Zone 4. This system would be implemented with interim desilting basins as part of on going Zone 4 landfill operations.

**Zone 5:** The future alignment and construction of the La Pata Avenue extension was anticipated within Zone 5 and is scheduled to pass through the center of the PDL site between Zones 1 and 4 (Exhibit 2.1-1). The currently approved MPAH provided the basis for the ultimate capacity and conceptual alignment for this roadway as it is presented in the 2001 GDP.

## Project Phasing in the 2001 GDP

Fill phasing limits represent the areal extent of liner placement in support of refuse filling operations for each phase of landfill development. Excavation phasing limits represent the area needed for grading in order to provide for liner placement. These limits also differ in that the area that will be excavated prior to refuse disposal will reflect the total area needed for support activities such as site grading and subdrain installation, liner installation, material stockpiling, landslide remediation, and other design elements that are required to support future refuse disposal. Generally, excavation phasing limits will extend beyond fill phasing limits and will represent the greatest limit of ground-disturbing activity in the area being prepared for active refuse disposal.

Phasing limits of excavation and fill operations for Zone 1 at the PDL have been updated in the landfill operating permit documents since the approval of the 2001 GDP. Zone 4 refuse fill phasing limits have not changed from those proposed the 2001 GDP, and Zone 4 excavation phasing limits were not defined within the 2001 GDP. Exhibits 2.2-2 through 2.2-4 illustrate these excavation and fill phasing limits based on current site knowledge. Phasing of the 2001 GDP's Circulation and Recreation elements are not proposed for modification and are not considered in subsequent analyses; brief summaries of these elements are included below for information only.

## **Landfill Phasing**

The 2001 GDP provides for the lateral and vertical development of the first refuse disposal area (WMU1) within Zone 1 from 125 acres to 271 acres over approximately the next 13 years, from 2006 through 2019. Zone 4 would then be utilized within its 409-acre refuse footprint for about 48 years, based on a disposal rate of 4,000 tons per day (tpd). Neither the refuse footprint on or the capacity are proposed for modification within SEIR 597. The total life of the site for landfilling purposes (as of 2006) is 61 years and is estimated to close in the year 2067. The life of the site could change if assumptions for the daily refuse inflow rate change or if new technologies are developed which enhance landfill capacity.

Phasing scenarios that were developed in the 2001 GDP (which include 4 major fill and excavation development phases—A, B, C, and D— within Zone 1) are located to the east of WMU1 (Exhibits 2.2-2 and 2.2-3). Excavation and lining of Zone 1 are currently proceeding in subphases and will move progressively east until the development boundary is reached. The completed development subphases for Zone 1 include Phases A, A1, and A2; B and B1; C1, and C2 (to be completed in October 2006). Additional subphases are proposed in the future for major Phases C and D.

Exhibit 2.2-4 illustrates current fill phasing limits for Zone 4. As indicated in FEIR 575, excavated material in initial phases will be used for daily cover and compacted fills that are proposed for future phases in Zone 4. Excess excavation material from earlier phases can be stockpiled in future phase areas. Once fill operations reach the final phases, soil material excavated to develop these phases will be stockpiled on previously filled phases (above the interim fill and below the final fill grades proposed). There is no anticipated need or plan to excavate trash currently buried in that portion of WMU2 located within Zone 4. A liner system would likely be proposed over previously filled areas. However, should refuse excavation be required by the regulatory agencies, then IWMD would secure necessary permits during final design for removing refuse.

Exhibit 2.2-5 presents the final grades of the completed landfill as stated within the 2001 GDP.

## **Recreation Plan Phasing**

The phasing and implementation of recreational uses at the site are constrained in that landfilling activities and uses will take precedence over recreation improvements. In addition, the phasing of landfilling activities, post-closure maintenance of the landfill itself, and physical conditions at the site (e.g., settlement) will significantly affect the timing and development of future recreational site features and facilities. Once Zone 1 has been closed, satisfactory access has been established, and sufficient time has passed to allow for settling of the fill material, the area (Zone 1) would be available for interim recreational use during the period of active landfill operations within Zone 4. A needs analysis will be conducted to identify the recreational uses that are compatible with the ongoing conditions and the desires of the general public.

The Orange County Resources Development and Management Department, Department of Harbors, Beaches, and Parks (RDMD/HBP) will coordinate with IWMD on the development of trails on the Prima site with the development of trails outside the site proposed by the cities of San Clemente and San Juan Capistrano. Trails depicted around Zone 4 will be available on an interim basis only during Zone 1 filling operations, and would be closed to the public upon commencement of landfill activities within Zone 4 for public safety reasons. Trail heads adjacent to Zones 1 and 4 will be developed after each zone is closed to active landfill operations. On-site City trails around Zone 1 can be used throughout the development of both Zones 1 and 4.



### Zone 1 Fill Phasing Limits (EIR 575)

Exhibit 2.2-2

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Source: BAS, 2005

## Excavation Phasing Limits in Zone 1 (Current)

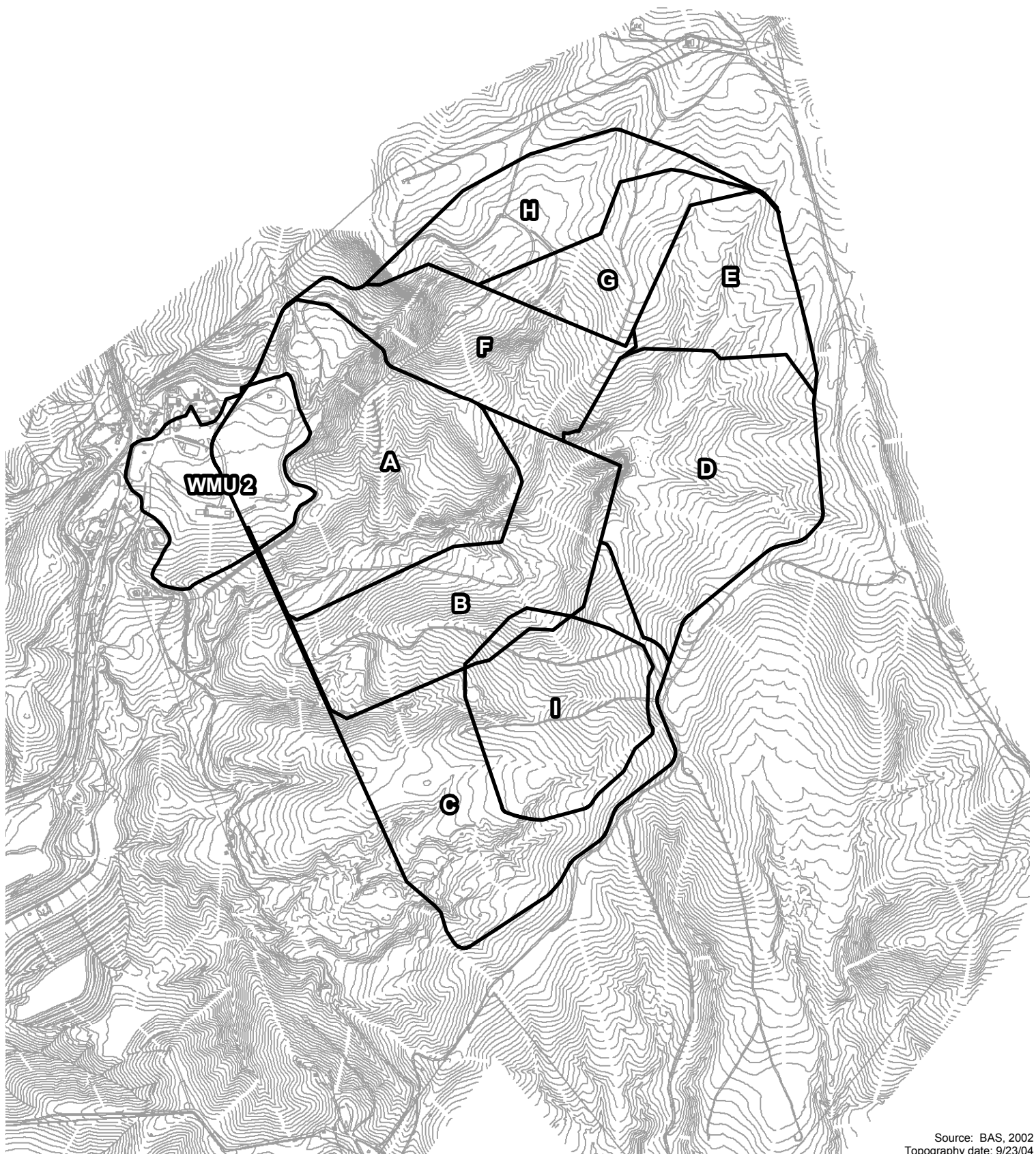
Exhibit 2.2-3

*Prima Deshecha Landfill*  
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Scale: 1" = 1000'

**Bonterra**  
 CONSULTING

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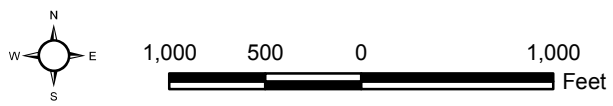


Source: BAS, 2002  
Topography date: 9/23/04

### Zone 4 Fill Phasing Limits

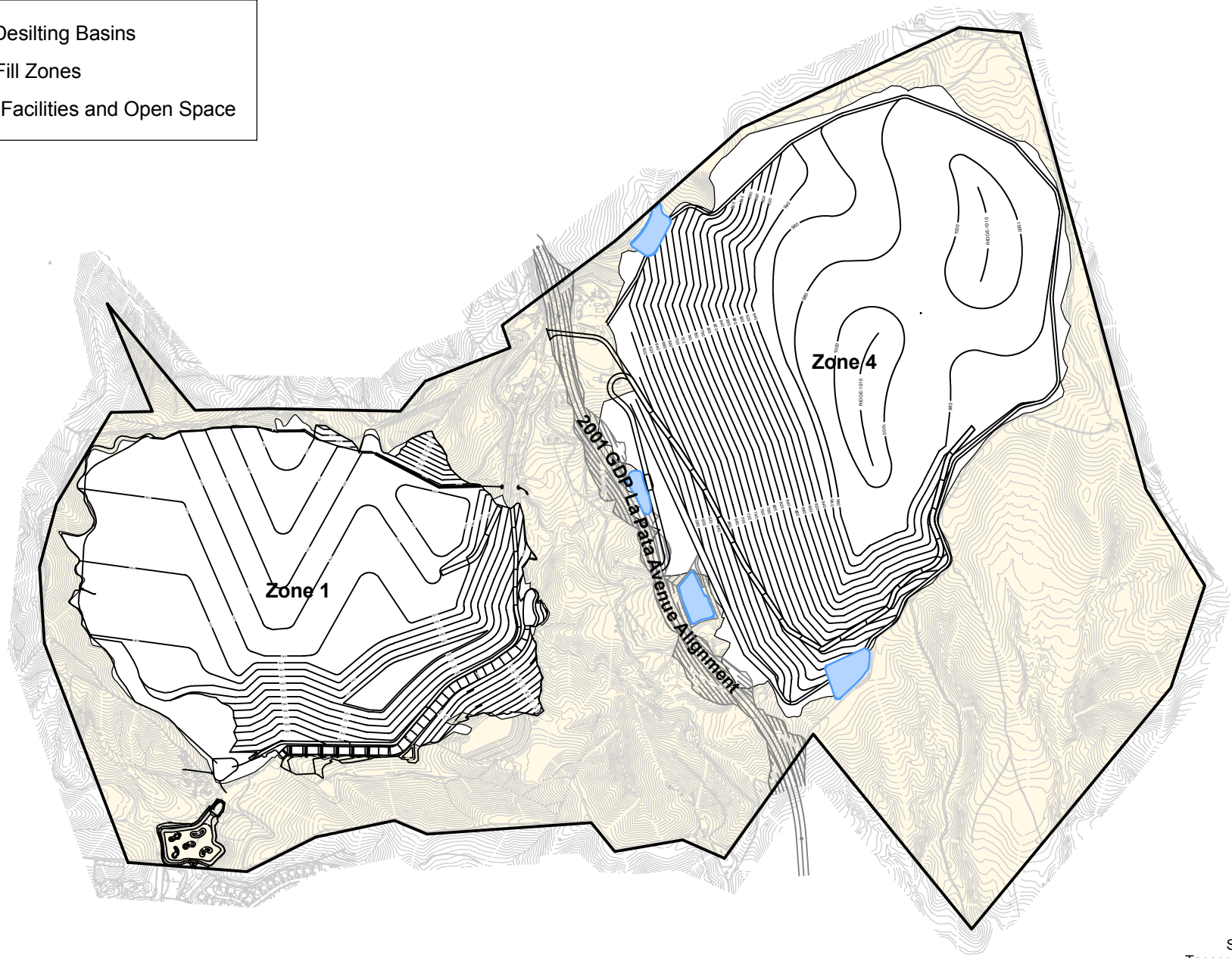
### Exhibit 2.2-4

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- Zone 4 Desilting Basins
- Refuse Fill Zones
- Support Facilities and Open Space

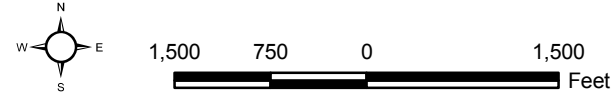


Source: BAS, 2005  
 Topography date: 9/23/04

## 2001 GDP Final Landfill Grades

## Exhibit 2.2-5

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The GDP proposes to eventually connect the County trail along Zone 4 with on-site City trails proposed along Zone 1 to provide a complete loop for trail users.

Subsequent to the closure of Zone 4 (projected for the year 2067), the 2001 GDP envisioned the completion of a recreational needs analysis that is closely coordinated with the public in order to prepare for final designation of post-closure site uses.

### ***Circulation Element Phasing***

The County RDMD, in coordination with the cities of San Clemente and San Juan Capistrano and the IWMD, has initiated a Feasibility Study Project Design Report, and an Environmental Impact Analysis for the extension of La Pata Avenue from Ortega Highway (through the Prima Deshecha property to Calle Saluda in San Clemente. This work will generate a proposed final alignment for the La Pata Avenue extension through the project site. Pending further studies after the completion of the La Pata Avenue extension, the extension of Camino de los Mares through the southwestern corner of the site may be initiated by the cities of San Clemente and/or San Juan Capistrano. Construction of any roadway through the site would be closely coordinated with local cities, the IWMD, and the RDMD. The MPAH also indicates that Camino Las Ramblas will continue in a northeasterly direction from its intersection with the proposed Camino de los Mares extension to eventually connect with the La Pata Avenue extension, adjacent to the westerly and northerly landfill boundaries. Final implementation is subject to approval by all responsible agencies and certification of requisite CEQA documentation. The currently proposed schedule for the extension of La Pata Avenue through the Prima Deshecha property is 2012. The extension of Camino de los Mares and Camino Las Ramblas will be further studied upon completion of the La Pata Avenue extension.

## **2.2.3 ALTERNATIVES ANALYZED WITHIN EIRs 548 AND 575**

### **Alternatives Analyzed in Detail**

Table 2.2-1 summarizes the alternatives analyzed within EIRs 548 and 575. EIR 548 analyzed impacts due to the 1994 GDP, which was an update to the 1979 GDP plan and addressed the latest regulatory requirements for solid waste management, accommodated elements of the County MPAH, and added flexibility for future planning of recreational uses on the site. The No Action Alternative for EIR 548 was the implementation of the 1979 GDP. Alternatives considered within EIR 548 included a Maximum Capacity Alternative, a Reduced Height Alternative, and an Interior Ridge Protection Alternative. These alternatives were eventually not selected for either negatively impacting landfill capacity, failing to accommodate the MPAH, and/or failing to meet the goal of reduced solid waste disposal.

The 2001 GDP/EIR 575 was issued as an update to EIR 548, and was also based upon implementation of the 1979 GDP as the No Project Alternative. The establishment of height restrictions to accommodate the MOU with the City of San Clemente and to remediate the 1998 landslide within Zone 1 was one of the primary project purposes for the 2001 GDP. The alternatives within the document reflect this purpose. Table 2.2-1 provides additional detail on these alternatives which include the following: no change to the 1979 GDP; no action to remediate the 1998 landslide; landslide stabilization with the re-routing of the Prima Deshecha Cañada channel south of its proposed location via a reinforced concrete pipe (RCP) culvert; landslide stabilization with the re-routing of the stream channel north of its proposed location via an RCP culvert; and stockpile on top of existing fill. These alternatives were not selected for a variety of reasons including reasons such as: a negative impact in landfill capacity; the failure to mitigate an existing flood hazard resulting in significant environmental impacts; and/or the

violation of the Conditional Use Permit (CUP) issued by the City of San Juan Capistrano and/or the MOU with the City of San Clemente.

**TABLE 2.2-1  
SUMMARY OF ALTERNATIVES ANALYZED IN EIRs 548 AND 575**

<b>Alternative</b>	<b>Source Document</b>	<b>Description</b>	<b>Analysis</b>
<b>No Project Landfilling Alternative</b>	EIR 548 EIR 575	1979 Development Plan	Does not meet MPAH goals based on La Pata alignment, no Materials Recovery Facility (MRF) facility, greater impacts and less capacity than Proposed Projects.
<b>Maximum Capacity Alternative</b>	EIR 548	Includes re-alignment for La Pata; protects perimeter ridges; maximizes solid waste disposal	Does not provide site for MRF. Does not meet goal to reduce total solid waste for disposal.
<b>Reduced Height Alternative</b>	EIR 548	Lowers height of Zone 1 landfill from the 1979 GDP. Landfill footprint same. Top deck contours imitate natural contours.	Reduces landfill capacity by 44%.
<b>Interior Ridge Protection Alternative</b>	EIR 548	Interior ridgeline within Zone 1 is preserved resulting in 2 interior operating areas within Zone 1	Provides less solid waste disposal capacity than 1979 GDP.
<b>No Action Landslide Remediation Alternative</b>	EIR 575	No action to remediate slide; landfill operations restricted to the north of stream	Is infeasible due to: impacts to stream channel, creation of potential flooding hazard, material to overflow to stockpile areas off site, stability issues in Zone 1 remain, reduced landfill capacity.
<b>Stabilize stockpile landslide, re-route natural stream south of proposed alignment, and install 96-inch RCP</b>	EIR 575	Buttresses landslide by placing 30–40 feet of fill over the stream and diverting water farther south downstream; requires 96-inch pipe to convey flows from the east; segments riparian corridor	Eliminated due to significant impacts to riparian habitat that was associated with design modifications for a larger landslide complex than what was anticipated.
<b>Stabilize stockpile landslide and install a 96-inch pipe north of the stream</b>	EIR 575	Places 1.1 million cubic yards (mcy) of fill over the stream as a buttress fill; uses 96-inch underground pipe to convey flows north of stream channel	Eliminated once data showed landslide was larger than anticipated for same reasons as indicated above for previous alternative.
<b>Stockpile on top of Existing Fill</b>	EIR 575	Places stockpile material on top of Zone 1	Eliminated due to violation of CUP for the site, San Juan Capistrano General Plan height restrictions, and MOU with San Clemente.

### **Alternatives Eliminated from Detailed Consideration in EIRs 548 and 575**

Several alternatives were considered but eliminated from detailed analysis for infeasibility reasons. These alternatives included unconventional approaches to waste management, including rail haul and waste-to-energy facilities (i.e., Long Haul By Rail Alternative, Transfer/Loading Station Alternative, and Unloading Station Alternative). These alternatives were not considered feasible for a variety of reasons, including: (1) inconsistency with the project objective to optimize use of the site as a long-term integrated waste management facility; (2) significant environmental effects including land use compatibility and siting; (3) air quality concerns; (4) public safety concerns; and (5) site-specific issues such as biological resources, circulation, and public services.



## **2.2.4 MEMORANDA OF UNDERSTANDING (MOU) BETWEEN THE COUNTY OF ORANGE AND THE CITIES OF SAN CLEMENTE AND SAN JUAN CAPISTRANO**

The cities of San Juan Capistrano and San Clemente executed MOUs (Appendix C) with the County of Orange to establish formal agreements on the methods for mitigating impacts of the landfill on the respective cities. Elements of the MOU between the County of Orange and the City of San Juan Capistrano that are applicable to concerns over potential impacts of the 2001 GDP include road improvements, ridgeline preservation requirements, sound and visual berms along La Pata Avenue, a park use financing plan, and traffic circulation stipulations.

The MOU between the County of Orange and the City of San Clemente focuses primarily on the City's concern over ridgeline preservation and aesthetic impacts from viewpoints located in various residential and public viewpoints in the City. Accordingly, this MOU established project commitments regarding grading and height limits in both Zone 1 and Zone 4; zone boundary adjustment constraints relative to height limits; and requirements for interim and final landscape treatments within Zone 1. In addition to the requirements established to minimize aesthetic impacts, this agreement also established 100-year flood control design criteria for on-site drainage facilities and partnership arrangements for a watershed drainage study; water quality commitments relative to potential future on-site water needs; and circulation and landfill access commitments. Specific requirements set forth within these MOUs (that will be maintained by the Proposed Project as described in Section 4.0) are presented in Table 2.2-2.

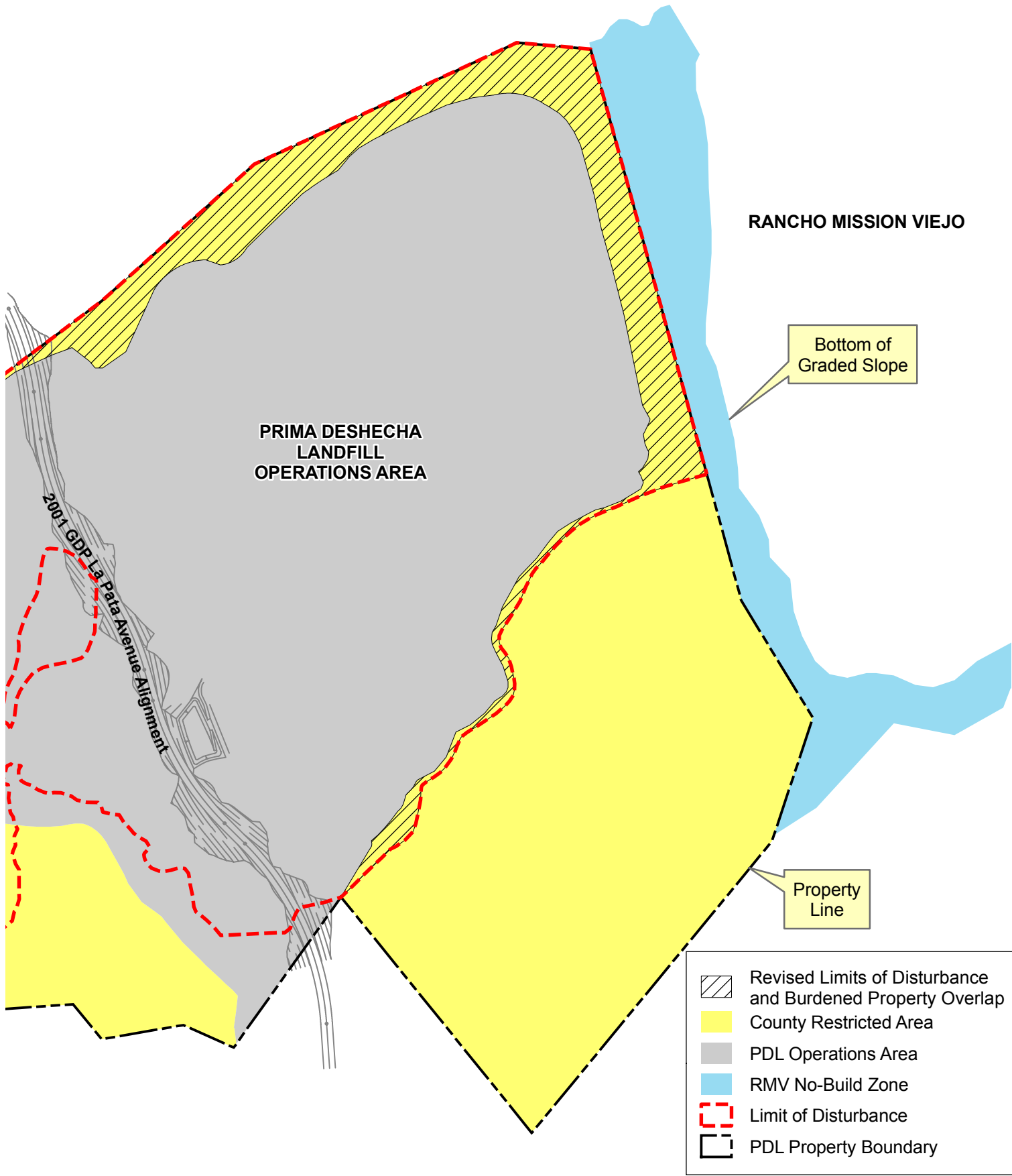
## **2.2.5 AMENDMENT NO. 1 TO THE 2001 GENERAL DEVELOPMENT PLAN**

Amendment No. 1 to the GDP was issued in October 2002 (Appendix D) as an outcome of negotiations between the County and the Rancho Mission Viejo Company, LLC (RMV) who owns the adjacent land to the north and east of the PDL. These negotiations resulted in an amended Settlement Agreement and a Covenant and Declaration of Restrictions ("RMV agreements") which affect 945 acres of the eastern portion of the PDL (referred to in the RMV agreements as the "Burdened Property") and specify conditions and restrictions for the site. The Landfill Operations Area (needed for future Zone 4 landfill activities) and the Restricted Area (outside the boundaries of active landfill operations) both constitute the Burdened Property (Exhibit 2.2-6). One design change to the 2001 GDP due to the RMV agreements was a reduction in the Zone 4 refuse footprint from 412 acres to 409 acres. The total Zone 4 disturbed surface area (including exterior cut slopes) remained the same at 473 acres. The agreements also identify RMV's Benefited Property and place conditions on a No-Build Area within the Benefited Property adjacent to and east of the PDL property (Exhibit 2.2-6). They also contain requirements for La Pata Avenue funding, maintenance, and litter control. Amendment No.1 to the GDP did not result in any additional environmental impacts, but resulted in additional project commitments as contained within Table 2.2-3. Requirements set forth in the County of Orange/City of Rancho Mission Viejo MOU (Appendix D), contained below in Table 2.2-3, will be maintained by the Proposed Project (Section 4.0).

**TABLE 2.2-2  
PERMITTED LAND USES AND VIEWSHED PROTECTION REQUIREMENTS,  
COUNTY OF ORANGE/SAN CLEMENTE MOU, COUNTY OF ORANGE/SAN  
JUAN CAPISTRANO MOU**

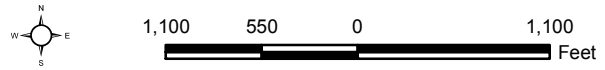
Document	Permitted Land Uses	Viewshed Protection Requirements
<p><b>MOU between the City of San Clemente, the Orange County Flood Control District, and the County of Orange regarding the PDL (dated July 1997)</b></p>	<p>Landfill</p>	<p><u>Grading and Height Limits.</u></p> <ol style="list-style-type: none"> <li>1. The final grading elevation in Zone 1 to be at a height below the level of the ridgeline behind Zone 1 as viewed from Truman Benedict Elementary School;</li> <li>2. The final grading elevation of Zone 4 to be no higher than 1,010 feet thereby minimizing the visual impact to residents of City;</li> <li>3. The boundaries of Zone 1 to be adjusted from the Zone 1 boundaries described in EIR #548 with the understanding that additional boundary adjustments may be required for Zone 1 due to geotechnical conditions, drainage, and other environmental constraints provided such adjustment does not result in a final grading plan with a height limit greater than specified above.</li> <li>4. The boundaries of Zone 4 to be adjusted as may be determined by County to be necessary to offset Landfill capacity lost due to the height limits described above provided that any additions to the Landfill resulting from the modification of the Zone 4 boundaries are not visible from within the City limits.</li> </ol> <p><u>Landscape Treatment</u></p> <ol style="list-style-type: none"> <li>1. Trees to be planted to screen Landfill in a location which has been approved by City. The design for the treescape is described in plans and specifications dated March 23, 1997.</li> <li>2. Interim landscaping treatment to be provided consistent with erosion control measures required by current regulations.</li> <li>3. Final landscaping for Zone 1 to be installed according to regulations in effect at the time of final closure.</li> </ol>
<p><b>MOU Regarding the Prima Deshecha Landfill between the City of San Juan Capistrano and the County of Orange (dated September 1995)</b></p>	<p><u>Park Use Financing Plan.</u> County agrees that the GDP will include a requirement that the ultimate recreational uses to be established on the site within City limits following closure of the landfill operations shall be mutually agreed upon by County and City. It is further agreed that the GDP will include a financial analysis and financial plan.</p>	<ol style="list-style-type: none"> <li>1. <u>Ridgeline Preservation.</u> The County will install and maintain final landfill grades which result in no silhouetting above and along the General Plan–designated “major ridgeline” which forms the northern and western edges of the Landfill site boundary such that no landfill operations or placement of landfill materials will visually encroach upon the designated General Plan ridgeline or be viewed from Ortega Highway.</li> <li>2. <u>Sound/Visual Berms.</u> City and County agree to cooperate in the construction of an earthen berm to buffer residential units from noise and view of vehicles traveling to Landfill on La Pata. Said berm shall be approximately eight feet high and nine hundred feet long and designed to minimize right-of-way and to accommodate existing topography as much as possible.</li> </ol>
<p>Source: OCIWMD 1997. OCIWMD 1995.</p>		

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**PDL Burdened Property, RMV Benefitted Property per Amend. #1 Exhibit 2.2-6**

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**TABLE 2.2-3  
PERMITTED LAND USES AND VIEWSHED PROTECTION REQUIREMENTS CONTAINED  
WITHIN THE COUNTY OF ORANGE/RMV SETTLEMENT AGREEMENT**

Document	Permitted Land Uses	Viewshed Protection Requirements
<b>RMV Settlement Agreement</b>	<p>The County is permitted to use the Restricted Area for the following purposes:</p> <ol style="list-style-type: none"> <li>1. <u>Roads</u>. To install, operate, maintain, repair and/or replace public and privately owned and maintained trails and roads in the Restricted Area;</li> <li>2. <u>Grazing</u>. To permit livestock grazing;</li> <li>3. <u>Utilities: Public Improvements</u>. To install, operate maintain, repair and/or replace (and to grant easements or licenses to third-parties to do the same) public utility lines and associated improvements within the Restricted Area, including, without limitation, above-ground and below-ground electrical transmission facilities, fuel and gas pipeline facilities, water, water reservoirs and pipelines, sewer, and hard-wired telephone, video and data transmission facilities, provided, however that in no event shall any such facilities be located above ground if the same is or would be visible from any portion of the Benefited Property;</li> <li>4. <u>Existing Easements</u>. To continue the use of the Restricted Area for any purpose provided for in any easements of record existing as of the date hereof and to exercise any rights to consolidate and/or relocated any such easements;</li> <li>5. <u>Flood Control</u>. To install, operate, maintain, repair and/or replace flood control, drainage facilities and ancillary and appurtenant facilities;</li> <li>6. <u>Hiking and Riding Trails; Other Recreational Uses</u>. Provided that any necessary permits or other regulatory approvals are first obtained, to install, operate, maintain, repair and/or replace one or more regional and/or community hiking and/or equestrian trails, parks and related improvements and/or to engage in any other recreational uses; provided, however, that any such trails, improvements and/or uses shall be located at an elevation that is at least ten feet below and to the south and west of the existing ridgeline located on or near the boundary line between the Burdened Property and the Benefited Property;</li> <li>7. <u>Prescribed Fire Access</u>. To conduct prescribed fires in accordance with the requirements, authorization or recommendation of the local fire authority for purposes of the health and/or safety of surrounding properties and populations and otherwise to have any and all access to the Restricted Area in order to fight or otherwise mitigate fires;</li> <li>8. <u>Scientific Research</u>. To conduct scientific research;</li> <li>9. <u>Grading</u>. To perform remedial grading with revegetated slopes utilizing native species;</li> </ol>	<ol style="list-style-type: none"> <li>1. County is required to conduct a viewshed analysis with respect to the impacts of Zone 4's development on the RMV Benefited Property;</li> <li>2. If needed, prepare and implement a viewshed protection and landscaping plan;</li> <li>3. If required pursuant to Condition No. 5, the VPL [Viewshed Protection and Landscaping Plan] shall be designed to provide noise, visual, litter and dust screening between Landfill Operations in the Landfill Operations Area and the RMV Benefited Property;</li> <li>4. County shall confer with RMV in developing the specific details of the VPL Plan;</li> <li>5. County shall obtain RMV's approval of any VPL Plan where the impacts of the same reasonably affected RMV Benefited Property (including material, visual, and odor impacts).</li> </ol>

**TABLE 2.2-3 (Continued)  
PERMITTED LAND USES AND VIEWSHED PROTECTION REQUIREMENTS CONTAINED  
WITHIN THE COUNTY OF ORANGE/RMV SETTLEMENT AGREEMENT**

Document	Permitted Land Uses	Viewshed Protection Requirements
	<p>10. <u>Mitigation</u>. To comply with the requirements of any public agency relating to environmental, geological, hydrological, archaeological, paleontological, aesthetic and/or any other environmental or similar land use related mitigation and/or restoration measures, commitments and conditions with respect to the implementation of the 2001 GDP and any and all other such mitigation measures and activities that may so burden the Restricted Area;</p> <p>11. <u>Regulatory Compliance</u>. To conduct any and all activities and operations as may be necessary to comply with Applicable Laws in connection with the landfill's closure and post-closure activities, including, but not limited to, the installation, operation, maintenance, repair and/or replacement of probes, monitoring wells and fences; provided, however that to the extent such activities and operations can be conducted within the Landfill Operations Area, then such activities and operations shall be conducted within the Landfill Operations Area;</p> <p>12. <u>Biological Mitigation</u>. To conduct habitat and species mitigation, conservation or other similar operations pursuant to any approved NCCP/HCP or other similar plan of conservation.</p> <p><u>Landfill Site Grading and/or Soil Filling</u>. To perform site grading and/or soil filling to maximize capacity in support of Landfill Operations so long as the same are not visible from the Benefited Property. Such activities shall not, nor shall they be construed to include of permit the placement of any waste within the Restricted Area.</p>	
<p>Source: County of Orange/RMV Settlement Agreement, October 2002.</p>		

**2.2.6 SUMMARY OF GENERAL DEVELOPMENT PLAN ENVIRONMENTAL IMPACTS**

Following is a summary of environmental impacts from the 2001 GDP remaining at a level of significance after mitigation (as identified in FEIR 575) with subsequent changes noted as a result of supplemental documentation associated with Amendment No. 1 to the GDP.

**Topography**

FEIR 575 concluded that the landfilling component of the GDP was found to have a significant unavoidable adverse impact to topography. Implementation of the conceptual grading plan will result in significant topographic alteration of the site and the development of manufactured slopes associated with excavation and landfilling. Incorporation of mitigation measures was intended to minimize these effects by developing a grading design that reduces a manufactured appearance and is more compatible with the existing natural terrain. Implementation of Viewshed Protection Plans (VPPs) protecting surrounding viewpoints from Zone 1 and Zone 4 operations is a requirement of the MOUs and a Condition of Approval for EIR 575.

## **Biological Resources**

FEIR 575 concluded that the landfilling, circulation, and recreational components of the project would result in: (1) long- and short-term significant impacts associated with the removal of coastal sage scrub, southern needlegrass and riparian resources, (2) potential impacts to special status plant species (such as thread-leaved brodiaea, vernal barely, paniculate tarplant, small-flowered morning glory), and potential impacts to special status wildlife species such as the least Bell's vireo and California gnatcatcher. Vegetation removal and habitat disturbance impacts of landfilling operations could affect nesting sites for listed<sup>2</sup> bird species and raptors, as well as dens for coyotes, bobcats, and mountain lions. Consultations and mitigation plans developed with the USFWS and CDFG would reduce long-term impacts to less than significant levels.

## **Aesthetics**

FEIR 575 concluded that landfilling uses would be visible from off-site vantage points and from recreational areas around the site. Changes in topography would have the potential to impact the view from on- or off-site areas. These impacts would be reduced to a level considered less than significant via the implementation of MOU requirements (Appendix C), and viewshed protection measures designed to reduce the visibility of landfill operations to a minimum from viewpoints in adjacent housing developments.

Table 2.2-4 contains a comprehensive list of all identified potential impacts, previously adopted mitigation measures and level of significance following mitigation for the 2001 GDP and EIR 575. The following mitigation measures are currently in place for impacts as indicated below associated with the landfill component of the 2001 GDP, as identified in EIR 575 (numerical designations are from EIR 575). All mitigation commitments contained within FEIR 575 and the 2001 GDP will apply to the Proposed Project.

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<sup>2</sup> Listed bird species are contained in Table 3.5-3.

**TABLE 2.2-4  
PREVIOUSLY ADOPTED MITIGATION  
2001 GDP AND EIR 575**

<b>AESTHETICS</b>		<b>Level of Significance after Mitigation</b>
<b>Impact 4.11-1:</b>	<b><i>Landfilling uses will be visible from off-site vantage points and from the recreational areas of the site.</i></b>	<b>Significant</b>
MM 4.11-1:	Prior to final design, the IWMD, shall establish landscape standards for plantings in areas to be revegetated or screened from view. These guidelines shall illustrate all plant materials, sizes, species and quantities plus irrigation and preservation techniques. There shall be a variety of landscape types addressed including revegetating graded slopes and earthen berms, and screening of landfill operations structures and permanent landfill buildings. Roads and trail cuts will be revegetated with natural grasses, shrubs and trees to blend with the landscape character of adjacent areas. Additionally, trees selected for planting shall comply with the appropriate state and local regulatory requirements for the protection of groundwater.	
<b>Impact 4.11-2:</b>	<b><i>Cut slopes and berms resulting from landfilling could be visible from on-site and off-site vantage points.</i></b>	<b>Significant</b>
MM 4.11-2:	During final design and construction, the IWMD shall ensure that plantings will be integrated with earthen berms and cut slopes to screen undesirable views. For these situations, the landscape design guidelines shall include grading guidelines which will address issues such as the areas where berms are recommended, the sizes of such berms and recommended slope gradients to minimize soil erosion.	
<b>Impact 4.11-3:</b>	<b><i>Permanent landfill structures could be visible from various on-site and off-site vantage points.</i></b>	<b>Significant</b>
MM 4.11-3:	During final design, the IWMD shall incorporate design features to ensure that the design and exterior treatment of landfill operations structures and permanent recreation buildings vary in their visual character. Because of varying topography and vegetative cover, each structure and Zone will be visually unique in its apparent size and quality. Building materials shall be selected so that, in all conditions, all visible permanent structures will blend with the surrounding natural environment. A light earth tone surface color such as beige or sand is the desired exterior treatment color.	
<b>Impact 4.11-4:</b>	<b><i>Land surfaces altered by landfilling operations in Zones 1 and 4 could be visible from various on-site and off-site vantage points.</i></b>	<b>Significant</b>
MM 4.11-4:	As early as possible in the construction and operation of the active and closed landfill areas, the IWMD shall plant the landscape areas that will take the longest time to establish and achieve their desired visual effects. In general, rehabilitation priorities will be established based on size and visibility of the area to be landscaped. In most cases, these will be the landfilling areas in Zones 1 and 4 that are visible from adjacent land uses.	
<b>Impact 4.11-5:</b>	<b><i>Landfilling structures located atop ridgelines on the site could result in potential visual impacts.</i></b>	<b>Significant</b>
MM 4.11-5:	IWMD shall ensure that the design and construction of any permanent environmental control structures which occur within 200 feet of a major ridgeline are constructed in a manner which minimizes visibility off-site so as not to interrupt the natural horizon line in the existing landscape.	

**TABLE 2.2-4 (Continued)  
PREVIOUSLY ADOPTED MITIGATION  
2001 GDP AND EIR 575**

<b>AESTHETICS</b>		<b>Level of Significance after Mitigation</b>																																												
<b>Impact 4.11-6:</b>	<b>Changes in topography associated with the landfilling may result in visual impacts when portions of the site are viewed from on-site or off-site areas.</b>	<b>Significant</b>																																												
MM 4.11-6a:	<p>The IWMD shall ensure that the design and layout of the landfill areas includes landscaping to reduce the visual impact of the landfill surfaces following the closure of each landfill area. The IWMD shall ensure that the landscaping consists of vegetation with plantings that are consistent with the surrounding natural terrain. The IWMD shall ensure that the landscaping plantings include appropriate transitions with areas of native vegetation and areas landscaped for recreation uses. A recommended candidate plant species palette is shown in Table 4.2-1.</p> <p style="text-align: center;"><b>TABLE 4.2-1 VEGETATIVE PLANTINGS 2001 PRIMA DESHECHA GDP</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Plant Species</th> <th>Common Name</th> <th>Pounds of Seed Per Acre</th> </tr> </thead> <tbody> <tr> <td><i>Artemisia californica</i></td> <td>California sagebush</td> <td>2</td> </tr> <tr> <td><i>Encelia californica</i></td> <td>California bush sunflower</td> <td>3</td> </tr> <tr> <td><i>Eschscholzia californica</i></td> <td>California poppy</td> <td>2</td> </tr> <tr> <td><i>Lotus scoparius</i></td> <td>deerweed</td> <td>8</td> </tr> <tr> <td><i>Eriogonum fasciculatum</i></td> <td>California buckwheat</td> <td>12</td> </tr> <tr> <td><i>Lasthenia glabrata</i></td> <td>goldfields</td> <td>2</td> </tr> <tr> <td><i>Lupinus succulentus</i></td> <td>arroyo lupine</td> <td>4</td> </tr> <tr> <td><i>Collinsia heterophylla</i></td> <td>Chinese houses</td> <td>2</td> </tr> <tr> <td><i>Eriophyllum confertiflorum</i></td> <td>golden yarrow</td> <td>3</td> </tr> <tr> <td><i>Salvia apiana</i></td> <td>white sage</td> <td>2</td> </tr> <tr> <td><i>Plantago insularis</i></td> <td>plantain</td> <td>30</td> </tr> <tr> <td><i>Sisyrinchium bellum</i></td> <td>blue-eyed grass</td> <td>2</td> </tr> <tr> <td><i>Diplacus longiflorus</i></td> <td>sticky-leaved monkey-flower</td> <td>2</td> </tr> <tr> <td><i>Salvia mellifera</i></td> <td>black sage</td> <td>2</td> </tr> </tbody> </table> <p>Source: Final EIR 548; November 1995</p>		Plant Species	Common Name	Pounds of Seed Per Acre	<i>Artemisia californica</i>	California sagebush	2	<i>Encelia californica</i>	California bush sunflower	3	<i>Eschscholzia californica</i>	California poppy	2	<i>Lotus scoparius</i>	deerweed	8	<i>Eriogonum fasciculatum</i>	California buckwheat	12	<i>Lasthenia glabrata</i>	goldfields	2	<i>Lupinus succulentus</i>	arroyo lupine	4	<i>Collinsia heterophylla</i>	Chinese houses	2	<i>Eriophyllum confertiflorum</i>	golden yarrow	3	<i>Salvia apiana</i>	white sage	2	<i>Plantago insularis</i>	plantain	30	<i>Sisyrinchium bellum</i>	blue-eyed grass	2	<i>Diplacus longiflorus</i>	sticky-leaved monkey-flower	2	<i>Salvia mellifera</i>	black sage
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MM 4.11-6b:	Following temporary or final closure of landfill surfaces, hydroseeding shall be applied to the landfill areas and slopes by the IWMD. Hydroseeding shall be applied consistent with the Standard Specifications for Public Works Construction.																																													



**TABLE 2.2-4 (Continued)  
PREVIOUSLY ADOPTED MITIGATION  
2001 GDP AND EIR 575**

<b>AIR QUALITY</b>		<b>Level of Significance after Mitigation</b>
<b>Impact 4.9-1:</b>	<b><i>Potential odor nuisance could be associated with refuse brought to the landfill.</i></b>	<b>Less than Significant</b>
MM 4.9-1:	Landfill fee station personnel and/or landfill refuse inspectors shall reject extremely odorous loads for disposal in the landfill.	
<b>Impact 4.9-2:</b>	<b><i>A potential odor nuisance affecting recreational users could be associated with fresh refuse odor at the active face of the landfill.</i></b>	<b>Less than Significant</b>
MM 4.9-2:	The active face of the landfill shall be covered daily. If the active face is in close proximity and upwind of on-site recreation uses, masking or neutralization agents may be added to exposed refuse to reduce the odor nuisance effects on the adjacent recreation uses.	
<b>Impact 4.9-3:</b>	<b><i>A potential odor nuisance could be associated with LFG [landfill gas generation] emissions if they are not collected and disposed by an efficient system.</i></b>	<b>Less than Significant</b>
MM 4.9-3:	The IWMD shall design, construct and operate new landfill areas in Zones 1 and 4 with LFG systems to maximize the collection of LFG. The LFG systems will include continuous monitoring of the LFG collection system to maximize efficient collection of LFG generated in these areas.	
<b>Impact 4.9-4:</b>	<b><i>A potential odor nuisance could result from LFG leaks through cracks or flaws in the landfill cover in active and inactive landfill areas.</i></b>	<b>Less than Significant</b>
MM 4.9-4:	During landfill operations, the IWMD shall continue regular visual inspections of the landfill cover and monitoring of LFG emissions throughout the entire refuse fill areas. The purpose of these inspections is to locate cracks or other defects or flaws in the landfill cover, which may allow LFG to escape. When such areas are identified, the IWMD will implement the appropriate corrective action as soon as feasible. These corrective actions may include application and compaction of additional cover material, adjustment of the existing LFG control system and/or installation of new LFG control facilities.	
<b>Impact 4.9-5:</b>	<b><i>A potential odor nuisance could be associated with LFG generated in the active and inactive landfill areas in landfilling Zones 1 and 4.</i></b>	<b>Less than Significant</b>
MM 4.9-5:	During landfill operations, the IWMD shall conduct periodic odor surveys on the landfill site and at various points in the area surrounding the site. The IWMD shall conduct odor surveys if any odors from the landfill are detected off site and reported by nearby residents. When the source of these odors is identified, the IWMD will implement the appropriate corrective action as soon as feasible. These corrective actions may include application and compaction of additional cover material, use of masking or neutralizing agents, adjustment of the existing LFG control system and/or installation of new LFG control facilities.	
<b>Impact 4.9-6:</b>	<b><i>A potential dust nuisance could result to recreational users from landfilling operations.</i></b>	<b>Less than Significant</b>
MM 4.9-6:	During landfill operations, the IWMD shall ensure that landfill operations areas that are to be left exposed temporarily, including top deck and excavation slopes, are sprayed periodically with water, as needed.	

**TABLE 2.2-4 (Continued)  
PREVIOUSLY ADOPTED MITIGATION  
2001 GDP AND EIR 575**

<b>AIR QUALITY</b>		<b>Level of Significance after Mitigation</b>
<b>Impact 4.9-7:</b>	<b><i>Exposed ground surfaces could result in a potential dust nuisance after the termination of active landfilling.</i></b>	<b>Less than Significant</b>
MM 4.9-7:	On landfilled areas that are no longer in use, the IWMD will, as appropriate, incorporate dust control systems or vegetative covers, consistent with the Final Closure Plans and with IWMD's approved Rule 403 Compliance Plan for landfilling Zones 1 and 4.	
<b>Impact 4.9-8:</b>	<b><i>Dusty refuse could result in a potential dust nuisance.</i></b>	<b>Less than Significant</b>
MM 4.9-8:	During landfill operations, the landfill fee station personnel and/or landfill refuse inspectors shall refrain from accepting dusty loads of refuse for disposal in either landfilling Zone 1 or 4. Alternatively, at the discretion of landfill personnel, dusty loads of refuse may be accepted for disposal, if they are sprayed with water prior to leaving the fee station and accessing the active face of the landfill.	
<b>Impact 4.9-9:</b>	<b><i>On-site vehicular travel on unpaved roads could result in a potential dust nuisance.</i></b>	<b>Less than Significant</b>
MM 4.9-9a:	During landfill operations, the IWMD shall maintain water trucks on site to spray water on on-site unpaved roads as needed to minimize the generation of dust as vehicles travel on these roads, as per IWMD's approved Rule 403 Compliance Plan.	
MM 4.9-9b:	During landfill operations, the IWMD shall, to the extent feasible while still maintaining appropriate landfill operations, restrict vehicular travel on unpaved roads on the site. In the event that unpaved roads must be used, the IWMD shall spray water on these roads as needed.	
MM 4.9-9c:	As unpaved on-site roads are removed from active service, the IWMD will spray these areas with a hydromulch solution or synthetic binder.	
<b>Impact 4.9-10:</b>	<b><i>A potential dust nuisance could be associated with graded areas or areas where the vegetation has been removed or severely disturbed.</i></b>	<b>Less than Significant</b>
MM 4.9-10:	During landfill operations, the IWMD will use the on-site water trucks to spray water on graded areas or areas where the vegetation has been removed or severely disturbed as a result of landfilling activities, as per IWMD's approved Rule 403 Compliance Plan.	

**TABLE 2.2-4 (Continued)  
PREVIOUSLY ADOPTED MITIGATION  
2001 GDP AND EIR 575**

<b>BIOLOGICAL RESOURCES</b>		<b>Level of Significance after Mitigation</b>
<b>Impact 4.5-1:</b>	<b><i>Removal of needlegrass grassland will result from site clearing prior to construction of landfill improvements on the Prima Deshecha site.</i></b>	<b>Less than Significant</b>
MM 4.5-1:	The restoration of needlegrass grasslands will be incorporated into the Conceptual Coastal Sage Scrub Mitigation Plan (described below in MM 4.5-2a through 2c), the IWMD will replace impacted needlegrass grassland at a 1:1 ratio.	
<b>Impact 4.5-2:</b>	<b><i>Removal of coastal sage scrub will result from site clearing prior to construction of landfill improvements on the Prima Deshecha site.</i></b>	<b>Short-term Significant</b>
MM 4.5-2a:	Prior to the removal of coastal sage scrub habitat resources including clearing, grubbing, mowing, discing, trenching, grading, fuel modification, or other construction related activities, the Director, IWMD or his designee shall prepare and submit, in consultation with the Planning and Development Services Department (PDS) Director of Planning or his designee, an Interim Habitat Loss Mitigation Plan (IHLMP) to the USFWS for review and approval in compliance with the Natural Communities Conservation Plan (NCCP) and Interim Coastal Sage Scrub (CSS) Habitat Loss Process. The County remains committed to the NCCP process and intends to operate by the same procedure outlined in the Federal Endangered Species Act Section 4(d) Special Rule for Incidental Take of the coastal California gnatcatcher or other agreement as determined to be appropriate by the resource agencies.	
MM 4.5-2b:	The GDP shall be amended to include all applicable provisions of the approved Southern Subregion NCCP on its adoption by the County of Orange Board of Supervisors. The NCCP implementation programs may include, but are not limited to, requirements for the removal and mitigation replacement of lost coastal sage scrub habitat, operations restrictions, instructional signs, fencing, etc.	
MM 4.5-2c:	In accordance with an approved Conceptual Coastal Sage Scrub Mitigation Plan, the IWMD shall replace impacted coastal sage scrub at a minimum 1:1 (or as otherwise stated by USFWS) replacement ratio of in-kind habitat for onsite and offsite habitat preservation, replacement, or enhancement.  The IWMD shall prepare a Conceptual Coastal Sage Scrub Mitigation Plan in cooperation with the affected resource agencies (CDFG, USFWS). Guidelines for the Mitigation Plan shall be as follows: <ul style="list-style-type: none"> <li>The mitigation areas/sites shall have been evaluated and selected on the basis of their suitability for use as coastal sage scrub revegetation areas. The parameters evaluated shall include but not be limited to soil condition, slope aspect, proximity to adjacent coastal sage scrub, level of difficulty of site preparation, and ownership status.</li> </ul>	

**TABLE 2.2-4 (Continued)  
PREVIOUSLY ADOPTED MITIGATION  
2001 GDP AND EIR 575**

<b>BIOLOGICAL RESOURCES</b>	<b>Level of Significance after Mitigation</b>
<ul style="list-style-type: none"> <li>• The mitigation plan shall provide procedures to prepare the soils in the mitigation area, provide detailed seeding/planting mixtures; provide seeding/planting methods; and provide any other procedures, such as supplemental irrigation, mycorrhizal inoculation, etc., that will be used for successful revegetation.</li> <li>• Maintenance and monitoring goals shall be established. The components and implementation of the maintenance and monitoring procedures shall be consistent with the components and implementation of mitigation measure 4.5-7a.</li> </ul> <p>In accordance with the approved Conceptual Coastal Sage Scrub Mitigation Plan, the IWMD shall develop a maintenance and monitoring program to ensure success of the revegetation effort. Maintenance shall include regular inspection of the site for excessive weed growth, erosion problems, failure of irrigation system, and/or unhealthy or dying plants. Invasion of the site by weeds in the area, especially pampas grass, artichoke thistle, castor bean, fountain grass, mustard, clover, cocklebur, and tree tobacco could be a potential maintenance problem. Maintenance crews shall be able to recognize the difference between native plant and weed seedlings. A qualified biologist will be required to instruct the maintenance crew in the identification of native plant seedlings. The maintenance program shall include procedures for regular maintenance and repair of the irrigation system.</p> <p>A system shall be developed for reporting by the maintenance crew of any unhealthy or dying plantings or failure in any of the seeded areas. This would assist the monitoring crew in the development of immediate remedial measures, such replacing plant material, to correct the problem.</p> <p>To document the success of revegetation programs, the IWMD shall ensure that the progress of the revegetated area is monitored by a qualified biologist. The maintenance and monitoring plan will address unique aspects of mitigation areas. An agreement shall be developed between the County and the USFWS and CDFG on criteria that will be used to determine successful plant establishment on a mitigation site. Success criteria will include plant cover, species diversity, habitat structure, and density, and will be based on measurements made in reference habitats near the mitigation site.</p>	

**TABLE 2.2-4 (Continued)  
PREVIOUSLY ADOPTED MITIGATION  
2001 GDP AND EIR 575**

<b>BIOLOGICAL RESOURCES</b>	<b>Level of Significance after Mitigation</b>
<p><b>Impact 4.5-3:</b> <i>The removal of riparian resources will occur as a result of the construction of landfill improvements on the Prima Deshecha site.</i></p>	Short-term Significant
<p>MM 4.5-3a: Prior to grading for the landfilling activities affecting riparian resources, the IWMD, as appropriate, shall ensure that all sycamore and willow trees of four or more inches in diameter at breast height (DBH), defined as 4.5 feet from mean ground level, within the grading or construction limits of the landfilling activities, whichever is greater, and within 100 feet of grading and construction operations, shall be tagged and numbered with permanent tags under the supervision of a qualified biologist. The tag numbers of the trees to be protected and those to be removed shall be noted. Those trees adjacent to the construction areas that can be avoided will be tagged for protection. Trees that cannot be avoided during construction shall be tagged for removal and fenced off with red-orange flexible mesh fencing during grading and construction activities. Records of these numbers shall be kept by the Director, IWMD or his designee for use in mitigation, replacement, and monitoring of tree resources before, during, and after grading and construction activities. In addition, prior to grading and site preparation, the IWMD shall ensure that all trees subject to removal are marked with a red "X" on the trunk. Trees to be preserved shall be marked with yellow flagging visible from all directions and fenced-off with red-orange flexible mesh fencing during grading and construction activities.</p>	
<p>MM 4.5-3b: During the process of obtaining the required 404 Permit Application and 1601 Streambed Alteration Agreement (1601/404) for encroachment into streambed areas and prior to site preparation, the IWMD shall prepare a Conceptual Riparian Mitigation Plan in cooperation with the affected resource agencies (CDFG, USFWS, and the USACE). Guidelines for the Mitigation Plan shall be as follows:</p> <ul style="list-style-type: none"> <li>• The mitigation sites will be evaluated and selected on the basis of their suitability for use as riparian revegetation. The parameters evaluated shall include but not be limited to soil condition, hydrology, geology, and drainage considerations, level of difficulty of site preparation, access, contiguousness with existing habitat, and ownership status.</li> <li>• The mitigation plan shall include the procedures for soil preparation, provide seeding/planting mixtures; include seeding/planting methods; and include any other procedures, such as supplemental irrigation, mycorrhizal inoculation, etc., that will be used.</li> <li>• Maintenance and monitoring goals shall be established. The components and implementation of the maintenance and monitoring assignments shall be consistent with the components and implementation of mitigation measure 4.5-3d.</li> </ul>	
<p>MM 4.5-3c: In accordance with an approved Conceptual Riparian Mitigation Plan, the IWMD shall replace impacted riparian areas at a minimum 2:1 or higher ratio of in-kind or higher quality habitat. The required replacement acreage will be approved by the resource agencies having jurisdiction over the impacted resources (i.e., CDFG, USACE, and/or USFWS), for all the GDP uses, based on jurisdictional delineations and vegetation mapping and the current 2001 GDP grading plan.</p>	

**TABLE 2.2-4 (Continued)  
PREVIOUSLY ADOPTED MITIGATION  
2001 GDP AND EIR 575**

<b>BIOLOGICAL RESOURCES</b>		<b>Level of Significance after Mitigation</b>
MM 4.5-3d:	<p>During the process of obtaining the 404 Permit and 1601 Streambed Alteration Agreement, and, in accordance with the approved Conceptual Riparian Mitigation Plan, the IWMD shall develop a maintenance and monitoring program to ensure success of any revegetation effort. Maintenance shall include regular inspection of the site for excessive weed growth, erosion problems, failure of irrigation system, and/or unhealthy or dying plants. Invasion of the site by weeds in the area, especially pampas grass, artichoke thistle, mustard, clover, castor bean, fountain grass, cocklebur, and tree tobacco could be a potential maintenance problem. Maintenance crews shall be able to recognize the difference between native plant and weed seedlings. A qualified biologist will be required to instruct the maintenance crew in the identification of native plant seedlings. The maintenance program shall include procedures for regular maintenance and repair of the irrigation system.</p> <p>A system shall be developed for reporting by the maintenance crew of any unhealthy or dying plantings or failure in any of the seeded areas. This would assist the monitoring crew in the development of immediate remedial measures, such as increasing the irrigation rate or replacing plant material, to correct the problem.</p> <p>To document the success of revegetation programs, the IWMD shall ensure that the progress of the revegetated area is monitored by a qualified biologist. An agreement shall be developed between the County and the USACE, USFWS, or CDFG on criteria that will be used to determine successful plant establishment on a mitigation site. These criteria will include plant cover, and density, and will be based on measurements made in reference habitats near the mitigation site.</p> <p>The qualified biologist shall monitor the site for five years or until the site complies with required performance standards. If the biologist determines that the mitigation site meets the conditions of the performance criteria prior to the five-year period, documentation shall be submitted to the responsible agency for approval.</p>	<b>Short-term Significant</b>
MM 4.5-3e:	<p>Prior to grading and site preparation adjacent to riparian areas outside the limits of construction, the IWMD shall incorporate instructions in the construction documents ensuring that, in conjunction with construction activities:</p> <ul style="list-style-type: none"> <li>• Graded material spoils shall not be placed or stored near riparian areas outside the limits of construction.</li> <li>• The removal of streamside or bank vegetation shall be avoided wherever feasible.</li> <li>• The amount of habitat removed shall be limited to the minimum amount required for construction.</li> <li>• Riparian areas in the vicinity of grading or heavy recreation use, such as in Zone 1, shall be designated as Environmentally Sensitive Areas onsite preparation, grading, and construction plans, and fenced off as appropriate for protection before any of these activities begin.</li> <li>• Excess fill shall not be dumped in streams outside the limits of construction.</li> <li>• Vehicles and equipment shall not be parked in washes or other drainages outside the limits of construction.</li> </ul>	

**TABLE 2.2-4 (Continued)  
PREVIOUSLY ADOPTED MITIGATION  
2001 GDP AND EIR 575**

<b>BIOLOGICAL RESOURCES</b>	<b>Level of Significance after Mitigation</b>
<p><b>Impact 4.5-4:</b> <i>Special status habitats and special status species could exist within the construction limits of the landfilling improvements and could be adversely affected by the proposed landfill improvements.</i></p>	<p><b>Short-term Significant</b></p>
<p>MM 4.5-4a: Prior to site preparation and during final design for each phase of landfill development (i.e., Phases A–D in Zone 1 and Phases A–I in Zone 4), the Director IWMD shall ensure that focused surveys are conducted by qualified biologists for the thread-leaved brodiaea, Coulter’s saltbush, many-stemmed dudleya, southern tarplant, vernal barley, paniculate tarplant, and any other plant species that may warrant focused surveys in the future as determined by a qualified botanist. In addition, the Director IWMD shall ensure that focused surveys are conducted by qualified biologists for the western spadefoot toad, southwestern willow flycatcher, and other wildlife species that may warrant focused surveys in the future as determined by a qualified biologist. The results of the surveys shall be incorporated into environmental documentation for future proposed projects within the Prima Deshecha site. Identified special status species and habitats located within 300 feet of the affected area(s) shall be mapped on grading plans for each phase of development. In addition, the Director IWMD shall implement procedures approved by the appropriate resource agencies to mitigate the potential impacts to those species. In the event that landfill activities within a phase must occur prior to the completion of spring surveys, habitat for the special status plant species shall be salvaged, stored, and used in an appropriate manner as determined by a qualified biologist. The appropriate agencies will be notified prior to disturbance. All future proposed projects within the Prima Deshecha Landfill shall provide vegetation mapping on topographic maps at a scale of 1 inch equals 200 feet.</p>	
<p>MM 4.5-4b: The IWMD shall ensure that, for the periods covering all site preparation, disturbance or grading of native areas, the Director, IWMD or his designee shall monitor wildlife habitat preservation. The purpose of this monitoring is to ensure that the Environmentally Sensitive Areas and Environmentally Restrictive Areas (i.e., areas outside the grading limits) will not be adversely impacted during site preparation, grading, and construction of the landfilling activities.</p> <p>For the landfilling activities, this inspection program shall be coordinated with the Site Manager at the weekly meetings held at the Landfill to review the planned grading program for the landfilling activities. These meetings shall commence at the start of each new phase, when native ground is schedule for disturbance (e.g., grading or stockpiling, etc.). The Director, IWMD or his designee will attend these meetings and provide a status and progress report to the Operations Manager. These meetings will be held throughout the site preparation, grading and construction periods for all the landfilling activities and the monitoring reports shall continue to be prepared and submitted by the Director, IWMD or his designee until the disturbance is completed.</p> <p>The monitor shall be on site before, during, and after the completion of site preparation, grading, and construction for all the landfilling activities.</p>	

**TABLE 2.2-4 (Continued)  
PREVIOUSLY ADOPTED MITIGATION  
2001 GDP AND EIR 575**

<b>BIOLOGICAL RESOURCES</b>		<b>Level of Significance after Mitigation</b>
<p><b>Impact 4.5-5:</b> <i>Potential vegetation removal and habitat disturbance impacts of the landfilling uses could affect nesting sites for listed bird species and raptors, and dens for coyotes, bobcats, and mountain lions.</i></p> <p>MM 4.5-5: During site preparation and grading for the landfill, the IWMD shall phase these operations outside significant habitat areas during the nesting and breeding season for the coastal California gnatcatcher. This measure shall be overseen and conducted by a qualified biologist.</p> <p>During site preparation and grading for the landfill, the IWMD shall phase these operations outside significant habitat areas during the nesting and breeding season for the least Bell's vireo. This measure shall be overseen and conducted by a qualified biologist. Prior to activities that may impact potential vireo habitat, updated vireo surveys will be conducted by a qualified biologist.</p> <p>The IWMD shall ensure that grading and construction operations for the landfilling are redirected temporarily around nesting sites for a distance of 500 feet for candidate and listed species of birds and a distance of 1,000 feet for raptors during nesting and breeding seasons between February 15 and July 15, or a distance and time period agreed upon by the USFWS. In the event that a coyote, bobcat, or mountain lion den is located, then grading and construction operations shall be redirected temporarily around the den for a distance of 1,000 feet. The nesting sites and dens should be resurveyed toward the end of the breeding seasons of these species to verify completion of the breeding cycle. Nests and dens that will be removed due to the grading and/or construction operations shall be removed only during the non-breeding season.</p>	<p><b>Short-term Significant</b></p>	
<p><b>Impact 4.5-6:</b> <i>Potential indirect noise, air quality, and lighting disturbance impacts on biological resources could be associated with the landfilling activities.</i></p> <p>MM 4.5-6: The IWMD shall ensure that during final design, the landfill operation continues to incorporate regulatory agency guidelines to reduce indirect impacts associated with noise, dust, night lighting, and blowing debris. Noise shall be controlled through the proper maintenance of the construction equipment, including trucks, bulldozers, and other mobile and fixed construction equipment. Dust shall be controlled at its source with standard wetting techniques consistent with applicable Southern California Air Quality Management District (SCAQMD) requirements. Low lighting alternatives and shielded lighting shall be employed to reduce indirect impacts on surrounding habitats.</p>	<p><b>Less than Significant.</b></p>	



**TABLE 2.2-4 (Continued)  
PREVIOUSLY ADOPTED MITIGATION  
2001 GDP AND EIR 575**

<b>CULTURAL/SCIENTIFIC RESOURCES</b>	<b>Level of Significance after Mitigation</b>
<p><b>Archaeological Resources</b></p> <p><b>Impact 4.6-1:</b> <i>Known and potential archaeological resources could be disrupted or removed as a result of the construction of the GDP landfilling improvements.</i></p> <p>MM 4.6-1: Prior to the initiation of any site modifications, the IWMD shall contract with a County-certified archeologist who will prepare a Testing, Monitoring and Salvage Program for Archaeological Resources for the GDP landfilling activities. The Plan shall identify the specific pre-disturbance subsurface testing program and the specific monitoring procedures, scheduling, staffing and other elements to ensure adequate testing, identification and salvage of archaeological resources prior to and during grading, site preparation, earth moving and excavation activities associated with the GDP landfilling activities. The Plan shall also identify procedures for in-place preservation of resources including the identification of typical resources that would be preserved in-place. The Plan shall also establish the authority for halting or temporarily relocating construction during preservation activities and other procedures as necessary.</p>	<p><b>Less than Significant</b></p>
<p><b>Paleontological Resources</b></p> <p><b>Impact 4.6-2:</b> <i>Known and potential paleontological resources could be disrupted or removed as a result of the construction of the GDP landfilling uses.</i></p> <p>MM 4.6-2: Prior to the initiation of any site modifications, the IWMD shall contract with a County-certified paleontologist who will prepare a Monitoring and Salvage Plan for Paleontological Resources for the GDP landfilling activities. The Plan will identify the specific monitoring procedures, scheduling, staffing and other elements to ensure adequate identification and salvage of fossil materials during grading, site preparation, earth moving and excavation activities associated with the GDP landfilling activities. The Plan shall also identify procedures for in-place preservation of resources including the identification of typical resources that would be preserved in-place. The Plan shall also establish the authority for halting or temporarily relocating construction during the preservation activities and other procedures as necessary.</p>	<p><b>Less than Significant</b></p>

**TABLE 2.2-4 (Continued)  
PREVIOUSLY ADOPTED MITIGATION  
2001 GDP AND EIR 575**

<b>GEOPHYSICAL</b>		<b>Level of Significance after Mitigation</b>
<b>Impact 4.2-1:</b>	<b><i>Hillside excavations for construction of landfill refuse capacity and daily cover soil could expose people or property to landslide or mudslide activity during the excavation period.</i></b>	<b>Less than Significant</b>
MM 4.2-1a:	Prior to designing each phased landfill plan and specifications, the IWMD shall conduct a geotechnical investigation to determine the extent of landslide material and the soil foundation characteristics of the proposed phase. A geotechnical report of the phased site area shall be prepared which includes a landslide excavation and removal plan prepared to the satisfaction of the Director, IWMD.	
MM 4.2.1b:	For each phased grading plan, the excavation and grading plan shall ensure the stability of all cut, fill and lined slopes. Slopes shall be designed to withstand the most probable earthquake based on a return period of 100 years or as required by current regulations. Liner design plans shall be submitted to the San Diego Regional Water Quality Control Board for approval. The plans shall also be incorporated in a JTD [Joint Technical Document] and submitted to the LEA for approval and to the CIWMB for concurrence.	
<b>Impact 4.2-2:</b>	<b><i>Seismic activity occurring along any of the active regional faults could subject the landfill property to seismic shaking which could damage landfill facilities and/or structures.</i></b>	<b>Less than Significant</b>
MM 4.2-2a:	The IWMD shall demonstrate that landfill design plans comply with the state and federal seismic requirements in CCR Title 27, and 40 Code of Federal Regulations (CFR) §258.14 (Seismic Impact Zones) and §258.15 (Unstable Areas). These demonstrations shall be incorporated in the IWMD Operating Record prior to construction of said plans.	
MM 4.2-2b:	Prior to commencement of daily excavations for borrow material, grading plans shall be prepared, analyzed for slope stability and submitted for approval by the Director, IWMD, or his designee.	
MM 4.2-2c:	As part of a JTD, the IWMD shall present the assumptions, methods and calculations used to demonstrate seismic safety. This measure is required only if final slopes are planned to be steeper than a ratio of 3:1 (horizontal to vertical), if the site is located in an area subject to liquefaction or in unstable areas with poor foundation conditions as described in the Seismic Safety Element of the Orange County General Plan (27 CCR 17777).	
<b>Impact 4.2-3:</b>	<b><i>Differential settlement associated with compression and decomposition of solid waste materials can be expected on the order of 30 percent of the total refuse thickness.</i></b>	<b>Less than Significant</b>
MM 4.2.3:	As part of a JTD, the IWMD shall present the assumptions, methods and calculations used to demonstrate that differential settlement of the site will not result in future environmental impacts (27 CCR 21090).	

**TABLE 2.2-4 (Continued)  
PREVIOUSLY ADOPTED MITIGATION  
2001 GDP AND EIR 575**

<b>GEOPHYSICAL</b>		<b>Level of Significance after Mitigation</b>
<b>Impact 4.2-4:</b>	<b><i>Continued use of the site for landfill purposes will create the demand for soil to be used as cover material.</i></b>	<b>Less than Significant</b>
MM 4.2-4:	When the JTD is prepared the IWMD shall identify the assumptions, methods and calculations performed to demonstrate that the excavation plans provide for sufficient quantities and sources of suitable soils or alternative cover systems for daily and intermediate cover, final cover and liner materials. This section of the JTD should also reference and summarize any borrow studies conducted to demonstrate the availability of sufficient quantities of materials. If materials are obtained on site, the description shall include which sections of the site will be excavated for each sequence of landfilling and where these materials will be stockpiled for use. Stockpile locations should not interfere with unloading, spreading, compacting, access, safety, drainage or other operations on the site. Stockpiles should be clearly shown on the fill sequencing and excavation plans prepared for construction. (27 CCR 21600).	
<b>HAZARDS/HAZARDOUS MATERIALS</b>		<b>Level of Significance after Mitigation</b>
<b><i>Vehicle Access and Circulation</i></b>		
<b>Impact 4.13.1-1:</b>	<b><i>Potential conflicts could occur between refuse and recreation vehicles using the same access roads on the site.</i></b>	<b>Less than Significant</b>
MM 4.13.1-1:	Prior to opening any recreation uses on-site, the IWMD and the RDMD/HBP shall develop and implement site operating procedures that separate refuse and recreation vehicles either by separate access routes or separate internal circulation patterns immediately after accessing the site.	
<b>Impact 4.13.1-2:</b>	<b><i>On-site traffic controls will be necessary to regulate and direct the flow of vehicular traffic.</i></b>	<b>Less than Significant</b>
MM 4.13.1-2:	The IWMD shall continue to implement on-site traffic operations procedures regarding on-site posted traffic speed limits and traffic controls for the landfilling operations in Zones 1 and 4.	
<b>Impact 4.13.1-3:</b>	<b><i>Potential conflicts could arise between construction vehicles and ordinary vehicular traffic on the site during the construction of the landfilling uses.</i></b>	<b>Less than Significant</b>
MM 4.13.1-3:	Prior to the approval of construction plans, the IWMD shall ensure that construction activities for the landfilling uses which may temporarily bring construction equipment and ordinary vehicular traffic into closer contact will continue to be mitigated by traffic control consisting of limiting access of vehicular traffic to construction areas. The traffic control plans for the 2001 GDP construction areas shall be consistent with existing RDMD/Road Programs traffic control policies and procedures.	

**TABLE 2.2-4 (Continued)  
PREVIOUSLY ADOPTED MITIGATION  
2001 GDP AND EIR 575**

HAZARDS/HAZARDOUS MATERIALS	Level of Significance after Mitigation
<b><i>Hazardous Materials</i></b>	
<b><i>Impact 4.13.2-1: Potential impacts are associated with hazardous materials improperly brought to the landfill for disposal in the Zones 1 and 4 landfill areas.</i></b>	Less than Significant
MM 4.13.2-1: The IWMD will continue to implement its policy not to accept hazardous materials for disposal in the landfill. This policy will include, but not be limited to, visual inspection of loads at the fee booth and on the active face of the landfill during unloading; continued operation of the radiation detection systems at the fee booths; and landfill personnel recording the license plates of vehicles turned away at the entrance.	
<b><i>Impact 4.13.2-2: Potential public safety impacts could result from incomplete separation of refuse vehicles and biosolids disposal from recreational visitors.</i></b>	Less than Significant
MM 4.13.2-2: Prior to opening any recreation uses on-site, the IWMD and RDMD/HBP shall develop and implement on-site operating procedures that separate the recreation users and trash vehicles as they enter the site and that no members of the public are allowed access to the landfill areas in Zones 1 and 4 where mixing operations and disposal of biosolids with other refuse on the active face of the landfill occur.	
<b><i>Impact 4.13.2-3: Potential public safety impacts are associated with the disposal of automobile shredder waste (ASW) in the landfills in Zones 1 and 4.</i></b>	Less than Significant
MM 4.13.2-3: The IWMD shall maintain and implement operating procedures for the acceptance and disposal of non-hazardous ASW, including documentation of all ASW loads received at the landfill.	
<b><i>Impact 4.13.2-4: Hazardous wastes could be generated by the on-site maintenance of landfill vehicles.</i></b>	Less than Significant
MM 4.13.2-4: The IWMD shall continue to maintain operating procedures for the safe handling and removal of waste oil and other potentially hazardous waste materials from the on-site vehicle maintenance facility.	
<b><i>Impact 4.13.2-5: The potential exists for explosion, fire or personal exposure to hazardous materials to affect landfill workers and members of the general public during the operation of the household hazardous waste (HHW) collection station.</i></b>	Less than Significant
MM 4.13.2-5: The IWMD shall maximize protection of the public and landfill workers from accidental exposure to hazardous materials at the HHWCC, consistent with all applicable state and federal regulations. These measures shall include, but not be limited to, separation of recreation users from the HHWCC; proper handling and disposal of the HHW collected at the HHWCC; and on-site emergency response personnel and equipment.	
<b><i>Fire Safety and Control</i></b>	
<b><i>Impact 4.13.3-1: Potential fire and fire safety impacts are associated with the landfill operations in Zones 1 and 4.</i></b>	Less than Significant
MM 4.13.3-1: The IWMD shall maintain on-site operating procedures for the avoidance and control of surface fires. These practices shall include, but not be limited to, the provision of fire extinguishers and watering vehicles, posting of No Smoking signs, ground clearing and general safe operating practices.	

**TABLE 2.2-4 (Continued)  
PREVIOUSLY ADOPTED MITIGATION  
2001 GDP AND EIR 575**

<b>HAZARDS/HAZARDOUS MATERIALS</b>		<b>Level of Significance after Mitigation</b>
<b>Impact 4.13.3-2:</b>	<b><i>Given the characteristically dry climatic conditions and native vegetation, potential fire risks could be associated with public access to the site and public access roads through the site.</i></b>	<b>Less than Significant</b>
MM 4.13.3-2a:	Prior to the opening of public access roads on-site, the IWMD shall coordinate with the RDMD/Road Programs on the placement of fire warning signs along public roadways through the site, warning motorists of potential fire hazards, fire conditions and other relevant information.	
MM 4.13.3-2b:	The IWMD and the RDMD/Road Programs will ensure that all roads serving landfilling activities include road signs warning motorists and landfill patrons of potential fire hazards, fire conditions and other relevant information. This signing shall be consistent with the requirements of the County of Orange for roadway signing.	
MM 4.13.3-2c:	Prior to approval of construction plans, the IWMD shall ensure that all construction contractors and employees engaged in construction for the landfilling uses implement safe working practices regarding the potential for surface fires associated with construction equipment and personal vehicles. These practices, subject to the approval of the Orange County Fire Authority, shall include the installation of spark arresters on equipment that has the potential to emit sparks or glowing embers; avoiding parking vehicles in areas with high or very dry vegetation; restrictions on employee smoking; the use of open flames or fire in high hazard areas and other similar safe working practices.	
<b>Landfill Gas Generation</b>		
<b>Impact 4.13.4-1:</b>	<b><i>Potential impacts associated with the generation and surface migration of landfill gas could result from landfilling activities in Zones 1 and 4.</i></b>	<b>Less than Significant</b>
MM 4.13.4-1:	The IWMD shall continue to ensure that the design and operation of the GDP landfilling activities include a LFG control system consisting of a network of collection wells, flare stacks and ERF [energy recovery facility] capacity as needed as LFG generation increases, and a monitoring program, basically expanding the existing LFG control system on-site.	
<b>Impact 4.13.4-2:</b>	<b><i>Potential explosion hazards could result from the accumulation of landfill gas in buildings associated with the landfilling or recreation uses.</i></b>	<b>Less than Significant</b>
MM 4.13.4-2:	Prior to the issuance of building permits and during structure siting and final design, the IWMD and RDMD/HBP shall ensure, as part of the structure siting and final design, that the construction of permanent structures with enclosed spaces on landfilled areas will not occur unless the building is designed with protection from migrating landfill gas approved by the Solid Waste Local Enforcement Agency. Such protection designs could include: gas impermeable membrane underlying the structure and/or venting of enclosed spaces in the building, particularly spaces in contact with the ground or building foundation. In addition, the building designs will incorporate an explosive gas alarm system where this would be considered to increase the overall safety of the building for occupants or users of the building.	

**TABLE 2.2-4 (Continued)  
PREVIOUSLY ADOPTED MITIGATION  
2001 GDP AND EIR 575**

<b>HYDROLOGY AND WATER QUALITY</b>		<b>Level of Significance after Mitigation</b>
<b>Impact 4.2-5:</b>	<b><i>The potential exists for landfill leachate migration into groundwater through fractured and porous alluvium.</i></b>	<b>Less than Significant</b>
MM 4.2-5a:	The IWMD shall continue to operate its existing leachate control system within the active landfill area. In addition, the IWMD shall be required to construct a corresponding leachate control and recovery system in those areas where new liners are constructed and in areas added to the active landfill area.	
MM 4.2-5b:	The site shall continue to operate under the groundwater monitoring requirements contained in Waste Discharge Requirements, Order No. 89-102, Technical Change Order (TCO) No. 1, Amended Waste Discharge Requirements contained in Order No. 93-86, and any future orders issued by the San Diego Regional Water Quality Control Board. TCO No. 1 contains the detailed Groundwater and Vadose Zone Monitoring Program for the Prima Deshecha Landfill.	
MM 4.2-5c:	As part of a revised JTD, the IWMD shall present the assumptions, methods and calculations used to predict leachate generation and sizing of the components of the leachate collection system.	
<b>Impact 4.3-1:</b>	<b><i>Modification of the landfill surface will alter the surface hydrology of the site and could result in increases in stormwater runoff.</i></b>	<b>Less than Significant</b>
MM 4.3-1a:	As part of a Joint Technical Document (JTD) to be prepared by IWMD, the IWMD shall present the assumptions, methods and calculations used to calculate the potential flow quantities for run-on, runoff, and sediment content of storm water flow used in sizing drainage and sediment control facilities.	
MM 4.3-1b:	As part of a JTD to be prepared by IWMD, the IWMD shall include surface drainage plans for final fill and bottom excavation plans, including any berms, down drain systems, storm drain systems, direction of flow in perimeter drainage channels, and the location of off-site discharge point for runoff water.	
MM 4.3-1c:	Detention, diversion, and drainage facilities shall be designed and constructed to accommodate the anticipated volume of precipitation and peak flows from surface runoff under the precipitation conditions specified in §20365 of Title 27 of the California Code of Regulations for each class of waste management unit (WMU). In addition, drainage facilities for WMUs shall be designed to prevent washout of the WMUs during a 100-year storm event.	
<b>HYDROLOGY AND WATER QUALITY</b>		<b>Level of Significance after Mitigation</b>
<b>Impact 4.4-1:</b>	<b><i>The potential exists for surface water quality degradation from landfilling.</i></b>	<b>Less than Significant</b>
MM 4.4-1a:	The IWMD shall comply with its National Pollutant Discharge Elimination System (NPDES) Storm Water Pollution Prevention Plan (SWPPP) and its NPDES Monitoring and Reporting Plan for the landfilling under the GDP. This plan will ensure that the measures taken to safeguard surface water quality are effective and are being correctly employed.	
MM 4.4-1b:	The IWMD shall continue to implement the existing Surface Water Runoff Monitoring Program as described in the currently effective Waste Discharge Requirements.	

**TABLE 2.2-4 (Continued)  
PREVIOUSLY ADOPTED MITIGATION  
2001 GDP AND EIR 575**

<b>Impact 4.4-2:</b>	<b>Potential erosion associated with construction of the landfill-related projects could increase the silt load in surface waters.</b>	<b>Less than Significant</b>
MM 4.4-2:	As part of the NPDES program and prior to approval of construction contracts, the Director, IWMD, or a designee, shall ensure that silt loading to surface waters from the construction activities will be periodically tested and controlled, where necessary, by appropriate erosion control measures, siltation basins or other settling structures.	
<b>LAND USE AND PLANNING</b>		<b>Level of Significance after Mitigation</b>
<b>Impact 4.7-1:</b>	<b>Landfill disposal areas, permanent flare stations and other temporary and permanent landfill facilities may be visible from sensitive off-site viewsheds and/or above protected ridgelines.</b>	<b>Less than Significant</b>
MM 4.7-1:	During final design and implementation of the GDP landfilling activities, the IWMD shall ensure, to the extent feasible and that funding is available, that the landfill disposal areas and associated permanent and temporary landfilling facilities are sited so as to minimize visibility from beyond the site, particularly with regard to ridgelines protected by ordinances in the cities of San Clemente and San Juan Capistrano. For landfill areas and/or facilities not able to be sited below intervening protected ridgelines, options for reducing or minimizing views of operations and facilities from off-site sensitive viewsheds may include retention of natural topography, landscaping, berms and other methods as feasible and as funding is available.	
<b>Impact 4.7-2:</b>	<b>Landfill activities could occur within the 200-foot ridgeline protection buffer between the landfill footprint and protected ridgelines, as established by the cities of San Clemente and San Juan Capistrano.</b>	<b>Less than Significant</b>
MM 4.7.2:	Above-ground landfill facilities within the 200-foot "major ridgeline" protection zone established by the City shall be prohibited with the exception of regional, above-ground monitoring and maintenance facilities (e.g., risers, check valves, etc.) less than five (5) feet in height. Non-landfill facilities or structures shall be prohibited within the 200-foot "major ridgeline" protection zone.	
<b>LAND USE AND PLANNING</b>		<b>Level of Significance after Mitigation</b>
<b>Impact 4.7-3:</b>	<b>The flare station facilities could be visible from off-site vantage points.</b>	<b>Less than Significant</b>
MM 4.7-3:	Prior to the completion and approval of construction plans, the IWMD shall ensure that the design of the flare stations needed under the GDP landfilling activities incorporates the following types of features to reduce the visual effect of these facilities: <ul style="list-style-type: none"> <li>• Landscaping around the flare stations will be developed to allow for a natural appearance of the area. Cut and fill areas resulting from the construction of the flare stations will be gently contoured consistent with the area topography and will be landscaped.</li> <li>• The flare stacks and other flare station facilities will be painted light brown colors, similar to the existing flare station facilities.</li> </ul>	

**TABLE 2.2-4 (Continued)  
PREVIOUSLY ADOPTED MITIGATION  
2001 GDP AND EIR 575**

<b>NOISE</b>		<b>Level of Significance after Mitigation</b>
<b>Impact 4.10-1:</b>	<b>Landfilling construction machinery and landfilling equipment could result in potential noise impacts on surrounding land uses.</b>	Less than Significant
MM 4.10-1:	Although the construction associated with landfilling under the GDP is not anticipated to result in significant noise impacts on residential uses adjacent to the site, the IWMD shall reduce landfill operations noise impacts to the extent feasible based on available funds through the use of landscaping, berms at the face of each landfill lift, phased construction of the landfill areas and the use of buffer areas between noise sources and sensitive recreation receptors.	
<b>UTILITIES AND SERVICE SYSTEMS</b>		<b>Level of Significance after Mitigation</b>
<b>Electricity</b>		
<b>Impact 4.16-1:</b>	<b>Potential disruption of existing Southern California Edison (SCE) and San Diego Gas and Electric (SDG&amp;E) facilities during construction of the GDP landfilling uses.</b>	Less than Significant
MM 4.16-1:	Prior to approval of construction and grading plans, the IWMD will include, as part of the construction documents, requirements that the construction contractors coordinate with SCE and SDG&E to ensure that their facilities on the site are protected to prevent significant disruption to utility services during construction. The contractor will be required to provide written documentation of this coordination to the IWMD.	
<b>UTILITIES AND SERVICE SYSTEMS</b>		<b>Level of Significance after Mitigation</b>
<b>Santa Fe Pipeline Company</b>		
<b>Impact 4.16-2:</b>	<b>The Santa Fe Pacific Pipeline Partners Inc., oil pipelines on the east side of the site could be impacted during construction of the landfilling uses.</b>	Less than Significant
MM 4.16-2:	The IWMD will coordinate with Santa Fe Pacific Pipeline Partners Inc., during final design of the landfilling uses in Zone 4 regarding the precise location and depth of the existing pipelines on the site. The IWMD shall coordinate the landfill construction schedules with Santa Fe Pacific Pipeline Partners Inc., to allow the company to relocate its pipelines, if needed, prior to IWMD initiating construction of landfilling improvements in Zone 4 that would otherwise impact these pipeline facilities.	
<b>Natural Gas, Potable Water, Non-Potable Water, Sanitary Facilities, Storm Drains, Telephone Service and Schools</b>		
No impacts on natural gas, potable water, non-potable water, storm drains, telephone service and schools were expected under the 2001 GDP landfilling activities and therefore no mitigation was required.		Less than Significant
<b>Sanitary Facilities</b>		
<b>Impact 4.16-3:</b>	<b>No wastewater facilities are available to the site in the Santa Margarita Water District service area; therefore, all GDP landfill operations sanitary facilities would be septic tank systems, similar to the current operations at the landfill.</b>	Less than Significant
MM 4.16-3a:	Prior to the commencement of any landfilling operations, a soils report and plans for all sewage disposal	



**TABLE 2.2-4 (Continued)  
PREVIOUSLY ADOPTED MITIGATION  
2001 GDP AND EIR 575**

	systems shall be submitted to the County's Plumbing/Mechanical Plan Checking Section for review and approval.	
MM 4.16-3b:	Results of percolation tests and a log of soil borings, performed and reported by a Registered Environmental Health Specialist, Registered Civil Engineer or Registered Geologist, in accordance with Environmental Health's "On-Site Sewage Disposal System Guidelines" shall be submitted to the County's Plumbing/Mechanical Plan Checking Section for review and approval. The Land Use Unit of Environmental Health shall be notified at least 48 hours prior to soil testing in order to be present during testing, if deemed necessary.	
MM 4.16-3c	Each proposed individual sewage disposal system shall be designed in accordance with Environmental Health's "On-Site Disposal System Guidelines."	
MM 4.16-3d	An additional soil percolation system, equal to a maximum of 100 percent of the original design capacity or as deemed necessary by the Manager, Environmental Health, shall be constructed and connected.	

## 2.3 **EXISTING OPERATIONS**

The permitted environmental monitoring and control facilities located on site to support landfill operations are listed below:

- An energy recovery facility (ERF) that converts landfill gas to electricity
- A Household Hazardous Waste Collection Center (HHWCC) and a facility for the temporary storage of hazardous materials
- A landfill gas collection and flaring system for the site, which consists of horizontal collection piping and vertical extraction wells and a flaring facility
- Landfill Gas Condensate collection system
- Perimeter probes for landfill gas monitoring
- Groundwater monitoring wells located in the vicinity of the current and future refuse disposal areas
- A groundwater extraction system, located downstream of WMU1 in Zone 1, consisting of a pump station and four groundwater extraction wells within the alluvial material of the Prima Deshecha Cañada watercourse
- A leachate collection and recovery system (LCRS) for the lined areas
- Perimeter and interior drainage facilities
- A major detention/desilting basin and interim desilting/stilling basins for Zone 1
- Biological mitigation sites to the east and south of Zone 1.

### 2.3.1 **THE 2001 GDP, EXISTING PDL PERMITS, AND SUBSEQUENT ACTIONS**

Permits covering activities at the PDL site to date consist of landfill operating permits and resource agency permits that were issued for compliance with various environmental statutes and State and Federal regulations covering landfill facilities. A more detailed description of these permits is included in Section 4.3.3. Regulatory Requirements for Implementation. Proposed Project elements may trigger either new permits or a modification of these existing permits as is discussed further in Section 4.3.3.

#### **Resource Agency Permits**

The following permits have been issued to the IWMD by the state and federal regulatory agencies that have jurisdiction over the project since the 2001 GDP was approved for the Prima Deshecha Landfill Landslide Remediation Project for Zone 1:

- Clean Water Act Section 404 Permit No. 980065200-ESL. An Individual Permit was authorized by the USACE for the implementation of the Prima Deshecha Landfill Landslide Remediation Project based on *Riparian Habitat Mitigation Program, Prima Deshecha Landslide Remediation Project, Modified Preferred Alternative* (BonTerra Consulting 2002b) and the *Coastal Sage Scrub Mitigation Program, Prima Deshecha Landslide Remediation Project, Modified Preferred Alternative* (BonTerra Consulting

2002a). The intent of the project was to stabilize a large landslide immediately adjacent to the Prima Deshecha Cañada Creek and to re-align and restore the creek into an engineered bio-mitigation channel. The USFWS issued this permit on June 17, 2002.

- USFWS Section 7 Consultation. Permit No. 980065200-ESL includes a Section 7 Consultation with the USFWS to address impacts to the least Bell's vireo (a federally and state-listed Endangered species) and California gnatcatcher (a federally listed Threatened and state Species of Special Concern). The USFWS issued Biological Opinion (BO) 1-6-02-F-703 to the USACE on February 8, 2002.
- RWQCB Section 401 Water Quality Certification Permit No. WPN 18-2001 112.02 (File No. 01C-112). On February 11, 2002, the RWQCB issued a 401 permit authorizing the Prima Deshecha Landfill Landslide Remediation Project.
- CDFG Streambed Alteration Agreement (SAA) R5-2001-0301. The CDFG issued an SAA for the PDL Landslide Remediation Project that authorized permanent impacts to 3.26 acres of stream and habitat. Mitigation for the habitat loss was addressed in the *Riparian Habitat Mitigation Program, Prima Deshecha Landslide Remediation Project, Modified Preferred Alternative* (BonTerra Consulting 2002b). This permit was issued on February 19, 2001, and expires on December 31, 2004.
- CDFG 2080.1 Consistency Determination. The least Bell's vireo is both a state and federally listed Endangered species. Numerous meetings were conducted with the USACE, USFWS, RWQCB, and CDFG staff to avoid, minimize, and adequately mitigate for the effects of the Landslide Remediation Project on the vireo. The IWMD obtained authorizations from the USACE (Section 404 Permit No. 980065200-ESL), USFWS (Section 7 Consultation and subsequent BO No. 1-6-02-F-703), and RWQCB (Section 401 Water Quality Certification). Based on conservation measures and mitigation measures contained in these permit authorizations, IWMD requested and obtained a consistency determination from the CDFG on October 15, 2003, pursuant to the requirements of the California Endangered Species Act and as described in Section 2080.1 of the *Fish and Game Code*.
- Modification No. 1 to the USACE Permit No. 980065200-ESL. A modification to the original USACE Section 404 Permit was approved by the USACE on August 20, 2002, in response to the inadvertent removal of 0.18 acre of mixed sage scrub and an additional requirement for the removal of 0.08 acre of mule fat scrub for soil stockpiling in an ephemeral tributary to Prima Deshecha Cañada channel. As part of Modification No. 1, the original grading footprint was modified to avoid impacts to 0.30 acre of coastal sage scrub (CSS) and 0.04 acre of southern willow scrub habitat that the USACE permit and the associated USFWS permit previously authorized for removal in order to fully mitigate for the new impacts. In addition, the USACE requested that the USFWS re-initiate the Section 7 Consultation (Amendment No. 1 to Biological Opinion No. 1-6-02-F-703) in order to address the proposed modifications to habitat that had the potential to affect the California gnatcatcher and least Bell's vireo. The USFWS determined in their Biological Opinion issued to the USACE on August 2, 2002 (BO No. 1-6-02-F-703), that the proposed action would not likely adversely affect the gnatcatcher or vireo.
- Amendment No. 2 to Biological Opinion No. 1-6-02-F-703. During the landslide remediation activities, the Construction Geologist observed the landslide which underlied the cut slope that was created by the Landslide Remediation Project indicating that the landslide was still active and could threaten the newly created Prima Deshecha Cañada Bio-Mitigation Channel. IWMD prepared a Headscarp Grading Plan and determined that

approximately 0.75 acre of additional CSS habitat resources would require temporary removal. No areas under USACE jurisdiction (i.e., wetlands or waters of the U.S.) would be affected by this activity. However, since this activity was to occur within the project areas defined by the permit, the USACE took the lead and requested re-initiation of a Section 7 Consultation with the USFWS for proposed modification to 0.75 acre of CSS and to discuss potential effects on the California gnatcatcher. The USFWS issued Amendment No. 2 to BO 1-6-02-F-703 on October 31, 2003.

- Extension of CDFG SAA No. R5-2001-0301. An extension of CDFG SAA No. R5-2001-0301 to December 31, 2007, was granted to the IWMD on December 15, 2004.
- Modification No. 2 to USACE Permit No. 980065200-ESL. The USACE approved Modification No. 2 to the original permit February 22, 2005 in order to address impacts to 0.26 acre of CSS and 0.04 acre of riparian resources associated with the implementation of the Phase A2/B1 Liner and Desilting Basin project.
- Amendment No 3 to USFWS Biological Opinion No. FWS-OR-703.13. The USACE consulted with the USFWS as part of the request for Modification No. 2 (980065200-ESL) to implement the A2/B1 Liner and Desilting Basin project. The USFWS issued the amended BO on February 18, 2005.
- Amendment No. 1 to CDFG SAA No. R5-2001-0301. CDFG approved Amendment No. 1 to SAA No. R5-2001-0301 to implement the Phase A2/B1 Liner and Desilting Basin project on February 1, 2005.
- Expansion of the Section 401 Water Quality Certification for the A2/B1 Liner and Desilting Basin Project. RWQCB approved the expansion of Permit No. WPN: 18-2001 112.02haasj on February 11, 2005, for the Phase A2/B1 Liner and Desilting Basin project.

The construction portion of the Prima Deshecha Landslide Remediation Project was completed in March 2004. Implementation of the CSS mitigation program is complete. The riparian restoration construction was completed in the fall of 2004 and both programs will be monitored over the subsequent five years or until establishment has been achieved and signed off by the state and federal resource agencies, pursuant to the performance criteria contained in the approved plans.

Regulatory permits were obtained from the USACE, USFWS, CDFG, and RWQCB for the Phase A2/B1 Liner Project which included an approved mitigation program to offset the loss of 0.26 acre of CSS, 0.09 acre of mule fat scrub habitat, and 0.02 acre of U.S. jurisdictional waters. Mitigation was authorized at a ratio of 1:1 through an expansion of the existing bio-mitigation program within and immediately adjacent to the Prima Deshecha Cañada channel.

### **Landfill Operating Permits**

The Prima Deshecha Landfill is a state-designated Class III facility, which is permitted for the disposal of non-hazardous municipal solid waste. No liquid or hazardous wastes are accepted or proposed for on-site disposal. The IWMD currently operates under: (1) Revised Waste Discharge Requirements (WDR) Order No. R9-2003-0306, which was issued by the San Diego Regional Water Quality Control Board (SDRWQCB) in November 2003 with Addendum No. 1 and adopted June 8, 2005; (2) General Permit to Discharge Storm Water associated with Industrial Activity (Order No. 97-03-DWQ) issued by the State Water Resources Control Board; (3) Solid Waste Facility Permit (SWFP) No. 30-AB-0019 which was issued by the County Health

Care Agency (LEAs) in March 2004, and last revised in 2005; (4) concurrence by the California Integrated Waste Management Board (CIWMB) in March 2004; (5) Permits to Construct and Permits to Operate the landfill gas collection and control systems issued by the SCAQMD; and (6) CUP 95-4 issued by the City of San Juan Capistrano, as well as other permits required for environmental monitoring and control systems.

### **2.3.2 IMPLEMENTATION AND STATUS OF 2001 GDP BIOLOGICAL MITIGATION MEASURES**

In support of the recommendations contained within the Proposed Project's Pre-Mitigation and Regional Environmental Enhancement Opportunities Plan (REEOP), a discussion of existing biological mitigation sites at the PDL is presented below.

Exhibit 2.2-7 provides an overview of the location of each of the following biological mitigation sites on the PDL property.

#### **Site A**

Mitigation installation at Site A met, and in some cases, exceeded the acreage allocations specified in the May 29, 2002, *Riparian Habitat Mitigation Program (RHMP), Prima Deshecha Landslide Remediation Project, Modified Preferred Alternative* (BonTerra Consulting 2002b). The site included a total of 7.52 acres of southern willow scrub, mule fat scrub, and marsh habitat plantings. Irrigation system installation was completed in the Site A re-aligned channel by February 2004. Planting of the southern willow scrub and mule fat scrub plant species was completed by March 2004.

The final installation review and walk-through was completed on March 15, 2004, at the Site A riparian mitigation site in compliance with the approved RHMP and associated project permits (referenced above). Exhibit 2.2-8 illustrates the biological successes at Site A.




Mitigation installation completion marks the initiation of the five-year maintenance and monitoring program at Site A. All maintenance tasks will be performed in compliance with the requirements listed in the project permits and in the approved RHMP. Maintenance will consist of: (1) protection of planting areas from vandalism, herbivores, etc.; (2) protection of adjacent resources during all maintenance activities; (3) erosion control; (4) irrigation and associated system maintenance for up to five years (with discontinuation preferred three years after implementation with Resource Agency approval); (5) weed species control performed on a weekly basis for the first three years of the five year program, and on a monthly basis for the remaining two years of the five year program; (6) replacement of all failed plant species as required to meet performance standards; and (7) performance of any other maintenance tasks considered necessary to facilitate compliance with the required growth performance standards.

#### **Site B**

The RHMP and project permits required the creation of a total of 11.84 acres of riparian habitat within the PDL site. Since Site A provided 7.52 acres of riparian planting, additional mitigation area was created in Site B, just downstream of Site A. Site B included a total of 4.32 acres of southern willow scrub, mule fat scrub, and marsh habitat planting. Mitigation installation at the Site B riparian mitigation site was completed November 1, 2003, in compliance with the approved RHMP and associated project permits. Exhibit 2.2-9 illustrates the before-and-after successes at Site B.




# Landfill Operations

**Legend**


-  Conservation Easement
-  Mitigation Sites
-  Coastal Sage Scrub Seeding Area

**Native Mitigation Area**



**Riparian Mitigation (Sites A & B) - 11.84 Acres**

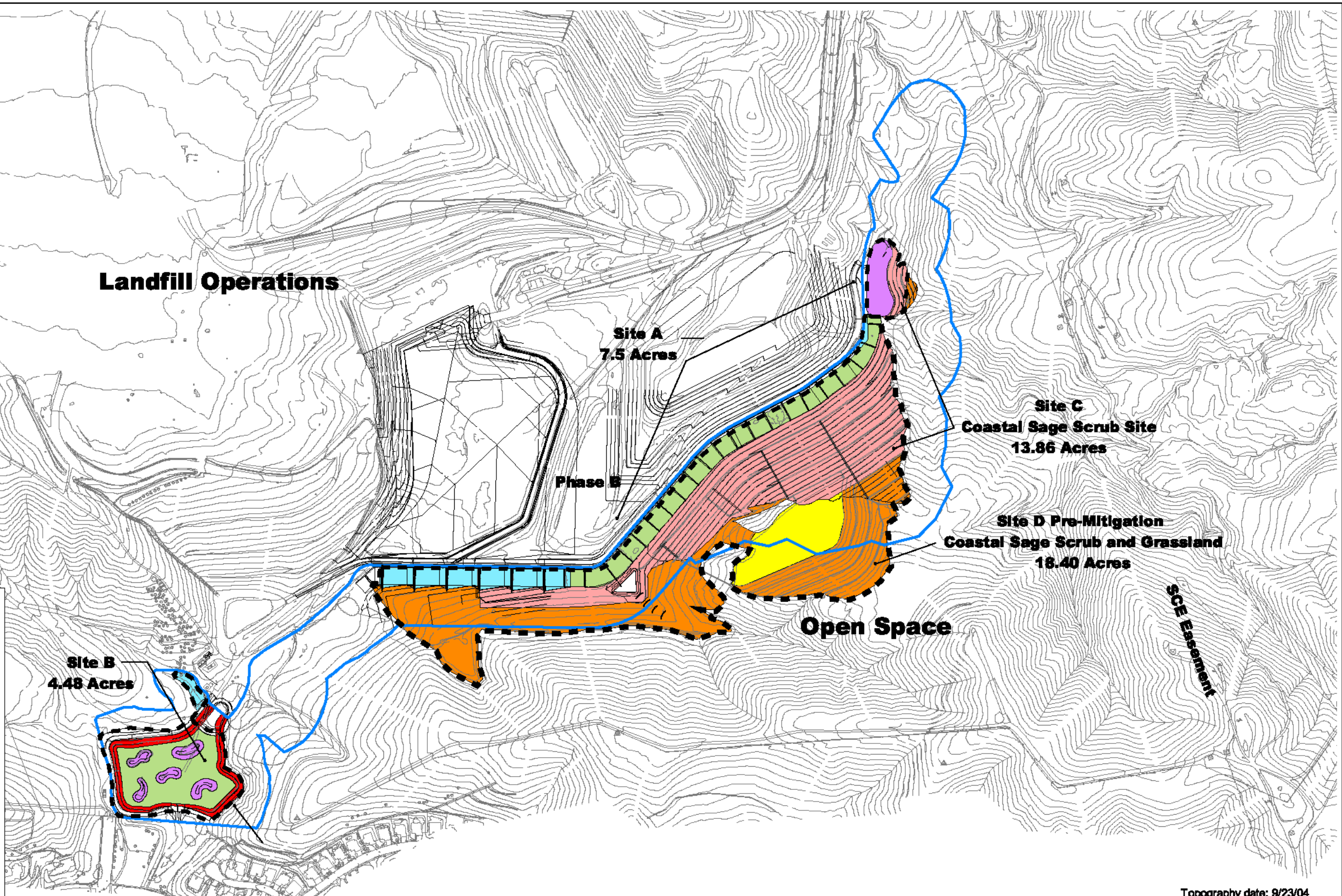
-  Southern Willow Scrub
-  Mulefat Scrub
-  Freshwater/Alkaline Marsh

**CSS Site C - 13.86 Acres**

-  Coastal Sage Scrub

**Pre-CSS Mitigation Site D - 18.40 Acres**

-  Coastal Sage Scrub Seeding Area
-  Native Grassland

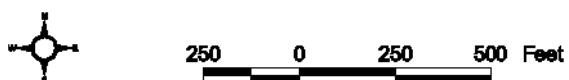


Topography date: 9/23/04

## Mitigation Site Locations

Prima Deshecha Landfill Supplemental Environmental Impact Report

Exhibit 2.2 - 7



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Prior to Site A Channel Construction 3-22-04



After Site A Channel Construction 8-2-04

## Site A Mitigation Site

Exhibit 2.2-8

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Prior to Site B construction 3-22-00



After Site B Construction 7-13-04

## Site B Mitigation Site

Exhibit 2.2-9

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### **Site C**

The final installation review and walk-through at the Site C coastal sage scrub mitigation site was completed on March 15, 2004, in compliance with the approved May 24, 2002, *Coastal Sage Scrub Mitigation Program (CSSMP), Prima Deshecha Landslide Remediation Project, Modified Preferred Alternative* (BonTerra Consulting 2002a) and its associated project permits. The approved CSSMP, Biological Opinion, and October 31, 2003 Amendment require the creation of 13.86 acres of coastal sage scrub habitat within the PDL site as compensation for project impacts. Mitigation installation has occurred on landslide remediation cut slopes. Exhibit 2.2-10 shows the status of the mitigation as of 2004.

### **Site D**

Site D was originally located within the construction limits of the landslide remediation project within Zone 1. Following the completion of the landslide remediation project, (including the installation of all of the required riparian and coastal sage scrub mitigation elements), Site D was bare and would have been treated for erosion control with the standard erosion control seed mix. IWMD determined that this barren site presented an opportunity for CSS restoration for use in offsetting future impacts within the PDL property. Mitigation installation at Site D was completed March 15, 2004 (Exhibit 2.2-11). As a site-wide mitigation program was not yet developed for the pre-mitigation areas, installation followed the implementation methodologies and guidelines described in the approved CSSMP for Site C. Pre-mitigation installation at Site D consisted of establishing a total of 18.40 acres of coastal sage scrub and grassland species on the head scarp/excavation area immediately adjacent to Site C. Approximately 0.26 acre of Site D was subsequently approved by the USACE, USFWS, CDFG, and RWQCB for use in offsetting impacts to CSS resources located within the Phase A2/B1 Liner and Desilting Basin project area.



Prior to Grading 3-22-00



After Grading 10-5-04

## Site C Mitigation Site

Exhibit 2.2-10

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During Grading 10-10-03



After Grading 11-1-04

## Site D Mitigation Site

Exhibit 2.2-11

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## **SECTION 3.0 PURPOSE AND NEED FOR AMENDMENT NO. 2 TO THE 2001 GENERAL DEVELOPMENT PLAN**

Amendment No. 2 and SEIR 597 further modify the 2001 GDP with the incorporation of the elements of the Proposed Project that are presented in Section 4.0. In aggregate, these project modifications address the entire property and are necessary to: (1) provide for the areal extent of future landslide remediation activities around the PDL, without which adequate slope stabilization measures could not be provided for the PDL and the site would be required to cease operations much earlier than currently planned; (2) accommodate future landfill-related features such as landfill gas generation (LFG) perimeter probes and LFG collection header lines; (3) make adjustments for Zone 4 to provide drainage and erosion control facilities that avoid sensitive biological resources; and (4) implement measures needed to ensure the long-term success of the environmental mitigation and restoration components of the overall GDP. In order to facilitate the assessment of biological impacts from future landfill operations within both zones and to coordinate pre-mitigation of these impacts, the limits of disturbance around each zone have been refined to accommodate these features.

Also included within the Proposed Project is a comprehensive Pre-mitigation Plan and Regional Environmental Enhancement Opportunities Plan (REEOP) for the site. The Pre-Mitigation Plan will allow landfill operations to continue seamlessly by providing mitigation for operational impacts well in advance of and prior to any future impacts on biological resources. Additionally, regional environmental enhancement opportunities will have been identified for offsetting environmental impacts of other County (or third party) projects.

Accordingly, this document will incorporate by reference those analyses contained in the 2001 GDP, as well as applicable and appropriate analyses from EIR 548 and EIR 575 as the baseline for SEIR 597. Specific new or updated analyses contained in this document will focus on only those aspects of the 2001 GDP that require modifications.

### **3.1 PHYSICAL SITE STABILITY**

The PDL site is part of the Peninsular Ranges Province of southern California. Exposed bedrock materials on site consist of both marine and terrigenous sedimentary rock of the Capistrano and Monterey formations, as well as the San Onofre Breccia. These bedrock units are overlain by locally derived landslide materials and are predisposed to instability in many areas. Given the low strength of some bedrock units and the high instability potential of many of the existing landslides at the site, new slope failures and/or reactivation of existing landslides are probable. The 1998 landslide in a Zone 1 stockpile area provides evidence that this is a major concern that has significant potential to disrupt landfill operations if not proactively remediated.

Final landslide remediation measures are required to stabilize portions of Zones 1 and 4 to allow the installation of the landfill liner and leachate collection and removal system. Without the implementation of on-site landslide stabilization measures, it will not be possible to update the solid waste disposal permits needed to continue landfill operations at the PDL to the site's projected closure date. A significant amount of waste originally designated for disposal at the PDL would then need to be transported to other facilities. Landslide remediation measures are required for the full development of Zone 1 and for the majority of Zone 4.

Although final landslide remediation design plans will not be prepared until closer to the time that liner construction is scheduled (anticipated by 2008 for the last major phase in Zone 1 and by 2015 for the first phase in Zone 4), potential disturbance limits have been identified in the SEIR 597 Proposed Project based on available geotechnical information for the site.

### **3.2 ACCOMMODATE FUTURE LANDFILL-RELATED FEATURES**

The limits of disturbance around Zones 1 and 4 have been better defined to accommodate the implementation of features needed to support future landfill operations. These features include environmental control facilities such as landfill gas perimeter probes, extraction wells and/or header lines, stockpile areas, temporary staging areas and/or other support features. These features are fairly typical support elements of landfill operations and have always been a part of ongoing operations at the PDL. EIR 575 did acknowledge the need for these facilities but was not specific on areal requirements surrounding the refuse footprint. The limits of disturbance for each zone are being refined within SEIR 597 to better document the potential acreage required for these facilities outside and adjacent to the refuse footprint and to assess the impacts to biological resources in order to coordinate and implement pre-mitigation.

### **3.3 RE-DESIGN DESILTING SYSTEM TO REDUCE BIOLOGICAL RESOURCES IMPACTS**

#### **3.3.1 AVOID LEAST BELL'S VIREO TERRITORIES**

The 2001 GDP proposes desilting basin for Zone 4 at a location between Zones 1 and 4. However, constructing a basin at this site will have a direct impact on four least Bell's vireo territories (total removal of two territories; partial removal of two others). As the least Bell's vireo is listed as a federally Endangered species, any temporary or permanent impact on the species is considered significant and requires consultation under Section 7 of the Endangered Species Act. Accordingly, the project sponsor has a responsibility under CEQA and the Clean Water Act (CWA), as well as a number of other relevant environmental statutes, to conduct an analysis to identify the least environmentally damaging alternative to the Proposed Project. Formulation and analysis of other alternatives that met the project objectives were, therefore, undertaken to determine whether there was an alternative location for this basin that would reduce the impact to the least Bell's vireo.

#### **3.3.2 SUSTAIN THE DOWNSTREAM RIPARIAN CORRIDOR**

The Prima Deshecha Cañada stream originates in Zone 4 and provides water to biological resources downstream of the project site. Although the hydrogeologic relevancy of the spring and its underlying geologic formations require further exploration, the worst-case scenario of total depletion of surface water recharge to the spring is being considered here. Direct impact to the spring or its recharge area could alter hydrologic conditions at the site and adversely affect the biological resources and mitigation areas within and along the downstream riparian corridor. The Proposed Project provides features designed to maintain hydrologic stability for this corridor and sustain on-site biological resources once the upper portions of the Prima Deshecha Cañada stream channel are impacted within Zone 4. Mitigation for these impacts is required by environmental statute and is necessary for obtaining agency permits in order to continue landfill operation.

Landfill operations are expected to occur in Phases D and E at the east side of Zone 4 by the year 2045 (see Section 4.0). At that time, the construction of the liner system will likely reduce the potential recharge area to the spring located in Zone 4 under this worst-case scenario. The 2001 GDP proposed subdrain system for the landfill in order to collect subsurface waters that emerge underneath the site and to direct those flows to an outlet at the western edge of Prima Deshecha Cañada stream outside Zone 4. The remaining open space area on the eastern side of Zone 4 would likely contribute to sub-surface water flows into the subdrain system for a period of time; however, these flows are projected to be reduced as the area believed to recharge the spring is progressively impacted by landfill activities after 2045. *An Analysis of*

*Groundwater Resources in Zone 4, Prima Deshecha Landfill*, dated January 6, 2004 (see Appendix E), was conducted by GeoLogic Associates to assess the potential gross quantity of water that might be available for habitat maintenance in the Prima Deshecha Cañada stream from subdrain flows. Based on limited data and gross assumptions about aquifer characteristics, a range of 6 to 52 years was estimated for continued flows through a subdrain system for the landfill after the recharge area begins to be reduced by 2045. Although a detailed hydrogeological study is needed to confirm these spring and watershed parameters, it is assumed for the purposes of this analysis that impact to the spring's recharge area will eventually have an adverse impact on the Prima Deshecha riparian corridor.

Elements of the Proposed Project have been developed to address these concerns and to provide for long-term viability and functionality of this riparian system.

### **3.4 FACILITATE LONG-TERM STEWARDSHIP OF ON-SITE BIOLOGICAL RESOURCES**

#### **3.4.1 RELATIONSHIP TO OTHER REGIONAL PLANNING EFFORTS (NCCP, SAMP)**

Implementation of full PDL buildout through the year 2067 (as analyzed in EIR 575 and SEIR 597) will result in impacts to federally and state-listed special status plant and wildlife species; special status habitats and wetlands; and waters of the U.S. as identified by the state and federal Endangered Species Acts, the *California Fish and Game Code*, and the federal Clean Water Act (CWA). Regulatory authorizations will be required to permit the project and to ensure appropriate mitigation in order to offset project impacts. In addition, the IWMD intends to participate in the Southern Subregion Natural Communities Conservation Plan/Master Streambed Alteration Agreement/Habitat Conservation Plan program (NCCP/MSAA/HCP), a subregional conservation planning program which is intended to provide long-term protection of natural vegetation and wildlife diversity while allowing compatible land uses and appropriate development and growth.

#### **3.4.2 DEVELOPMENT OF A PRE-MITIGATION PROGRAM**

The IWMD has prepared two habitat restoration and enhancement programs to pre-mitigate potential project impacts and to obtain long-term environmental permits to cover full project buildout. This approach ensures seamless operation of landfill activities and responsible stewardship of on-site environmental resources through the proactive development of a Pre-Mitigation Plan and a REEOP in partnership with the NCCP/MSAA/HCP program. The Pre-Mitigation Plan is intended to provide a comprehensive mitigation program to achieve self-sustaining habitats for coastal sage scrub, southern needlegrass grassland, and riparian habitats outside the current and future landfill operations. The Pre-Mitigation Plan will also include seed collection and planting of small-flowered morning glory (*Convolvulus simulans*), paniculate tarplant (*Deinandra paniculata*), vernal barley (*Hordeum intercedens*), and seed collection and transplanting of the thread-leaved brodiaea (*Brodiaea filifolia*). The objective of the Pre-Mitigation Plan is to establish these habitats and plant species prior to their removal, thus eliminating the element of temporal loss from the project site by maintaining the long-term net subregional values of these resources within the South NCCP Subregion.

#### **3.4.3 DEVELOPMENT OF A REGIONAL ENVIRONMENTAL ENHANCEMENT OPPORTUNITIES PLAN**

The REEOP is another plan that identifies areas within the PDL that are suitable for the establishment of coastal sage scrub and native grassland, as well as sensitive plant species associated with these habitat types. Once identified, these areas could be incorporated into the NCCP/MSAA/HCP Restoration and Enhancement Adaptive Program, once the

NCCP/MSAA/HCP is approved; these areas could also be subsequently used by the IWMD, other County agencies, or (potentially) other entities as off-site mitigation to enable seamless development of non-PDL projects that incur impacts to these habitat types and species. The REEOP and the Pre-Mitigation Plan would also serve as the basis for participating in the NCCP/MSAA/HCP.

## SECTION 4.0 THE PROPOSED PROJECT

### 4.1 PROJECT LOCATION

The 1,530-acre Prima Deshecha Landfill (PDL) site is located in Orange County (Exhibit 4.1-1), and includes acreage within the jurisdictions of the cities of San Juan Capistrano (570 acres) and San Clemente (133 acres). The remaining 827 acres are within unincorporated Orange County. The 2001 General Development Plan (GDP) is the planning document for coordinated long-term implementation of both interim and ultimate site development uses. The most current GDP was adopted by the County in 2001 and, along with its 2002 amendment (Amendment No. 1), constitute what is referred to in this document as “the 2001 GDP.”

The PDL site lies in the hills of southeastern Orange County (Exhibit 4.1-2). Ground elevations range from 230 feet above mean sea level (msl) at the southwestern boundary of the site to a maximum elevation of 1,125 feet above msl at the northeastern boundary of the site. The Prima Deshecha Cañada watercourse traverses the site from the northeast to the southwest. Two major utility easements, including a 150-foot-wide San Diego Gas and Electric (SDG&E) easement and a 200-foot-wide Southern California Edison (SCE) easement extend through the central portion of the site and separate the western (Zone 1) and eastern (Zone 4) components of the landfill property (Exhibit 2.1-1).

### 4.2 ENVIRONMENTAL SETTING

The PDL is situated in the western foothills of the Santa Ana Mountains, at the eastern edge of the City of San Juan Capistrano. The majority of the 1,530-acre site is located in Prima Deshecha Cañada, a hilly canyon in an upland area of south Orange County. Approximately 15 percent of the PDL site lies within the Segunda Deshecha Cañada watershed, at the southeastern corner of the PDL property. The setting in respect to each environmental issue can be found in Section 5.

The PDL is located within the following three jurisdictions: the city of San Juan Capistrano, the city of San Clemente, and in unincorporated Orange County. As such, development of the site is affected by long-range plans adopted by those municipalities. To illustrate, the Zone 1 area of the site is located in the City of San Juan Capistrano. The City of San Juan Capistrano adopted a General Plan Amendment in 1995 that changed the 2.5 (Regional Park) land use designation on the portion of the PDL located within that jurisdiction to a land use designation of “Solid Waste Facility” (SWF). The 2001 GDP for Zone 1 is consistent with this SWF land use designation in the *City of San Juan Capistrano General Plan*.

### 4.3 PROJECT DESCRIPTION

#### 4.3.1 PROPOSED PROJECT ELEMENTS

The Proposed Project will include the following elements covered by this SEIR (Exhibit 4.3-1):

- 1. Changes in the limits of disturbance and other impacts associated with implementation of landslide remediation measures and/or the accommodation of landfill infrastructure and environmental control systems throughout the landfill.***

The boundaries for Zones 1 and 4, as presented within EIR 575, represent the refuse footprint of each zone, with the incorporation of some additional area of cut slopes. The limits of potential disturbance proposed in SEIR 597 (which extend beyond the Zones 1 and 4 landfill boundaries) reflect, in part, the area to be graded in order to remediate unstable geologic conditions on the



property (i.e., Capistrano and Monterey formation soils). Zone 5, which accommodates the alignment as contained within the Master Plan of Arterial Highways (MPAH) for the La Pata Avenue extension, traverses the PDL site between Zones 1 and 4. The limits of disturbance for Zones 1 and 4 (as shown on Exhibit 4.3-1) encompass portions of Zone 5, which will consider site stabilization in its own project design; however, planning and design efforts for both the circulation and landfill features of the 2001 GDP are being closely coordinated to provide for project designs that are consistent and that accommodate a full range of features planned for the site. Implementation of landslide remediation measures will be needed in order to obtain permits that will fully execute both circulation and landfill project features. These measures will be implemented in a manner which minimizes both potential damage to existing and enhanced environmental resources and disruption of on-going landfill operations.

The most cost-effective method to stabilize portions of the site underlain by landslides is a buttress fill, as illustrated on Exhibit 4.3-2, Proposed Buttress Schematic. However, in order to avoid biologically sensitive terrain, remediation of the large landslide complex located within the center of Zone 4 might also be accomplished by means of a shear key (Exhibit 4.3-3, Shear Key Schematic). Other measures for unstable cut slopes in the various units of bedrock and landslide debris may include construction of low angle (2:1) or shallower cut slopes, buttress and/or stabilization fills, and structurally reinforced fills (GLA 2002). Potential landslide remediation areas around and between Zones 1 and 4 have also been incorporated within the disturbance limits based on the site's geologic map, which is presented in Section 5.0 (Exhibit 5.2-1).

Although additional geotechnical field investigations and slope-stability analyses will be conducted for future development of the PDL, an updated assessment of the potential limits of disturbance has been completed for the site based on available geotechnical information. These updated limits of disturbance are illustrated on Exhibit 4.3-1 and consist of a 278-acre increase for the entire site over the zone boundaries presented in the GDP. Although there is a possibility that further geotechnical analyses may result in the determination that additional area is required for landslide remediation in the future, an effort was made to address conservative limits of disturbance (i.e., as wide as projected to be necessary). Should the limits of disturbance change in the future (based on new information), the change will be covered by supplemental environmental documentation as appropriate; the type of document will be determined by the potential impact from a proposed change.

The updated disturbance limits, as indicated on Exhibit 4.3-1, are analyzed within SEIR 597. The 2001 GDP and EIR 575 analyzed landfill impacts for a total of approximately 800 acres, of which approximately 327 acres were located within Zone 1 and approximately 473 acres were located within Zone 4. This impact area consisted of the refuse footprint with some additional area needed for cut slopes. Geotechnical and operational considerations have changed these limits of disturbance to a total of 1,078 acres, for an incremental increase of 278 acres (or 35 percent). Of these 278 acres, approximately 110 acres are located around the perimeter of Zone 1 and 168 acres are located around the perimeter of Zone 4. This increase in acreage is associated with the need to allow for landslide remediation and other landfill-support features, as indicated in Exhibit 4.3-1. Potential stockpile and trail areas have been identified to the west and south of Zone 1, respectively, and areas along the perimeter of Zones 1 and 4 are included within the disturbance limits to accommodate future environmental protection systems. The disturbance limit to the southeast of Zone 1 has been increased to include previous and potential areas for future landslide remediation. The total increase of 278 acres for Zones 1 and 4 is the areal extent of the Proposed Project being analyzed within SEIR 597.

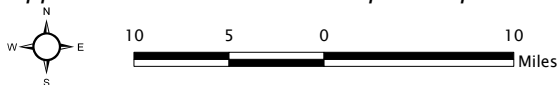
There will be no increase in the landfill prism, trash capacity, or operational life of the landfill facility as a result of the Proposed Project, nor will ongoing landfill operations be adversely



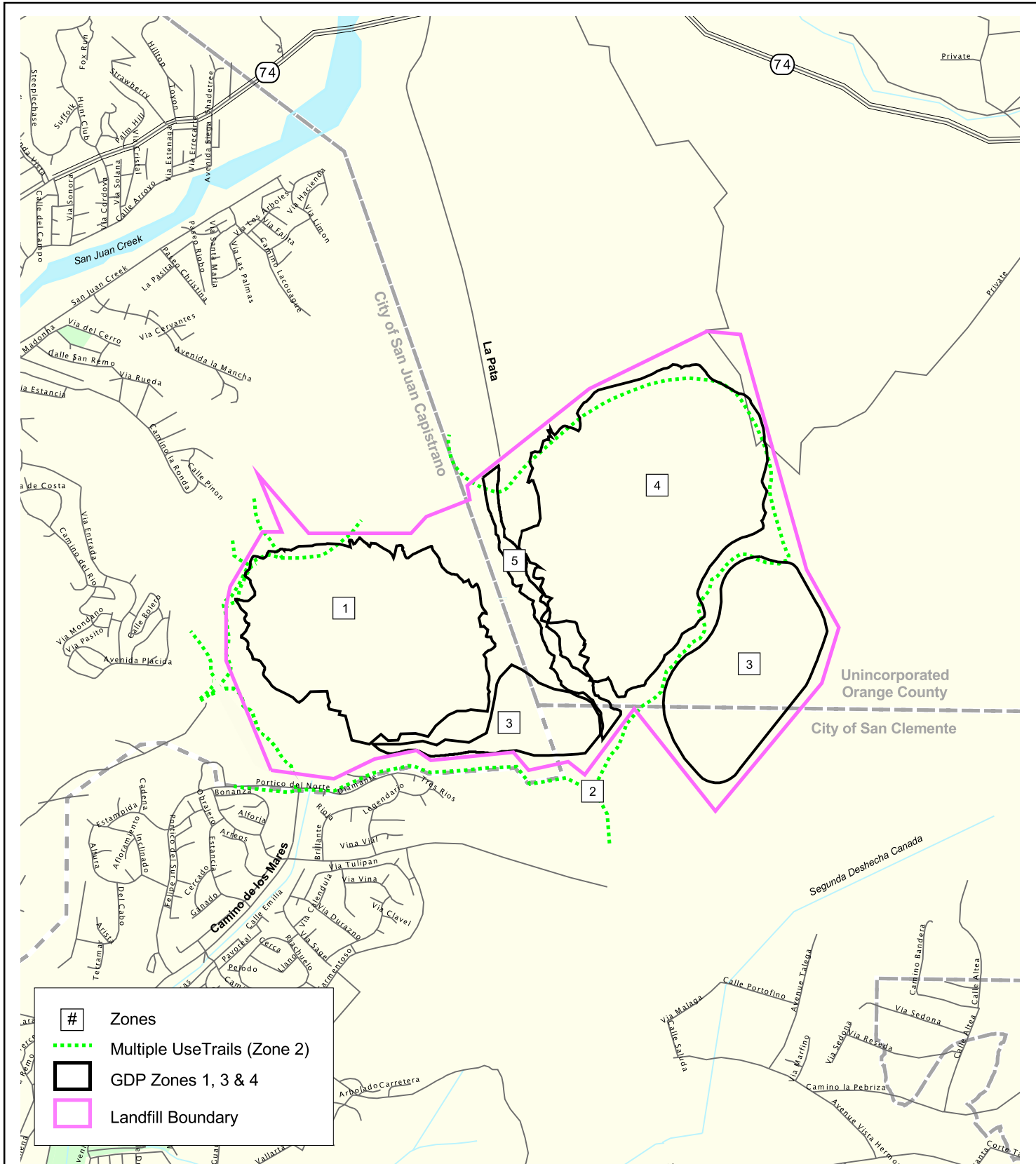
## Regional Location

Exhibit 4.1-1

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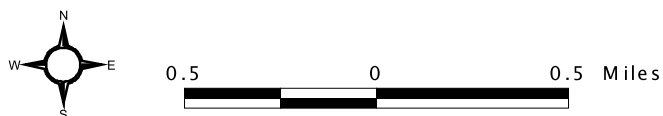
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Source: US Census Bureau TIGER 2000

# Local Vicinity and 2001 GDP Zones

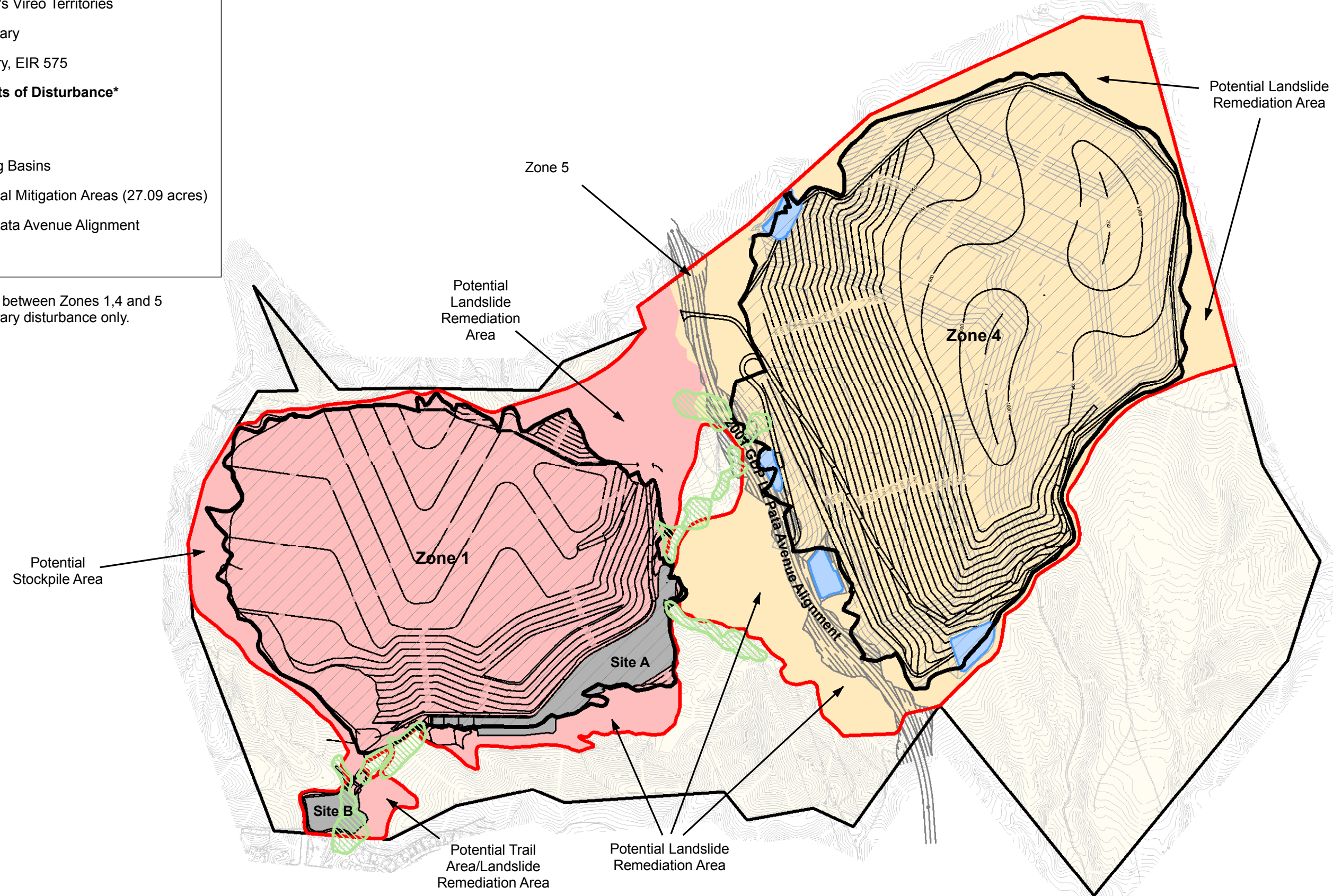
# Exhibit 4.1-2

Prima Deshecha Landfill  
 Supplemental Environmental Impact Report 597



-  2005 Least Bell's Vireo Territories
-  Property Boundary
-  Impact Boundary, EIR 575
-  **Proposed Limits of Disturbance\***
-  Zone 1
-  Zone 4
-  Zone 4 Desilting Basins
-  Existing Biological Mitigation Areas (27.09 acres)
-  2001 GDP La Pata Avenue Alignment
-  Project Grading

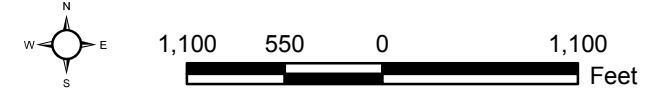
\*Note: Areas of overlap between Zones 1,4 and 5 represent temporary disturbance only.



Source: BAS, 2005

**Proposed Project**

Prima Deshecha Landfill  
Supplemental Environmental Impact Report 597

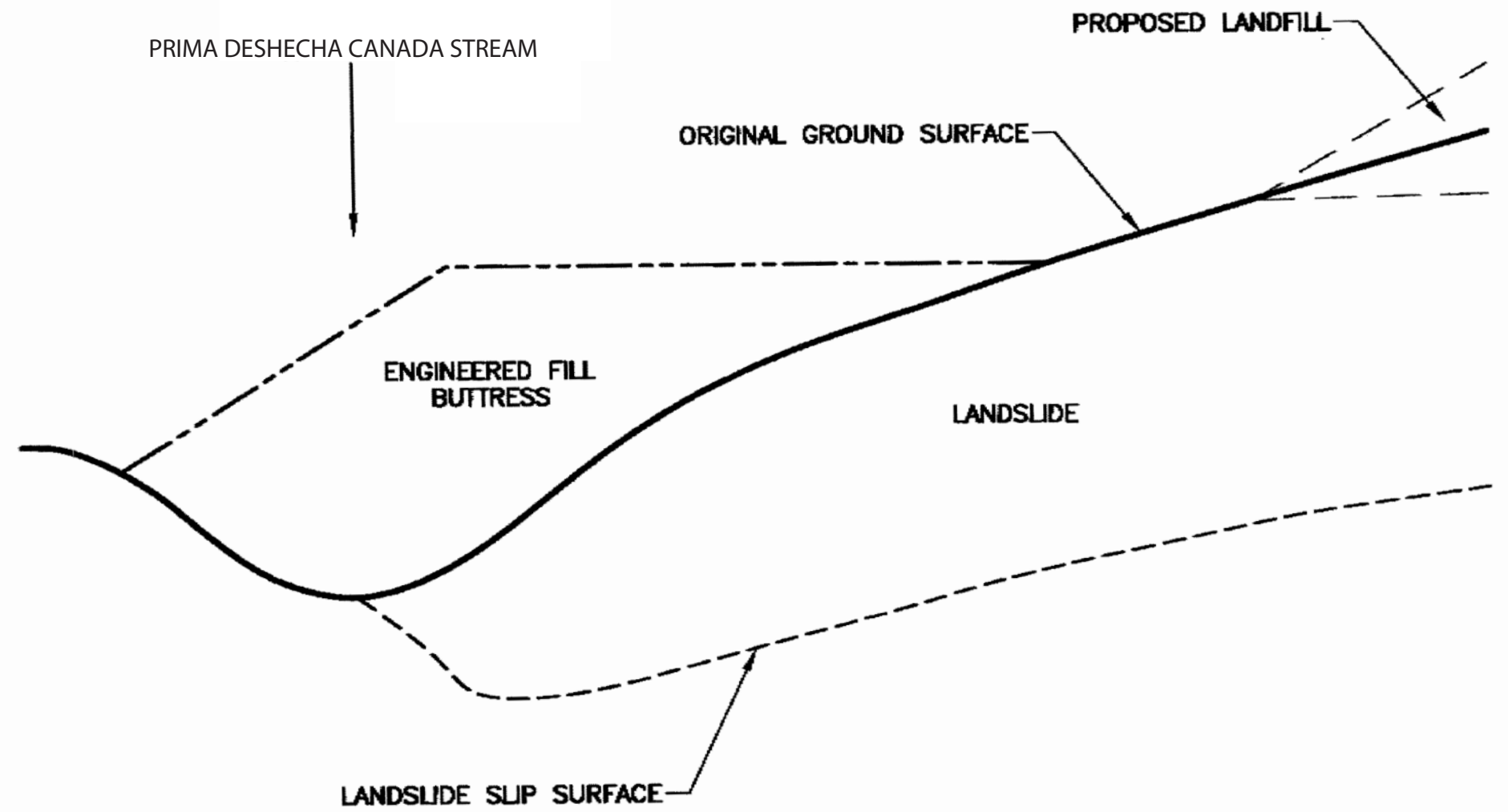


**Exhibit 4.3-1**



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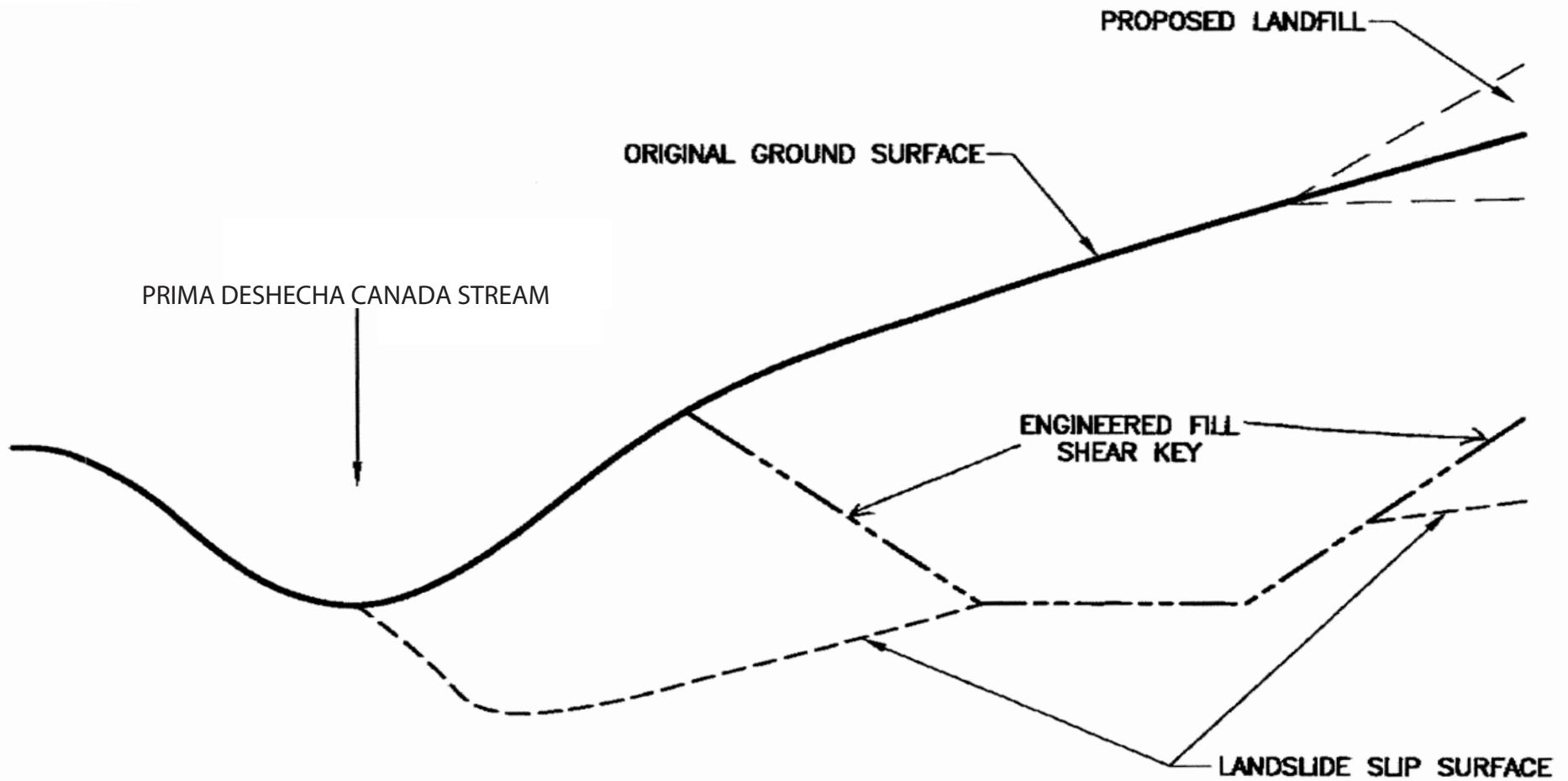
### Proposed Buttress Schematic

Exhibit 4.3-2

*Prima Deshecha Landfill  
Supplemental Environmental Impact Report 597*



Source: GeoLogic Associates, 2005



## Shear Key Schematic

Exhibit 4.3-3

*Prima Deshecha Landfill*  
*Supplemental Environmental Impact Report 597*

**Bonterra**  
CONSULTING

affected. If future geotechnical investigations and analyses result in changes to the disturbance limit shown in SEIR 597, those changes will be addressed in a future CEQA analysis and amendment of project permits, as appropriate.

Changes in the limits of disturbance overlapping the RMV Burdened Property (Exhibit 2.2-6) include activities associated with temporary roads and infrastructure required to support landfill operations; site-grading and soil-filling associated with the implementation of landslide stabilization measures; and biological mitigation. These actions are consistent with the Settlement Agreement-designated approved uses for this property, which include landfill site-grading and/or soil-filling activities in support of landfill operations as long as they are not visible from the Benefited Property and there is no placement of waste within the Restricted Area. There will be no change in the landfill refuse prism or refuse footprint anywhere on the site from that which was approved within the 2001 GDP (as amended). Consequently, there are no such changes proposed within the Burdened Property. Accordingly, these uses are consistent with the commitments and restrictions for this area as set forth within the County of Orange/RMV Company Settlement Agreement.

## ***2. Re-design of the desilting system for Zone 4 to minimize impacts on sensitive biological resources.***

The 2001 GDP included a permanent desilting basin between Zones 1 and 4 to provide desilting capabilities for Zone 4. This location would have directly impacted four of five existing least Bell's vireo (LBV) territories (fully impacting 2 territories and partially impacting 2 others). Alternative locations for this basin were investigated to minimize or avoid impacts to these sensitive resources. Alternative design concepts proposed for this basin included both in-stream and off-stream desilting basin facilities. The preferred design alternative incorporated into the Proposed Project includes several desilting basins located around the perimeter of Zone 4. Exhibit 4.3-4 shows the revised location proposed for these facilities. One LBV territory is centered in the Zone 4 landfill and its impact is unavoidable in all alternatives including the Proposed Project.

Relocation of the function of the desilting basin to several basins around the perimeter of Zone 4, as well as other features of the Proposed Project, will result in minor modifications to the Zone 4 refuse footprint; however, these modifications would not significantly affect landfill capacity, life, or overall long-term operations.

### **Desilting Basins**

As stated above, the Proposed Project includes up to four permanent detention/desilting basins around the perimeter of the Zone 4 2001 GDP footprint. The primary function of the desilting basins is to provide desilting and some detention capabilities for Zone 4 landfill operations. These basins can also function as part of a rainfall collection system designed to maintain flows to the downstream riparian corridor once Zone 4 operations have impacted the spring and its probable recharge area (discussed further below). Each permanent desilting basin would be concrete-lined to assist in silt-removal operations and to maintain the correct basin shape and will be located outside the refuse footprint in an effort to prevent impacts on the landfill liner system. Site-stabilization considerations will be incorporated into final desilting basin design plans.

Capacity impacts related to modifying the refuse footprint to accommodate these perimeter basins are minimal (1 to 2 million cubic yards [mcy]) as the basins are proposed for siting on the outer edges of the landfill footprint. This capacity loss can be offset through minor grading modifications. The basins would also be designed to reduce both silt content from tributary stormwater runoff areas at various stages of the landfill development and pass flows from a

100-year storm event (pursuant to County of Orange Hydrology criteria). Although the Zone 4 design plan is conceptual in nature, preliminary estimates of potential sediment yield have been made for planning purposes. The total anticipated sediment yield for the conceptual Zone 4 plan, based on County of Orange standards (Standard Plan 1327) is between 20 and 30 acre-feet (af) assuming minimal vegetation cover during the operational life of the landfill. The total preliminary capacity of the 4 permanent basins proposed for Zone 4 is about 55 af, which would meet the County's minimum standards. These basins vary in acreage from 1.3 acres to just over 3.0 acres each. Interim desilting basins will also be constructed for the various phases of development at the PDL as part of ongoing operations.

Exhibit 4.3-4, Revised Zone 4 Desilting System, illustrates the locations of potential desilting basins around Zone 4, and Table 4.3-1 illustrates the conceptual design parameters of each basin along with potential timing of construction. The first basin proposed for initial development of Zone 4 is an approximate 1.4-acre desilting basin at 480 feet above msl elevation (Basin 1) which has limited available area (potential 5 af) depending on the La Pata Avenue final alignment. Desilting Basins 1 and 2 (700 feet above msl) are anticipated to be built within Phase A of Zone 4 and are proposed to be permanent facilities that will be in place through the life of the landfill and beyond. Basin 2 would not likely be utilized until the later stages of the Phase A fill operation. This basin would be constructed after an underlying landslide is remediated as part of the Phase A development.

**TABLE 4.3-1  
PROPOSED ZONE 4 DESILTING BASINS**

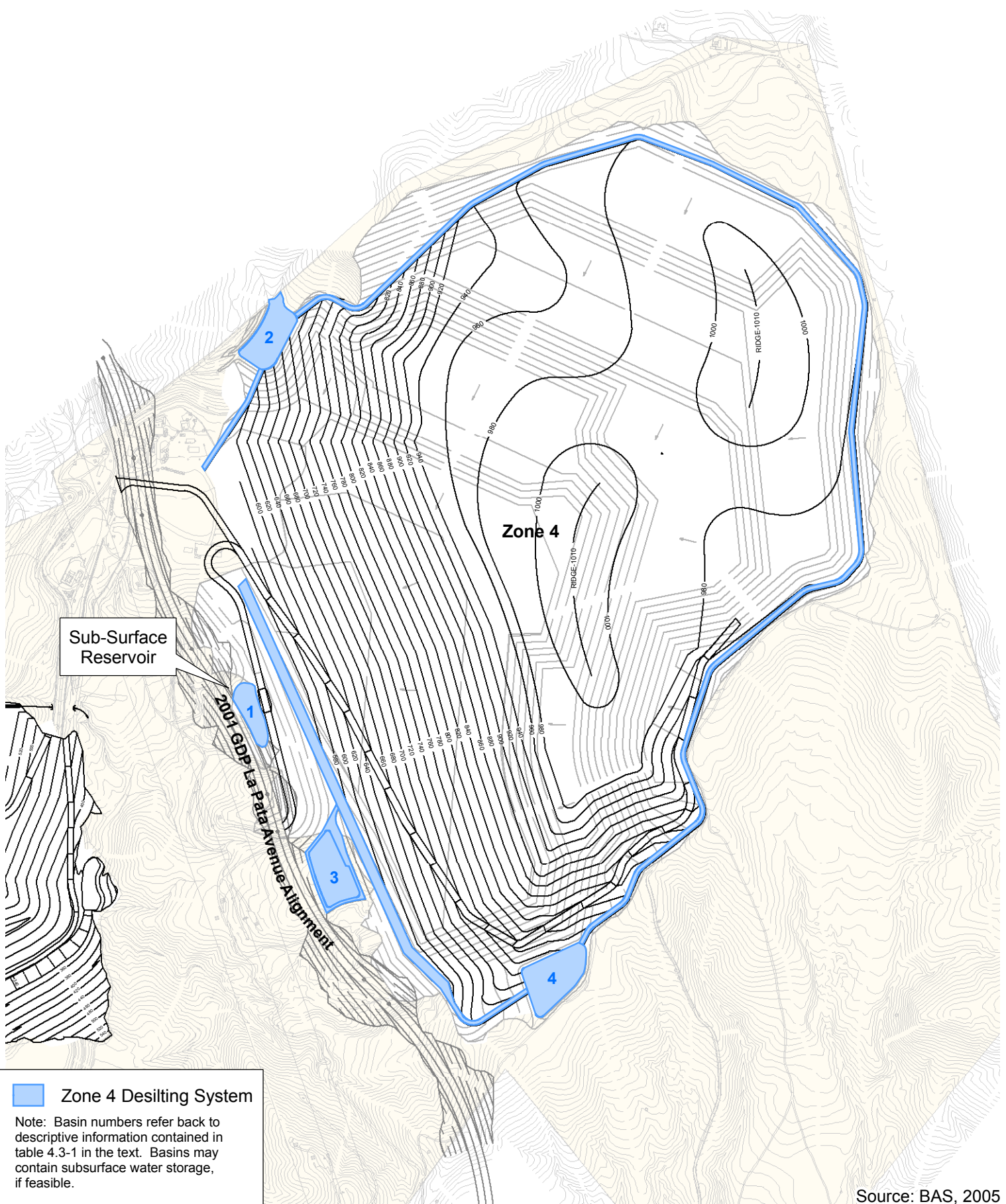
Desilting Basin	Elevation	Construction Timeframe <sup>a</sup>	Approximate Volume	Approximate Size
1	480 msl <sup>b</sup>	Phase A	5 af <sup>c</sup>	1.4 ac <sup>d</sup>
2	700 msl	Phase A	15+ af	2.9 ac
3	560 msl	Phase C	15+ af	2.1 ac
4 <sup>e</sup>	730 msl	Phase C	20+ af	3.3 ac
<sup>a</sup> phasing refers to Zone 4 <sup>b</sup> mean sea level <sup>c</sup> acre-feet <sup>d</sup> acres <sup>e</sup> may not be required				

During the Phase C area excavation (see below), construction of a 560 feet above msl (Basin 3) elevation desilting basin is proposed to address silt generation due to additional areas of disturbed soil. The ultimate configuration for Basin 3 may be affected by the final La Pata Avenue alignment grades. This basin would also need to be constructed after an underlying landslide is remediated in the landfill Phase C area. The pad area for a 730 feet above msl (Basin 4) elevation could also be accommodated during the Phase C development. Basin 4 may not be required to meet desilting criteria alone. If it is determined to be required for desilting and/or for stormwater detention needs, Basin 4 could be constructed during the middle of Phase C fill operations. Similarly, any landslide remediation requirements for Basin 4 would be addressed with the Phase C landfill development.

In addition to providing desilting capabilities, the PDL basins can also provide detention capabilities. The 100-year storm flows calculated for the site's pre-developed (1,757 cubic feet per second [cfs]) and post-developed (1,864 cfs) conditions indicate a small increase in stormwater flows of just less than 100 cfs. Temporary detention basins can be constructed in the natural watershed area upstream of the early landfill Phases A through C to meet detention requirements. As the permanent desilting basins are constructed, the required detention can be accommodated in the northerly Basin 2 and/or Basins 3 and 4.



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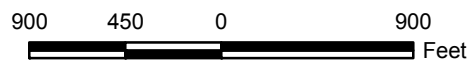
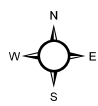


Source: BAS, 2005

# Revised Zone 4 Desilting System

# Exhibit 4.3-4

Prima Deshecha Landfill Supplemental Environmental Impact Report 597



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### **3. Development of features for sustaining biological resources affected by impacts to spring flows resulting from Zone 4 build-out.**

The Proposed Project incorporates hydrologic features proposed for the long-term viability of on-site biological resources. These features include:

- Construction of a subsurface water storage reservoir(s) underneath the Zone 4 desilting basins (pending additional investigation confirming engineering/operations, maintenance feasibility, and regulatory permitting requirements) and/or
- Other supplemental water sources prior to, during, and after the Zone 4 operations have impacted the upper portions of the existing water source for the Prima Deshecha Cañada stream.

#### **Surface Water Augmentation Options**

When construction of Phases D and E in the eastern portion of Zone 4 commences (estimated to occur by 2045), the spring recharge area will diminish as the landfill liner system expands to prevent surface water infiltration. Therefore, another water source would be sought to supplement subdrain flows as a means of maintaining water delivery to the downstream reaches of the stream. At this time, the preferred option is construction of a subsurface reservoir under 1 or more (if needed) of the Zone 4 desilting basins (described more fully below). Should this option prove infeasible from an engineering, permitting, operations and/or maintenance standpoint, another water augmentation option may be pursued. These other options are described in Section 7.2.3.

#### **Subsurface Reservoir**

The subsurface reservoir system would function in tandem with one or more of the desilting basins (discussed above) from which stormwater would be temporarily held for sediment-control purposes. This is a potentially promising design concept that would be implemented pending engineering feasibility studies.

**Concept.** An underground rainfall collection system is proposed to be a series of large underground pipes for storage of de-silted water that can be collected from storm flows routed through the desilting basin. The collected rainwater would be the same surface water that would be routed in the stormwater collection channels for Zone 4 through the desilting basin prior to discharge into the Prima Deshecha Cañada natural stream channel. Rainfall runoff would be stored in water-tight pipes (i.e., large, high-density polyethylene [HDPE], gasketed reinforced concrete pipe, or sealed corrugated galvanized steel pipes), which could be placed underneath or adjacent to any of the proposed permanent desilting basins described above. The desilted water would then flow from the desilting basin through a riser pipe system into an underground series of parallel pipes (Exhibit 4.3-5). The pipe system would have manhole access but is not anticipated to require much maintenance as the water entering the system will be almost completely desilted. As an alternate option to the underground pipe system reservoir, an aboveground reservoir at a lower elevation with a connector pipe for gravity flow could also be used (Arbogast 2006).

**Operation.** Desilted stormwater could be stored in the underground reservoir(s) for release by gravity through a small pipe down to the streambed based on historic spring flow rate and biological mitigation permit requirements. This system would not have any manual operating requirements.

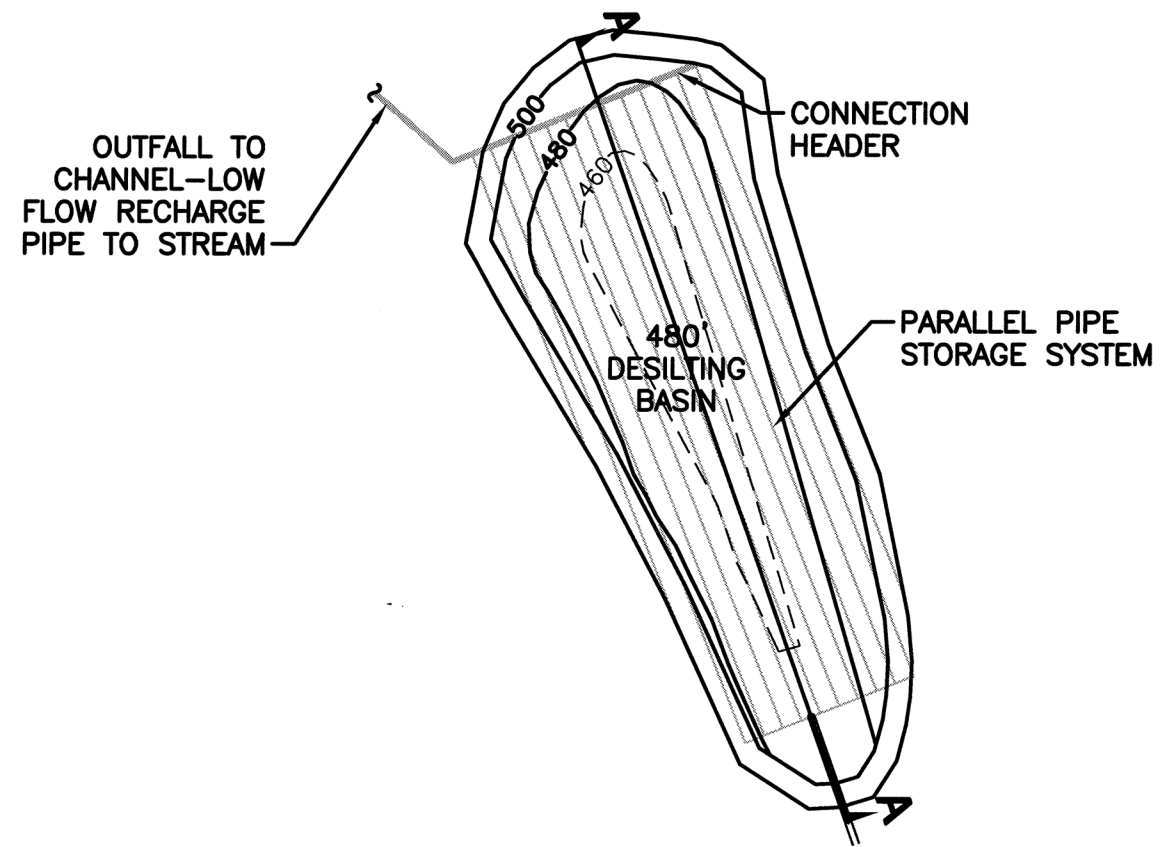
**Reservoir Capacity.** In order to verify that reservoir storage capacity can be achieved, a preliminary evaluation of potential requirements was performed. The spring's historic average flow rate within Zone 4 (which has not been well-documented) is estimated at 3 to 5 gallons per minute (gpm). For the purposes of this analysis, it is conservatively assumed that Zone 4 operations will eventually cut off groundwater spring contributions to channel flows completely, and a subsurface reservoir may need to replace these flows entirely. Ultimately, there could be continuing groundwater flow into the channel via geologic rock fractures or fissures. Monitoring of channel flows during Zone 4 operations will be conducted to assist in the final determination of subsurface reservoir storage capacity prior to detailed facility design.

To provide a 3 gpm flow for a period from April 15 to the end of the year requires a storage volume of approximately 1.1 million gallons or 3 af. A 5 gpm flow requires approximately 1.9 million gallons of storage capacity, or 6 af. This range of subsurface water storage capacity could be provided within the limits of the initial 480 Elevation Desilting Basin proposed for Zone 4.

Plant densities within the Prima Deshecha Cañada riparian corridor are triple those of the historic plant communities due to permit requirements associated with previous Zone 1 impacts. Accordingly, historic flows will likely need to be supplemented to sustain the increased plant densities. The subsurface reservoir concept has been developed as a contingency based on a determination of need to maintain plant densities. Using a conservative assumption that triple the plant densities will require triple the amount of water for plant maintenance, an analysis was done on the subsurface water storage required to provide a 9 to 15 gpm flow rate to the stream channel over a 9-month period each year (April 15 to December 31). The subsurface water storage capacity to support this flow rate would range from approximately 11 af (3.5 million gallons) to 18 af (5.8 million gallons). This additional water storage capacity could be accommodated underneath the 2 basins (480 and 700 Elevation Desilting Basins) proposed for Phase A of Zone 4. An aboveground water reservoir would have similar capacity requirements.

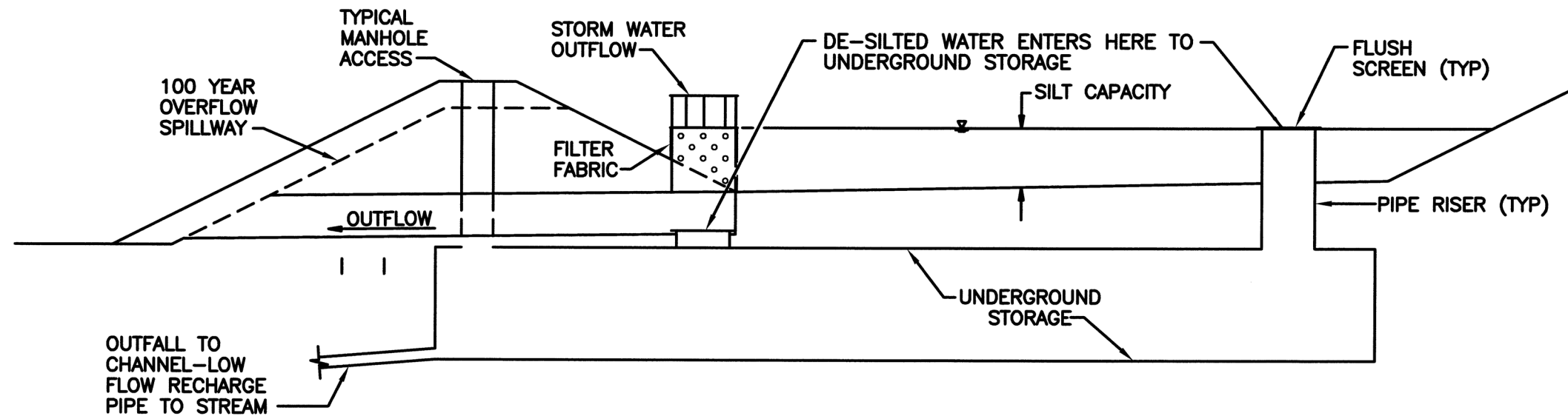
**Timing.** It should be noted that the spring's recharge area is not anticipated to be substantially impacted until later phases of Zone 4 development (Phases D and E). Therefore, it is anticipated that subdrain flows conveying subsurface water from the spring (underneath Phases A and B) will be discharged into the Prima Deshecha Cañada stream channel downstream of Zone 4 until approximately 2045. Flows from the subsurface water storage reservoir would then serve to augment the subdrain flows until about 2045 when it is projected that impacts would occur in the recharge area. At that time, all 4 permanent desilting basins proposed for Zone 4 can be made available for subsurface storage capacity.

**Monitoring/System Design Requirements.** The actual sizing and timing of construction for the subsurface storage reservoir(s) will depend on the water demand requirements for the Prima Deshecha Cañada stream habitat and the anticipated flows from storm waters. The IWMD is initiating a spring monitoring program to develop a better database of spring flows, from which a detailed analysis can be performed to design the future subsurface reservoir(s) for surface water augmentation. Performance monitoring of the Zone 1 biological mitigation channel areas will also provide data on water requirements for the stream riparian plant communities. A detailed analysis and design of the requirements for a subsurface (or aboveground) storage reservoir for surface water augmentation of spring flows will occur during engineering feasibility studies as final design of Zone 4 occurs prior to Zone 4 landfill operations, which are scheduled to begin in 2019.



**PLAN**

SCALE: 1"=100'

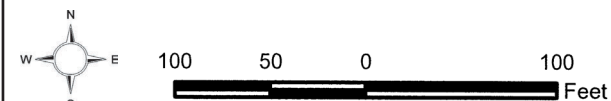


**SECTION A-A**

NOT TO SCALE

**Subsurface Storage Reservoir**

Prima Deshecha Landfill Supplemental Environmental Impact Report 597



Source: BAS

Exhibit 4.3-5



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Exhibit 4.3-5, Subsurface Storage Reservoir, illustrates the design concept for the subsurface storage reservoir that may be constructed underneath the Zone 4 desilting basin(s). Alternatives to this subsurface storage reservoir will include potable and/or reclaimed water sources and on-site well(s).

#### **4. Presentation of Excavation Phasing Scenarios within Zone 4.**

The Proposed Project phasing approach for Zone 4 proposes to begin excavation operations in the northwestern corner of the zone (see Phase A in Exhibit 4.3-6) upon completion and closure of Zone 1. Operations and development of the landfill would then proceed in a counter-clockwise direction, with a series of excavations and refuse fills (Phases A through H) until the final grade at 1,010 feet above msl (consistent with the San Clemente MOU) is reached. As there is a major landslide complex located within the center of Zone 4, remediation of this landslide will likely take the form of excavation of the unstable material and construction of a buttress fill and/or shear key; phasing of this work may begin as early as the initiation of landfill operations in Phase A. The limits of potential disturbance due to excavation requirements for landslide remediation have been identified in the SEIR 597 Proposed Project in order to better assess environmental impacts. Future geotechnical investigations and final design plans for phase development may alter the conceptual excavation phasing limits presented in this document. However, an effort was made to address conservative overall limits of disturbance.

#### **5. Development and implementation of a comprehensive pre-mitigation plan to mitigate for project-related impacts.**

The Proposed Project is intended to address all anticipated impacts to coastal sage scrub, southern needlegrass grassland, special status plant species, and state and federal jurisdictional wetlands and waters of the United States that will likely occur at some point during the ultimate development of the Prima Deshecha Landfill between 2019 and 2067. Impacts that are scheduled to occur within Zone 4 in approximately 14 years will be mitigated at a 1:1 ratio through near-term (prior to impact) restoration, enhancement, and creation of similar habitats. Relocation of special status species will be accomplished through seed collection and distribution in appropriate areas of the landfill well before the actual impacts to these resources occur.

Based on the revised limits of disturbance (as presented in Exhibit 4.3-1), the ultimate buildout of the PDL will likely result in the following impacts:

- 122.00 acres of coastal sage scrub
- 18.05 acres of southern needlegrass grassland
- Brodiaea (*Brodiaea filifolia*) and special status plant species
- 9.81 acres of CDFG jurisdictional resources
- 3.42 acres of USACE jurisdictional resources

The conceptual design of the on-site Pre-mitigation Plan is illustrated on Exhibit 4.3-7, Pre-mitigation Plan On-Site, off-site elements are illustrated on Exhibit 4.3-8, Off-Site Pre-mitigation Location (San Juan Creek Giant Reed Removal). Pre-mitigation concepts have been developed to accommodate the future expansion of Camino de los Mares through the southwestern portion of the project site, based upon the conceptual alignment shown in the MPAH and the latest design alternatives for the La Pata Avenue Extension.

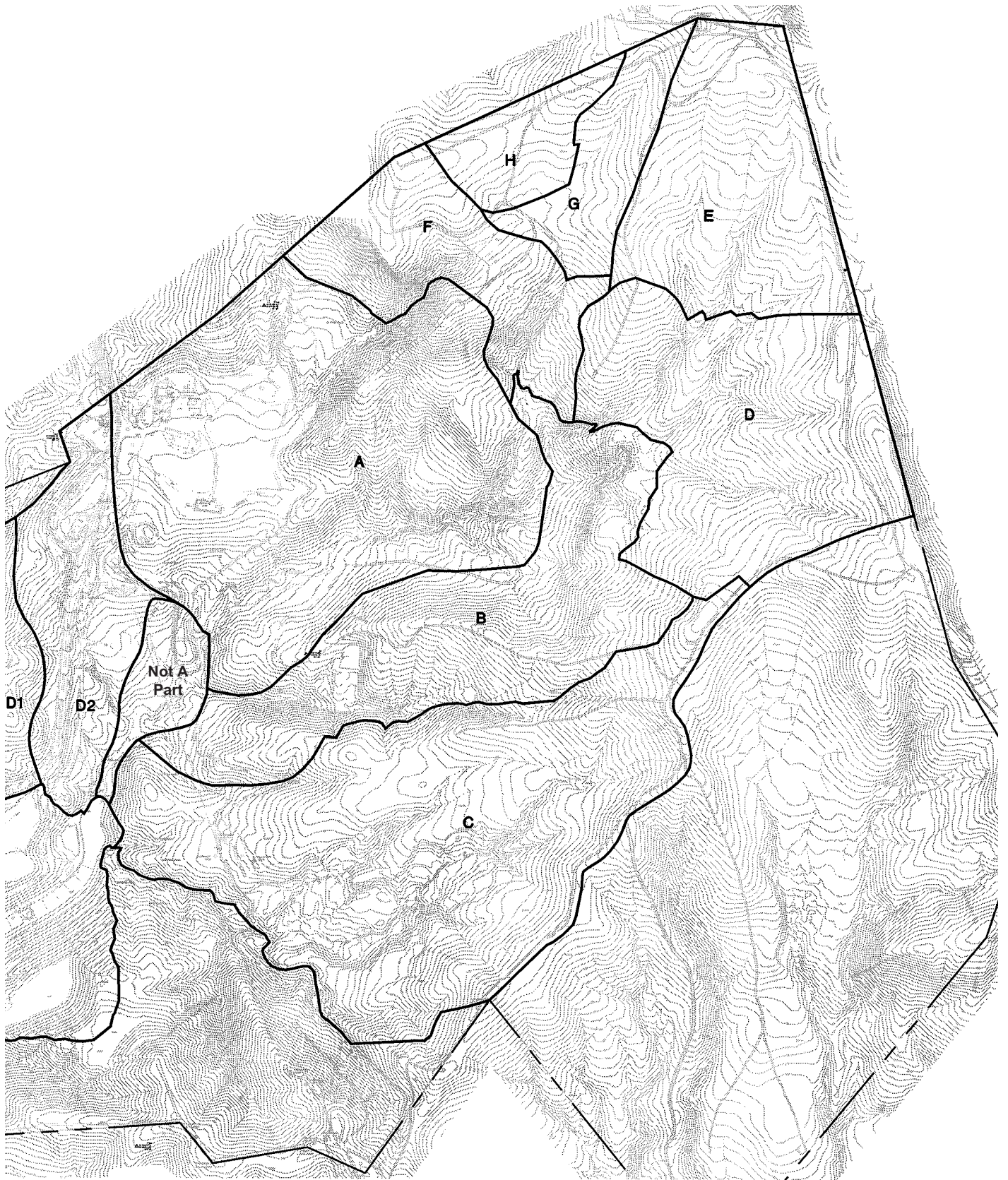
Pre-mitigation Plan design is based on the following goals:

- **Maximize on-site restoration and enhancement mitigation opportunities.** All the coastal sage scrub, southern needlegrass grassland, and special status plant species that will be impacted by the ultimate development of the PDL can be accommodated within the boundaries of the landfill property without impacting current and future landfilling operations or any potential future alignment of La Pata Avenue. Although there are some opportunities for mitigating impacts to the state and federal jurisdictional resources on site, most mitigation is proposed to occur within Caspers Wilderness Park.
- **Select areas that are currently disturbed or contain non-native species.** The proposed pre-mitigation opportunity areas occur within areas of the landfill property that have been disturbed by previous grazing within annual grasslands or within areas disturbed by landslide remediation activities.
- **Select areas that are accessible and contiguous to provide efficiencies in installation, maintenance and monitoring.** The proposed mitigation sites are located immediately adjacent to the newly created bio-mitigation site and existing native coastal sage scrub and riparian habitat resources and are accessible from existing landfill maintenance roads.
- **Provide habitat connectivity between existing native habitat areas (including existing mitigation sites A, B, C, and existing pre-mitigation site D), and existing preserved open space in adjacent land areas.** The proposed mitigation plan identifies areas of the landfill property located primarily along the southern boundaries immediately adjacent to the newly created bio-mitigation area and the existing habitat areas that contain suitable habitat for and are occupied by the least Bell's vireo (a state- and federally listed Endangered Species) and California gnatcatcher, a federally listed Threatened Species. The proposed pre-mitigation areas will also provide enhanced habitat connectivity to the adjacent, off-site Talega mitigation site in San Clemente and other permanent open space areas to the south and east.
- **Enhance sensitive species habitat.** The proposed Pre-mitigation Plan will include restoration, enhancement, and creation elements that enhance the long-term habitat conservation values for the California gnatcatcher, least Bell's vireo, and other sensitive and non-sensitive native plant and wildlife species.
- **Incorporate viewshed protection elements.** The proposed Pre-mitigation Plan will incorporate viewshed protection requirements from City/County MOUs and agreements with adjacent landowners.

Should the actual disturbance limits impact less acreage than what is shown on Exhibit 4.3-1, surplus mitigation areas will be made available to offset the impacts of other projects as needed.

**6. Development of a comprehensive conceptual plan identifying regional environmental enhancement opportunities on site.**

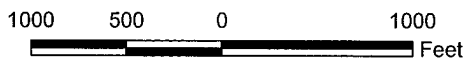
The Regional Environmental Enhancement Opportunities Plan (REEOP) identifies restoration, enhancement, and creation opportunities on the PDL property that can be made available to satisfy potential mitigation requirements for (non-PDL) public and private projects in the region (Appendix H). The REEOP document will serve to identify these opportunities in conjunction with state and federal resource agency permit authorizations. SEIR 597 provides the CEQA

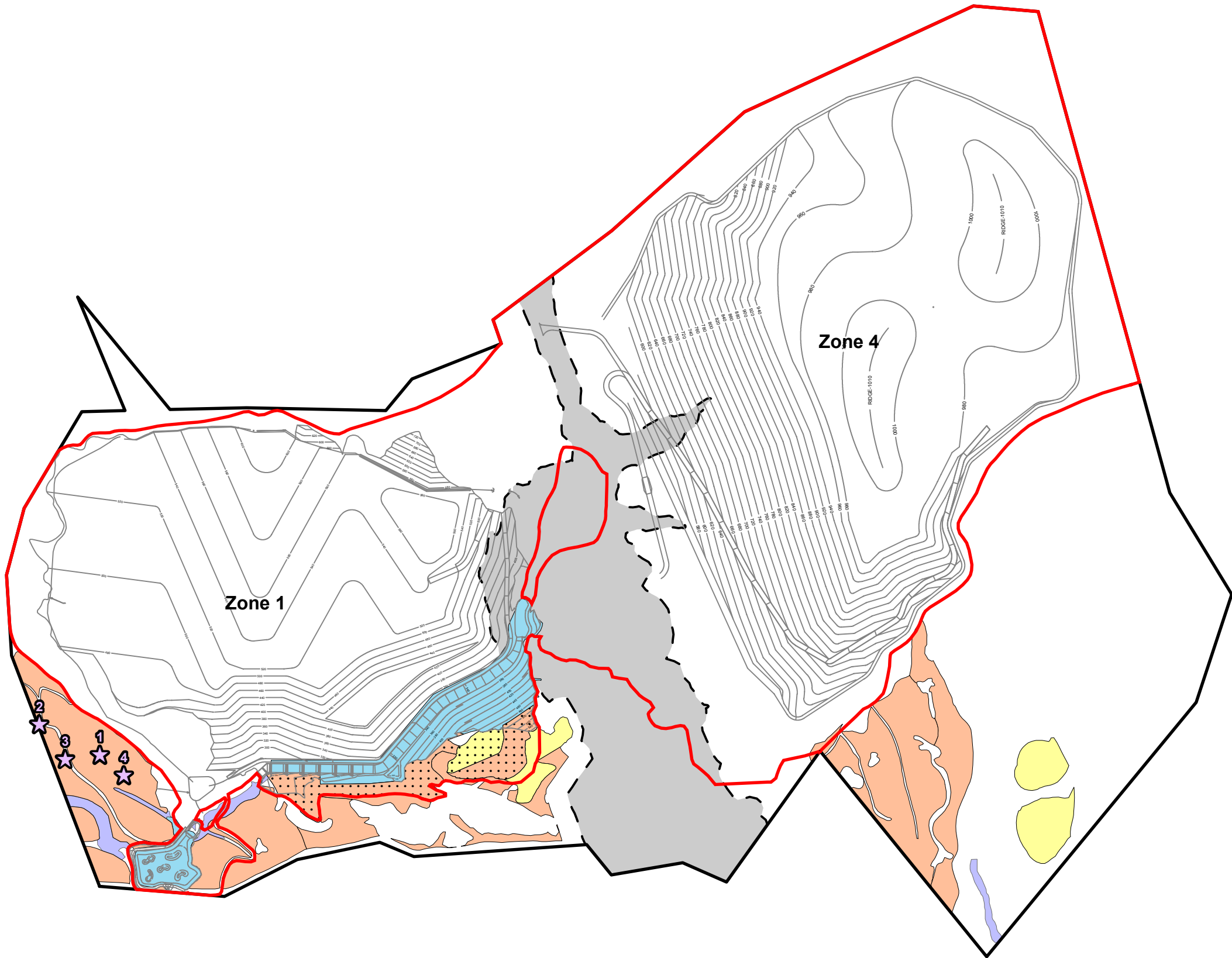


### Excavation Phasing Limits in Zone 4

Exhibit 4.3-6

*Prima Deshecha Landfill Supplemental Environmental Impact Report 597*



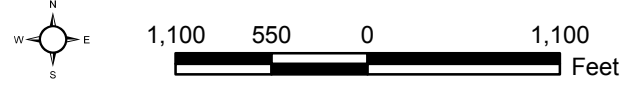


- Project Boundary
- Area of Disturbance - 1069.36 Acres
- Grading Contours
- Existing Pre-Mitigation (Phase 1)**
  - Existing Coastal Sage Scrub - 14.28 Acres
  - Existing Native Grass - 2.92 Acres
- Proposed Pre-Mitigation (Phases 2 & 3)**
  - Coastal Sage Scrub - 108.14 Acres
  - Native Grass - 15.3 Acres
  - Riparian mfs - 6.0 Acres
  - Brodiaea Relocation Sites
- Other Areas**
  - Existing Landslide Remediation Mitigation
  - La Pata Ave. Feasibility Study Area

**On-Site Pre-Mitigation Location**

Exhibit 4.3-7

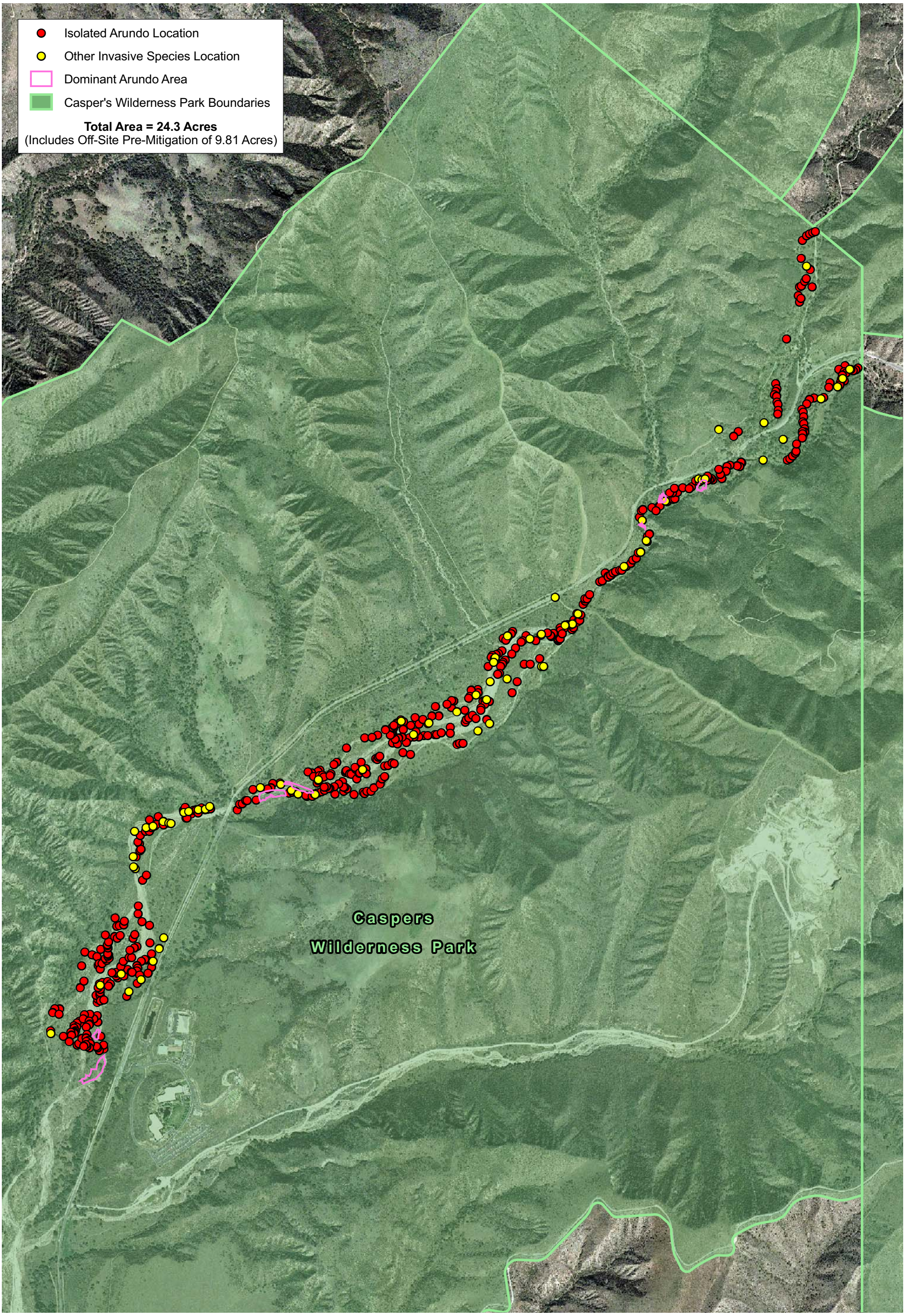
Pre-Mitigation Program Summary  
Prima Deshecha Landfill



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- Isolated Arundo Location
  - Other Invasive Species Location
  - Dominant Arundo Area
  - Casper's Wilderness Park Boundaries
- Total Area = 24.3 Acres**  
(Includes Off-Site Pre-Mitigation of 9.81 Acres)

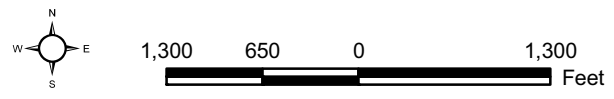


**Caspers  
Wilderness Park**

**Offsite Pre-Mitigation Location (San Juan Creek Invasive Exotic Plant Species Removal)**

**Exhibit 4.3-8**

Regional Enhancement Opportunities Plan  
Prima Deshecha Landfill



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documentation that would allow other public agencies or private landowners to use specific areas within Prima (identified by the REEOP) at the time of landfill closure for restoration mitigation purposes, if the IWMD authorizes this activity. The area available for regional enhancement opportunities can be found both outside the ultimate limits of active landfilling operations and within completed areas of phased landfill development (Exhibit 4.3-9, Environmental Opportunities). Consistent with the planning approach used for the Pre-mitigation Plan, the conceptual REEOP design has been developed to accommodate the potential future expansion of Camino de los Mares through the southwestern portion of the project site. This plan primarily provides for native grassland and coastal sage scrub opportunities based on site soils and hydrology. Please note that once a final alignment for the extension of La Pata Avenue is approved, the REEOP will be revised accordingly to accommodate required rights-of-way.

The conceptual design of the REEOP is based on the following goals (Appendix H):

- **Select areas that are currently disturbed or contain non-native plant species.** Enhancement of these areas will involve the overall net habitat values of the area.
- **Select potential restoration opportunity areas within the landfill property limits.** Selection will be based on site constraints such as landfill final cover protection, recreation uses identified by the 2001 GDP, and long-term operation and maintenance including landslide remediation and/or stabilization.
- **Select appropriate habitat restoration types.** Select appropriate habitat restoration types based on soils, slope, aspect, hydrology, and other site conditions.
- **Incorporate viewshed protection elements.** Incorporate viewshed protection requirements from City/County MOUs and agreements with adjacent landowners.
- **Maintain consistency with the commitments, reservations and restrictions contained in the agreement between the County and the Rancho Mission Viejo Company.** Ensure that use of the restoration areas and opportunities identified in the REEOP upholds the Right of First Refusal (after County requirements are met) for the Rancho Mission Viejo Company within the Burdened Property.

Information contained within SEIR 597 will also include the presentation of additional biological resource data and hydrology analyses, and information relevant to the acquisition of master resource agency permits (California Streambed Alteration Agreement 1602; Section 404 of the CWA; Section 401 CWA water quality certification) addressing uses through the ultimate landfill buildout (year 2067).

#### 4.3.2 TIMING OF THE PROPOSED PROJECT

Landfill operations within Zone 1 are expected to cease in approximately 2019 when Zone 1 is filled to capacity. Prior to that time, construction activities in Zone 4 will be initiated to ready the site for landfilling according to the Fill Phasing Plan presented within FEIR 575, as summarized above in Section 2.2.2 and illustrated in Exhibit 2.2-3. Upon initiation of excavation in Phase A of Zone 4, construction of the revised desilting system could begin with construction of the basins at 480 and 700 Elevations and the associated subsurface reservoir beneath the 480 basin. Stabilization measures and landfill support features affecting the limits of disturbance will generally proceed in tandem with excavation of each phase and will be determined based on the geotechnical conditions on each portion of the site.

### 4.3.3 REGULATORY REQUIREMENTS FOR IMPLEMENTATION

In addition to the County of Orange, as the lead agency for CEQA, there are other agencies that have jurisdiction over site landfill operations and biological resources within the PDL who will require new or revised regulatory permits. Permits issued by biological resource agencies will be needed to authorize impacts to biological resources during long-term landfilling operations through ultimate buildout and post-closure. Landfill operating permits will need to be revised to incorporate more detailed design and operations information for Zone 4.

#### **Resource Agency Permits and Regional Conservation Programs**

Biological resources within the 1,530-acre facility are governed by several regulatory agencies and applicable statutes and guidelines for which these agencies have jurisdictional responsibility, including but not limited to: the USFWS and the Federal Endangered Species Act (FESA); the CDFG and the California Endangered Species Act (CESA); *Fish and Game Code*, Section 1602; and the USACE and Sections 401 and 404 of the Federal CWA. These agencies can use the CEQA process to ensure compliance with FESA and CESA as well as obtain mitigation for non-listed plant and wildlife species. The applicable agencies, regulations, and terminology associated with biological resource protection and management are described below.




SEIR 597 provides an analysis of impacts for those environmental resources for which the Proposed Project could potentially result in “more severe impacts” over those identified in FEIR 575. Each topical section includes the following information: description of existing conditions; identification of thresholds of significance; analysis of potential incremental effects of the Proposed Project compared to the 2001 GDP and identification of more severe impacts; identification of a mitigation program, if required, to reduce the identified impacts; and identification of unavoidable significant impacts after mitigation.

A mitigation program identified to reduce potential project impacts may consist of Project Design Features (PDFs), Standard Conditions and Requirements, and Mitigation Measures (MM). These components will be the basis of the Mitigation Monitoring and Reporting Program (MMRP).




***Project Design Features (PDFs).*** PDFs are specific design elements that have been incorporated into the project designs to prevent the occurrence of, or reduce the significance of, potential environmental effects. PDFs have been incorporated into the project and are identified in the mitigation section for each topical issue in order to ensure that they are included in the mitigation monitoring program to be developed for, and implemented as a part of, the Proposed Project, as required by CEQA.

***Standard Conditions and Requirements.*** Standard Conditions and Requirements are based on local, state, and/or federal regulations or laws that are required independently of CEQA review and that serve to offset or prevent specific impacts. Typical Standard Conditions and Requirements include compliance with the provisions of the SCAQMD Rules, RWQCB, and IWMD regulations.

***Mitigation Measures.*** Where a potentially significant environmental effect has been identified that would not be reduced to a level considered less than significant through the application of PDFs and/or Standard Conditions and Requirements, project-specific Mitigation Measures have been recommended. For example, in Section 5.5 of this SEIR, Biological Resources, several measures have been recommended to reduce potentially significant construction-phase impacts (i.e., construction noise and vegetation removal) to sensitive wildlife species, such as avoiding



-  Project Boundary
-  Area of Disturbance
-  Grading Contours

**ENVIRONMENTAL OPPORTUNITIES**



-  Coastal Sage Scrub - 555.3 Acres
-  Native Grass - 362.4 Acres
-  Riparian Mule Fat Scrub - 10.4 Acres

**LANDFILL MITIGATION AREAS**

**Existing Pre-Mitigation (Phase 1)**

-  Existing Coastal Sage Scrub
-  Existing Native Grass



**Existing Landslide Mitigation**

-  Coastal Sage Scrub
-  Riparian




**Proposed Pre-Mitigation (Phases 2 & 3)**

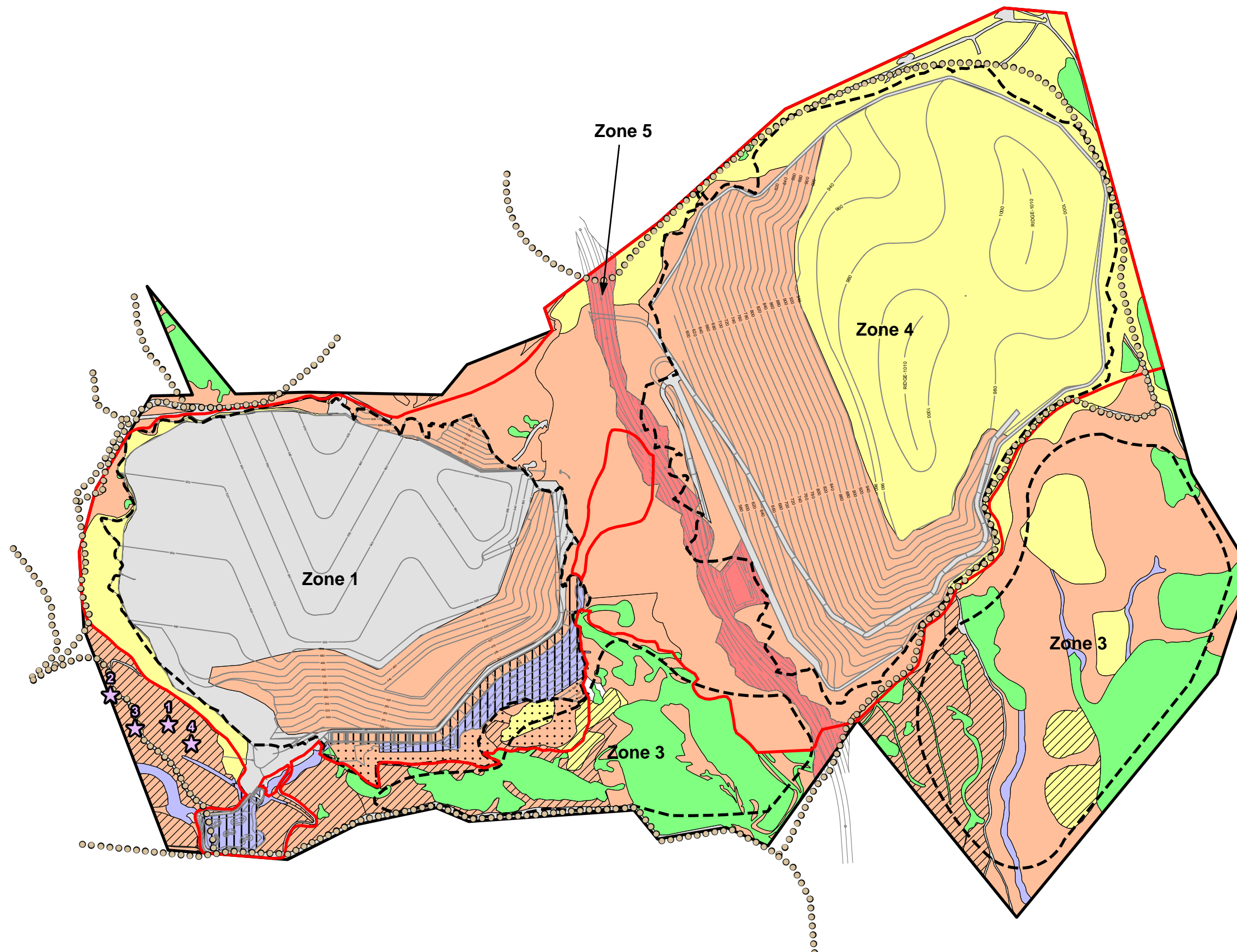
-  Coastal Sage Scrub
-  Native Grass
-  Brodiaea Relocation Sites

**GENERAL PLAN ZONES**

-  Zone 2 Alignments
-  Zone Boundaries for Zones 1, 3, and 4

**OTHER AREAS**

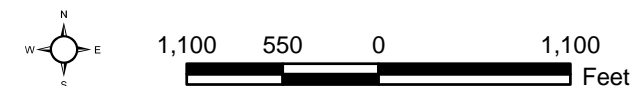
-  Existing Native Habitat
-  La Pata Ave Grading Area (Zone 5)
-  Not A Part



Note: Areas shown on this exhibit as regional environmental restoration opportunities within Zone 1 and Zone 4 that are outside of proposed pre mitigation areas will be further evaluated as part of the Recreational Needs Assessment to be completed at landfill closure consistent with the recreation/open space objectives contained in the 2001 GDP.

**Environmental Opportunities**

Regional Environmental Opportunities Plan  
Prima Deshecha Landfill



**Exhibit 4.3-9**



D:/Projects/OCIWMD/J002/premit-summary/Ex\_banking\_opp\_011906.mxd

work during the breeding and nesting season of specific bird species and pre-construction site surveys for species presence.

### ***Federal Endangered Species Act (FESA)***

The Federal ESA of 1973 protects plants and animals that are listed by the federal government as “endangered” or “threatened.” The FESA is implemented by enforcement of Sections 7 and 9 of the Act.

Section 7 applies to federal agency actions (permits, funding, etc.) and covers the activities of both private parties and public agencies, such as Section 404 permits issued by the USACE for construction work in waters or wetlands. Specifically, Section 7 imposes an affirmative duty on federal agencies to ensure that their actions (including permitting) are not likely to jeopardize the continued existence of a listed species (plant or animal) or result in the destruction or modification of critical habitat (50 CFR, § 402.01[a]). Both Sections 7 and 10(a) of the FESA allow or authorize “incidental” takes in accordance with the provisions of the FESA as described above, but only with a permit which may be obtained through consultation with the USFWS.

Section 9 makes it unlawful for anyone to “take” a listed animal, which includes significantly modifying its habitat. This law applies to both public and private parties; a landowner is not allowed to “take” an endangered animal or its habitat on his/her property without first obtaining the appropriate authorization to do so in accordance with the provisions of Section 7 or 10(a) of the FESA.

### ***California Endangered Species Act (CESA)***

CESA or Section 2080 of the *Fish and Game Code* prohibits “take” of any species that the CDFG determines to be an Endangered or Threatened species. Take is defined in Section 86 of the *Fish and Game Code* as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.”

CESA allows for take that is incidental to otherwise lawful development projects. CESA emphasizes early consultation to avoid potential impacts on Rare, Endangered, and Threatened species and to develop appropriate mitigation plans to offset project-induced losses of listed species populations and their essential habitats.

Through permits or Memoranda of Understanding, the CDFG may authorize individuals, public agencies, or educational institutions to import, export, take, or possess any endangered species, threatened species, or candidate species of plants and animals. Take is authorized only after the applicant demonstrates that the impacts of a project will be minimized and fully mitigated. The measures required to meet this obligation must be roughly proportional to the impact of the authorized taking of the species and must be capable of successful implementation.

### ***Clean Water Act – Section 404***

Section 404 of the CWA regulates the placement of dredged and fill material into “waters of the United States,” including wetlands. The CWA authorizes the issuance of permits for such discharges as long as the proposed activity complies with environmental requirements specified in Section 404(b)(1) of the CWA. Section 404 is the primary federal program that regulates activities in wetlands. The Section 404 program is administered by both the USACE and the U.S. Environmental Protection Agency (USEPA) with the USFWS, National Marine Fisheries Service (NMFS). Several state agencies also play important advisory roles to these regulatory agencies.

The USACE has primary responsibility for the permit program and is authorized, after notice and opportunity for a public hearing, to issue Section 404 permits. In evaluating individual Section 404 permit applications, the USACE determines compliance with Section 404(b)(1) guidelines and carries out a public-interest review. This review involves balancing such public-interest factors as conservation, economics, aesthetics, wetlands protection, cultural values, navigation, fish and wildlife values, water supply, and water quality. The USACE also considers comments received from the USEPA, USFWS, NMFS, and state resource agencies.

Section 404 regulates only the discharge of dredged or fill material into “waters of the United States.” Discharges of dredged and fill material are commonly associated with activities such as channel construction and maintenance, fills to create development sites, transportation improvements, and water resource projects (such as dams, jetties, and levees). Excavation activities (e.g., mechanized land clearing, ditching, channelization, runoff from disposal areas, and others) also result in at least some discharge of dredged materials, and are thus regulated.

Discharges can be authorized by either individual or general permits under Section 404. If an individual permit is required, an application form describing the proposed activity is submitted to the USACE. Once a complete application is received, the permitting agency issues a public notice that contains the information needed to evaluate the likely impact of the proposed activity. Notice is sent to all interested parties, including appropriate government agencies at the federal, state, and local level, and others as requested. Any person may request that a public hearing be held to consider the application.

The USACE is authorized to issue general permits on a nationwide, state, or regional basis for categories of activities that have minimal individual and cumulative impacts. General permits are issued for five-year periods. They allow certain activities to occur without individual federal permit approval as long as the discharger complies with standard conditions issued by the USACE. General permits eliminate individual review and thus allow certain activities to occur with little, if any, delay or paperwork. Once issued, a general permit may be modified or revoked if the permitted activities are found to have had adverse environmental impacts. On a case-by-case basis, the permitting agency may invoke discretionary authority and require a discharger that would otherwise be covered by a general permit to apply for an individual permit.

To determine impacts to actual USACE and CDFG jurisdiction versus potential jurisdiction, Regulatory Specialists from RBF Consulting conducted a project-level jurisdictional delineation between May 5 and 30, 2003, to identify and quantify the extent of areas subject to the jurisdiction of the (1) USACE, pursuant to Section 404 of the CWA and (2) CDFG, pursuant to Section 1600 of the *Fish and Game Code* within the 1,530-acre facility. The 1987 *Wetland Delineation Manual* was used to evaluate potential USACE jurisdictional areas (USACE 1987), and *A Field Guide to Lake and Streambed Alteration Agreements: Section 1600-1607 California Fish and Game Code* was used to evaluate CDFG jurisdiction (CDFG 1994). The delineation identified impacts to 4.12 acres of waters of the U.S. of which 3.42 acres were designated wetlands under the jurisdiction of the USACE. The delineation also identified impacts to 9.81 acres within the jurisdiction of the CDFG. These methods are described in detail in Appendix F, which includes the wetlands delineations in their entirety. This delineation identifies the full extent of on-site areas and their resources that are under the jurisdiction of the USACE and CDFG and establishes a baseline from which impacts for the Proposed Project can be assessed.

For the project-level delineation of CDFG jurisdiction, the document *A Field Guide to Lake and Streambed Alteration Agreements: Section 1600-1607 California Fish and Game Code* (CDFG 1994) and input from CDFG Biologists during the verification process was utilized. The methodology utilized for assessment of riparian resources in the jurisdictional delineation is based on the following:

- Where all riparian habitat was included within the bank-full stream channel (e.g., riparian herb), the outermost limits of either the bank or riparian habitat was mapped as the limits of CDFG riparian jurisdiction/habitat.
- Where riparian habitat extended beyond the bank-full channel to the active flood plain, and did not extend outside the active floodplain, the outermost limits of either the active floodplain or riparian habitat were mapped as the limits of CDFG riparian jurisdiction/habitat.
- Where riparian habitat extended beyond the active flood plain to active terraces, the outermost limits of the riparian habitat on the terrace was mapped as the limits of CDFG riparian jurisdiction/habitat. This latter case was most typically applied to southern coast live oak riparian forest. In some cases, particularly in “U”-shaped canyons, the limits of the active terrace was not always discernible. In such cases, coast live oaks (and, in a few instances, California sycamores) were included as riparian where they either: (1) exhibited roots that reached the banks of the drainage, thereby benefiting from the drainage or by providing stabilization for the banks (i.e., a benefit for the stream) or (2) where meaningful portions of the canopy overhung the stream, thereby providing for shading or litter (nutrient cycling) which would benefit the stream. Coast live oaks (and California sycamores) located above active terraces or (where terraces were not distinct) beyond where either roots or shading provided direct benefits to the stream, were not included as riparian vegetation.

### **Landfill Operating Permits**

Full implementation of the Second Amendment to the 2001 GDP landfill plan will also require the following landfill regulatory agency permit actions:

- Amendment to Waste Discharge Requirements (WDRs) Order No. R9-2003-0306 from the Regional Water Quality Control Board, San Diego Region.
- Revision to Solid Waste Facility Permit (SWFP) No. 30-AB-0019 from the County of Orange Health Care Agency and concurred on by the California Integrated Waste Management Department.
- Permits to Construct and Operate Landfill Gas Control System facilities for ongoing operations from the South Coast Air Quality Management District.
- Annual Update to General Permit to Discharge Storm Water Associated with Industrial Activity – Water Quality Order No. 97-03-DWQ issued by the State Water Resources Control Board.

The WDR and SWFP landfill operation revisions will be approved prior to operations in Zone 4. The subsections that follow describe the regulatory agency authority for landfill operating permits that will need to be revised for full implementation of Amendment No. 2 to the 2001 GDP.

### ***California Integrated Waste Management Board (CIWMB)***

All municipal solid waste facilities in California are required to have an SWFP issued by the local enforcement agency for the CIWMB (which, for the PDL, is the County of Orange Health Care Agency), and concurred on by the CIWMB. The SWFP places conditions on the operation, general design parameters, reporting, monitoring requirements, closure, and post-closure of the

facility in accordance with the *California Code of Regulations*, Title 27 (27 CCR). The PDL operates under SWFP No. 30-AB-0019, which was last revised in November 2005.

### ***California Regional Water Quality Control Board (RWQCB)***

The State Water Resources Control Board (SWRCB) requires municipal solid waste disposal facilities to obtain WDRs in accordance with 27 CCR. The San Diego RWQCB is the local agency under the SWRCB that has jurisdiction and authority to issue site-specific WDRs for the PDL. The PDL operates under WDR Order No. R9-2003-0306 (adopted in November 2003) and Amendment No. 1 to Order No. R9-2003-0306 (adopted on June 8, 2005).

The RWQCB also regulates municipal, industrial, and construction stormwater discharge requirements under the National Pollutant Discharge Elimination System (NPDES) program. To obtain authorization for industrial stormwater discharge, the landfill must comply with a General Permit to Discharge Stormwater Associated with Industrial Activity. A Stormwater Pollution Prevention Plan (SWPPP) and a Monitoring Program and Reporting Requirements (MPRR) have been prepared for the PDL in accordance with the requirements of Water Quality Order No. 97-03-DWQ. The MPRR monitoring is performed under Order No. 97-03-DWQ.

The SWPPP is updated annually, when necessary, to include various phases of construction when there is a change in construction, operation, or maintenance procedures, which may cause the discharge of significant quantities of pollutants to surface water, groundwater, or the local agency's storm drain system. Moreover, an amendment is filed if the site is found to be in violation of any conditions of the General Permit to Discharge Stormwater Associated with Industrial Activities.

It is anticipated that the activities associated with continued landfill operations proposed in the Second Amendment to the 2001 GDP will be covered by the site's existing General Permit to Discharge Stormwater Associated with Industrial Activity and that annual updates to the SWPPP and MPRR will address the future operations of the landfill. In addition to ongoing compliance with industrial and construction NPDES permit requirements, the IWMD will coordinate with the RDMD on compliance with the NPDES permit requirements of the County's Drainage Area Master Plan and associated Water Quality Management Plan, as necessary, for full implementation of the 2001 GDP.

### ***South Coast Air Quality Management District (SCAQMD)***

The PDL falls under the jurisdiction of the SCAQMD for the monitoring and control of gas emissions and migration and dust. Facilities to collect and destroy landfill gas emitted from the landfill are installed for the existing landfill and are planned for future development in the Zones 1 and 4 areas. The SCAQMD has issued: (1) a Permit to Operate the existing landfill gas condensate collection and storage system (No. R-F22337); (2) a Permit to Operate the flare/blower to incinerate the collected landfill gas (No. F22159); (3) a Permit to Construct and Operate the landfill collection system for WMU1 and Zone 1 (No. F38717); (4) a Permit to Construct the landfill gas combustion system (No. 1 is Permit No. 322414 and No. 2 is Permit No. 322415); (5) a Permit to Construct air pollution control equipment (No. 1 is Permit No. 322416 and No. 2 is Permit No. 322417). In addition, an air quality and landfill gas monitoring program that complies with SCAQMD Rule 1150.1 has been approved for the site and the Energy Recovery Facility (ERF) is operating pursuant to a permit that the SCAQMD issued under Rules 201 and 203. The site also complies with the following:

**New Source Performance Standards/Emission Guidelines (NSPS/EG):** On March 12, 1996, the United States Environmental Protection Agency (USEPA) promulgated standards of performance for new municipal solid waste landfills and emission guidelines for existing



municipal solid waste landfills. These standards guidelines for active landfills are intended to limit gaseous emissions in order to prevent public nuisance and possible detriment to public health that may be caused by exposure to such emissions. In order to comply with NSPS/EG requirements, annual reports will be submitted to the USEPA with a copy to the SCAQMD.

**Title V:** Title V is part of the 1990 Clean Air Act Amendments and consists of a single air permit, which consolidates and replaces all the previously issued air permits for a facility. The USEPA granted interim approval of the SCAQMD Title V program in February 1997 and the program became effective March 31, 1997. The SCAQMD program is called Regulation XXX and the PDL is in compliance.

**Ozone (O<sub>2</sub>) and Particulate Matter (PM<sub>10</sub> and PM<sub>2.5</sub>):** The USEPA reviews the National Ambient Air Quality Standards every five years. The standards for O<sub>2</sub>, PM<sub>10</sub>, and PM 2.5 have not been updated since 1997. New methods for controlling these pollutants are constantly being discovered. SEIR 597 includes up-to-date and appropriate control strategies for reducing the proposed project's O<sub>2</sub>, PM<sub>10</sub>, and PM 2.5 impacts to the greatest extent feasible.

**Rule 1150.1 – Landfill Gas Emissions:** The purpose of the current Rule 1150.1 for active and inactive landfills is to prevent public nuisance and possible detriment of public health that may be caused by exposure to landfill gas emissions. The SCAQMD has rewritten these rules to meet the federal NSPS/EG requirements.

**Rule 431.1 – Sulfur Emissions:** The purpose of this rule is to reduce sulfur oxides (SO<sub>x</sub>) emissions from the burning of gaseous fuels in stationary equipment and requires a SCAQMD-issued permit to operate. The SCAQMD rewrote the Rule to raise the average daily limit of 40 parts per million (ppm) to 150 ppm effective June 12, 1998.

**Rule 402 – Nuisance:** This rule prohibits annoying odors from landfill operations.

**Rule 403 – Fugitive Dust Emissions:** The purpose of this rule is to reduce the amount of particulate matter entrained in the ambient air as a result of man-made fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions.

### ***County of Orange Health Care Agency, Environmental Health***

The County of Orange Health Care Agency, Environmental Health is the Local Enforcement Agency (LEA) having jurisdiction over the PDL. The LEA issues and enforces the terms and conditions of the SWFP, enforces all pertinent sections of 27 CCR, and conducts regular inspections of the landfill. In addition to permit revisions, the site is subject to a permit review at least once every five years. Inspections are also performed monthly by the LEA; quarterly by the SCAQMD; at least annually by the SDRWQCB, and every 18 months by the CIWMB for compliance with permit conditions and regulatory standards under each agency's jurisdiction.

- Other subsequent actions for the site include:
  - On-going CEQA Mitigation Monitoring;
  - Liner Construction Design Reports for Each Phase of Development;
  - Final Circulation Element Permit Approvals, Design and Improvements;
  - Needs Analysis and Plans for Interim and Ultimate Recreational Uses;

- Construction of Interim and Ultimate Recreational Improvements; and
- Preparation of Final Closure and Post-Closure Maintenance Plans.

#### 4.3.4 RELATIONSHIP TO OTHER REGIONAL PLANNING EFFORTS

##### **The Natural Community Conservation Planning (NCCP) Act**

In 1991, the California Legislature established the NCCP program through the enactment of the 1991 NCCP Act (*Fish and Game Code*, Section 2800–2840). The purpose of the NCCP program is to provide long-term, regional protection of natural vegetation and wildlife diversity while allowing compatible land uses and appropriate development and growth. The NCCP process was initiated to provide an alternative to “single species” conservation efforts that were relied on under existing state and federal Endangered Species Acts (CESA and FESA) prior to the NCCP Act. The shift in focus from single species, project-by-project mitigation efforts to conservation planning at the natural community level was intended to establish regional protection for a range of species that inhabit a designated natural community.

The NCCP Act:

- **Defined the NCCP Program.** Natural Community Conservation Plan means the plan is prepared pursuant to subdivision (a) of Section 2810. The plan identifies and provides for the regional or areawide protection and perpetuation of natural wildlife diversity, while allowing compatible and appropriate development and growth.
- **Authorized CDFG to Enter Into Agreements.** The department may enter into agreements with any person for the purpose of preparing and implementing a Natural Community Conservation Plan to provide comprehensive management and conservation of multiple wildlife species, including, but not limited to, those species listed pursuant to Article 2 (commencing with Section 2070) of Chapter 1.5. The agreement shall include cost reimbursement provisions pursuant to Section 2840.
- **Authorized NCCP Planning by Local, State, and Federal Agencies.** Natural Community Conservation Planning may be undertaken by local, state, and federal agencies independently or in cooperation with other persons. The Plan shall be consistent with the agreement entered into pursuant to Section 2810 and shall be approved by the department for implementation upon meeting the standards established by the department for natural community conservation.
- **Authorized CDFG to Prepare Non-Regulatory Guidelines.** The department may prepare non-regulatory guidelines for the development and implementation of Natural Community Conservation Plans. The guidelines are exempt from Chapter 3.5 (commencing with Section 11340) of Division 3 of Title 2 of the *State Government Code*. The guidelines may include, but are not limited to:
  - Defining the scope of a conservation planning area.
  - Determining conservation standards, guidelines, and objectives for the planning area.
  - Appointing one or more advisory committees to review and make recommendations regarding the preparation and implementation of natural community conservation plans. The advisory committee membership may include representation from the local community near the plan area.

- Coordinating with local, state, and federal agencies, including the Trade and Commerce Agency.
- Incorporating public input.
- Ensuring compatibility with the federal Endangered Species Act (16 U.S.C., Section 531 et seq.).
- Obtaining approval of the natural community conservation plan by the department.
- Implementing provisions of the plan.
- Monitoring and reporting on plan implementation.
- **Authorized CDFG to Permit Take of Identified Species.** The department may permit the taking, as provided in this code, of any identified species whose conservation and management is provided for in a department-approved natural communities conservation plan.
- **Compensate the CDFG for Authorization Compensation.** The department shall be compensated for the actual costs incurred in participating in the preparation and implementation of natural community conservation plans.

The NCCP Act was designed as a voluntary program to encourage collaborative planning programs involving landowners, local governments, state and federal agencies, environmental organizations, and interested members of the public in the formation and approval of the NCCP. The Act serves as the foundation for the development of an NCCP program. However, since 1992, two bills regarding the NCCP program have become law: Assembly Bill (AB) 3446 (California Assembly 1996) and Senate Bill (SB) 1679 (California Senate 2000). Under AB 3446, Section 2825 of the *Fish and Game Code* was amended to make compensation permissive for CDFG participation in the NCCP Plan process. The Sher Bill added Sections 2801, 2811, and 2815 which required that any future NCCP planning agreement establish a process for collection of independent scientific input and analysis in the development of the plan, as well as the appointment of independent scientists for the development of the conservation guidelines. This bill also required the CDFG to establish a process for public participation throughout the development and review of any future NCCP plan.

### **Southern Subregion Natural Community Conservation Plan/Habitat Conservation Plan (SSNCCP)**

At this time, a separate Joint EIR/Environmental Impact Statement (EIS) is being processed for the Southern Subregional NCCP (SSNCCP) to address the potential impacts associated with the various alternative strategies that affect the region surrounding the PDL site. The Joint EIR/EIS, a separate document from this SEIR, is being prepared pursuant to existing agency guidelines and the requirements of both CEQA and the National Environmental Policy Act (NEPA). The County of Orange is the lead agency pursuant to CEQA and the USFWS would be the federal lead agency pursuant to NEPA. The EIR/EIS addresses the purpose and need for the NCCP which is a Habitat Conservation Plan, describes the affected environment, and evaluates impacts to Identified Species and associated habitats that result from the NCCP/HCP and the proposed project alternatives.

## **Planning Area for the NCCP**

The Southern Subregion covers approximately 132,000 acres of developed, agricultural, and undeveloped natural lands (including Prima Deshecha property) and comprises about 26 percent of the land within the County of Orange (Exhibit 4.3-10). However, 30 percent of the entire Southern Subregion (about 40,000 acres) is located within the Cleveland National Forest (CNF). Since the land within the CNF is already protected, it is not being addressed in the NCCP/HCP. The Southern Subregion includes all or portions of five cities: Mission Viejo, Rancho Santa Margarita, Lake Forest, San Clemente, and San Juan Capistrano. Public agencies and operating utilities that would be affected by the NCCP/HCP include, but are not limited to, the Santa Margarita Water District (SMWD) and Transportation Corridor Agencies (TCAs).

## **Participants**

Landowners within the Southern Subregion, including both private and public agency owners, would be affected by the NCCP/HCP. Landowners within the Southern Subregion, including both private and public agency owners, that would be affected by the NCCP/HCP program and have participated in the process to date include:

- The Santa Margarita Water District (SMWD)
- Rancho Mission Viejo Company, LLC (RMV)
- The Transportation Corridor Agencies (TCA)
- City of Mission Viejo
- City of San Clemente
- The County of Orange

The largest undeveloped private ownership in the Southern Subregion is property owned and operated by the Rancho Mission Viejo Company.

The Draft NCCP/HCP Guidelines (Draft NCCP Guidelines) and the Draft Watershed and Sub-basin Planning Principles (Draft Watershed Principles) were developed by the NCCP/Special Area Management Plan (SAMP) Working Group and are intended to provide guidance for decision-makers that are keyed to local biologic, hydrologic, and geomorphic conditions. Although considered a “work in progress,” both the guidelines and principles represent the most current thinking regarding protection, restoration, and management priorities for the resources within the study area, and for this reason are discussed in this SEIR. The guidelines and principles have been subject to public input during public workshops associated with the NCCP/HCP and SAMP/MSAA programs and are available for review on the County website (County of Orange 2006).

The project site is located within the planned Southern Subregion NCCP area, and the IWMD, in conjunction with the Rancho Mission Viejo Company, has prepared a Plan in cooperation with the USFWS and CDFG that includes the development of a habitat reserve system. The NCCP will be formulated so it is consistent with the development of the Draft NCCP/HCP Guidelines and Draft Watershed and Sub-basin Planning Principles.

## **Covered Species**

The proposed Southern Orange County Subregion National Community Conservation Plan/Master Streambed Alteration Agreement/Habitat Conservation Plan (NCCP/MSAA/HCP) identifies the following species for which regulatory coverage is being requested:

- Burrowing owl (*Athene cunicularia*)
- Coastal cactus wren (*Campylorhynchus brunneicapillus couesi*)
- Coastal California gnatcatcher (*Polioptila californica californica*)
- Cooper's hawk (*Accipiter cooperii*)
- Grasshopper sparrow (*Ammodramus savannarum*)
- Least Bell's vireo (*Vireo bellii pusillus*)
- Long-eared owl (*Asio otus*)
- Southwestern willow flycatcher (*Empidonax trallii extimus*)
- Tricolored blackbird (*Agelaius tricolor*)
- White-tailed kite (*Elanus leucurus*)
- Yellow-breasted chat (*Icteria virens*)
- Yellow warbler (*Dendroica petechia*)
- Arroyo toad (*Bufo californicus*)
- Western spadefoot toad (*Spea [=scaphiophus] hammondi*)
- California glossy snake (*Arizona elegans occidentalis*)
- Coast patch-nosed snake (*Salvadora hexalepis virgulata*)
- Northern red-diamond rattlesnake (*Crotalus ruber ruber*)
- Orange-throated whiptail (*Aspidoscelis hyperythra [=Cnemidophorus hyperythrus] beldingi*)
- Red coachwhip (*Masticophis flagellum piceus*)
- "San Diego" coast horned lizard (*Phrynosoma coronatum [blainvillei population]*)
- Southwestern pond turtle (*Emys [=clemmys] marmorata pallida*)
- Arroyo chub (*Gila orcutti*)
- Partially-armored threespine stickleback (*Gasterosteus aculeatus ssp. microcephalus*)
- Riverside fairy shrimp (*Streptocephalus woottoni*)
- San Diego fairy shrimp (*Branchinecta sandiegonensis*)
- California scrub oak (*Quercus berberidifolia*)
- Chaparral beargrass (*Nolina cismontana*)
- Coast live oak (*Quercus agrifolia*)
- Coulter's saltbush (*Atriplex coulteri*)
- Many-stemmed dudleya (*Dudleya multicaulis*)
- Southern tarplant (*Centromadia parryi var. australis*)
- Thread-leaved brodiaea (*Brodiaea filifolia*)

The Notices of Intent (NOI) for the initiation of the NCCP/HCP were published by the Resource Agencies in 2001, with an anticipated release of draft environmental documents sometime in 2002. However, other regional planning efforts (e.g., the Riverside County Multiple Species Habitat Conservation Program) and the major fires experienced in the fall of 2003 required the resource agencies to re-prioritize their staffing assignments to address these competing projects. The draft EIR/EIS for the NCCP/MSAA/HCP was released for public review in July 2006.

### **Land Use Designations and Permitted Uses in the NCCP**

PDL proposes to include two NCCP/HCP designations. The landfilling-related activity areas within Zones 1 and 4 are proposed to be designated as "Development" given the long-term nature of this type of use and compliance with all the existing and future state and federal regulations associated with landfills. The NCCP/HCP does not restrict uses in areas designated "Development," such as those identified in the Landfill Activities Matrix (Table 4.3-2).

**TABLE 4.3-2  
LANDFILL ACTIVITIES MATRIX**

Landfill liner construction and maintenance.
Waste unloading, spreading, compacting
Landfill Cover Construction & Maintenance: routine construction, inspection and repair, soil testing, soil importation and stockpile, surveying, regrading, compaction, slope repair, weed abatement, revegetation and settlement or crack repair, seeding, straw mat, erosion control blankets, geotechnical investigations, trenching, boreholing and all routine maintenance and repair of facilities that do not result in permanent loss of existing natural vegetation. Daily, intermediate, and final cover placement
Borrow site grading, earth moving, clearing and grubbing, access for grading efforts
Refuse excavation and replacement
Cleanup and remediation for unacceptable materials
Leachate and groundwater recovery, disposal and treatment system construction and installation
Landfill Water Monitoring System Construction & Maintenance: groundwater monitoring-well installation and abandonment, groundwater and stormwater monitoring, well redevelopment, dedicated pump installation
Water supply system construction and maintenance
Landfill Landscape and Irrigation System (pipeline, pump, valves, sprinklers) Construction & Maintenance: routine construction, inspection and maintenance, weed control, fertilization, rodent control, reseeding and mulching, system replacement and repair
Landfill Liquid Management System (pumps, sewer, sumps, storage tanks, pipes, power supply, electrical controls, groundwater extraction wells, leachate recovery, water, leachate or landfill gas condensate treatment unit) Construction & Maintenance: routine construction, inspection and maintenance, liquids disposal, sampling and monitoring
Landfill Drainage Facilities (bench drains, inlet structures, down drains, deck drainage, concrete channels, pipes, ditches, desilting basin, etc.) Construction & Maintenance: routine construction, inspection and repair, regrading, debris or sediment removal, erosion control, grouting, structures repair and construction, weed abatement.
Landfill Gas Recovery System (gas extraction wells, headers, laterals, valves, well heads, burners, flares, gas to energy plant, gas condensate, power supply) Construction & Maintenance: routine construction, inspection and maintenance, gas monitoring, gas well installation and repair, pipeline repair, underground fire control, well head repair, and adjustment, condensate injection into flares
Landfill Gas Control System (perimeter probes, perimeter wells, piping, pumps, power supply) Construction & Maintenance: routine construction, inspection and maintenance, gas monitoring, surface emissions monitoring, pipeline repair, probe and well installation, installation of horizontal and vertical collectors, construction of headers, weather station maintenance and repair.
Gas recovery facility installation, operations and maintenance
Dust control, fire control, vector and bird control, litter control
Remedial grading and repair for landslides and other natural occurrences
Landfill Utilities and Communications Facilities; installation, routine maintenance, repair, relocation or replacement
Landfill access road, construction and maintenance.
Landfill Survey Monument Construction and Maintenance: routine construction, inspection and maintenance, survey, monument replacement or repair
Landfill Soil Excavation for cover repair, drainage and erosion control, landfill gas emission control, biological surveys, archeological and paleontological surveys and recovery.
Landfill Perimeter Fence Construction and Maintenance: routine construction, inspection and maintenance, replacement and repair.
Other landfill construction and maintenance activities required by law and regulation, including but not limited to: aerial or ground survey, landslide remediation, drilling, moisture probe installation, recycling, utility, fee booth, scales, field office and heavy equipment maintenance facility, and site security
Future uses including: mitigation, open space, regional park, etc.
Notes: Attempts will be made to undertake activities that impact vegetation outside the breeding/nesting season, including activities mandated by regulation or law affecting public health, safety, and welfare.
Activities are subject to change based upon regulation changes generated by the various solid waste regulatory agencies
Source: Orange County Integrated Waste Management Department

In addition, areas south of Zone 1; portions of Zone 3 outside Segunda Deshecha; and Segunda Deshecha (in its entirety) and the areas along the southern, eastern and northern boundaries' portions of Zone 4 (outside of any refuse disposal area) are proposed to be designated as "Supplemental Open Space" (SOS) by the NCCP program.

### ***Function of Supplemental Open Space***

Supplemental open space would:

- contribute directly to the long-term protection of Covered Species and their habitats;
- contribute to long-term subregional biological diversity;
- provide potential refugia habitat in the event of fire or other natural disturbances;
- provide supplemental connectivity between geographic elements of the Habitat Reserve; and
- contribute to the long-term protection of important abiotic (non-biological) resources and processes.

### **Definition of Supplemental Open Space**

SOS would be protected and, if currently managed outside the Habitat Reserve Management Plan (HRMP) (i.e., the Starr Ranch Sanctuary and designated portions of the Prima Deshecha Landfill), would continue to be managed in accordance with current management practices. The management obligations for these areas are limited to current management approaches and the conditions imposed as part of prior or anticipated regulatory approvals. Where no existing habitat management is provided and/or required, no new management obligations are incurred under this NCCP/MsAA/HCP.

Take within the SOS would be authorized only as specifically called out by the NCCP/MsAA/HCP of the Implementation Agreement (IA), primarily for infrastructure and landfill facility construction, operation, and maintenance. No take is authorized in areas designated as SOS for general residential, commercial, or industrial activities. If the affected landowners and local jurisdictions choose to seek additional take authorization for activities located within any of these areas in the future, they would be required to undertake separate review by CDFG and USFWS to determine compliance with applicable state and federal requirements under FESA and the NCCP Act.

Designated SOS lands located outside the proposed Habitat Reserve would complement the functions and values of the Habitat Reserve by: (1) protecting additional vegetation communities that currently support planning species and Covered Species and (2) preserving significant wildlife corridor and habitat linkage areas that contribute to subregional biodiversity.

### ***Permitted Uses Within Supplemental Open Space***

The SOS-designated areas within the PDL are intended to represent those portions of the landfill where no waste disposal is currently being proposed. These areas would not likely be affected by existing and future landfill operations and are intended to be preserved in a natural condition to the maximum extent possible. However, since this refuse disposal facility is expected to be in operation until 2067, and in landfill post-closure maintenance beyond 2067, it cannot be known with absolute certainty whether some of the areas designated as SOS may be needed for on-going and post-closure maintenance after landfill closure. In addition, the designated SOS will accommodate habitat restoration from landfill impacts as well as other regional restoration opportunities. Therefore, the following activities would be permitted within the areas designated as SOS within the PDL boundaries:

- Install, operate, maintain, repair and/or replace roads, public utility lines and associated improvements, and flood control devices.
- Install, operate, maintain, repair and/or replace trails, parks and related improvements and/or engage in any other recreation uses.
- Permit livestock grazing.
- Continue the use of the SOS area for any purposes provided for in any existing easements of record.
- Conduct prescribed fires allowed by the local fire authority for health and safety reasons and allow access to the SOS in order to fight or mitigate fires.
- Conduct scientific research.
- Perform remedial grading with vegetated slopes and utilize native species.
- Conduct mitigation actions as defined in the RMV Settlement Agreement with respect to the implementation of the 2001 GDP.
- Conduct any and all activities and operations as may be necessary to comply with applicable laws in connection with the landfill's closure and post-closure activities.
- Conduct biological mitigation pursuant to any approved NCCP, Habitat Conservation Plans and other similar plan of conservation.
- Perform site grading and/or soil filling (to maximize capacity) in support of landfill operations.

Any disturbances within areas designated as SOS (including the Pre-Mitigation areas and/or Regional Environmental Enhancement areas that involve the temporary removal of coastal sage scrub, southern needlegrass grassland, or riparian habitat) will be restored through the application of the appropriate hydroseed mix during the next growing season following the completion of the permitted use activities. The hydroseed application and subsequent three-year maintenance program (removal of non-native invasive plant species) shall constitute full compliance with the provisions of the NCCP/HCP. No further mitigation will be assessed against IWMD by the regulatory agencies.

### **Special Area Management Plans/Master Streambed Alteration Agreement (SAMP/MSAA)**

A Special Area Management Plan (SAMP) is designed to be conducted in geographic areas of special sensitivity under intense development pressure. Interagency, public, and stakeholder involvement is an essential part of the SAMP. There are two main goals of the SAMP process: to establish a watershed-wide aquatic resource reserve program and to minimize individual and cumulative impacts of future projects in this watershed. The SAMP process will identify areas that will be protected and preserved, as well as areas where future activities would be allowed to occur, provided that these activities meet specific criteria developed for protection of the watersheds. As part of this process, the CDFG is preparing an MSAA in cooperation with USACE that will reflect the provisions of the final SAMP.

In consideration of the lifespan of the PDL and the need to resolve the long-term regulatory permitting requirements for this facility, IWMD intends to pursue the approval of an MSAA for this project (separate from that being prepared for the final SAMP).

As previously noted, the PDL is located outside the defined San Juan Creek and western San Mateo Creek SAMP/MSAA boundaries. The intent in describing the SAMP/MSAA planning process is to demonstrate how IWMD will contribute to the implementation of these planning efforts. Specifically, the contribution includes restoration and enhancement of a portion of San Juan Creek in the uppermost part of that watershed through the removal of exotic invasive plant species. These exotics, if allowed to continue to grow and expand into other natural areas within the drainage, would significantly reduce the long-term biological functions and values of that



watershed by displacing native habitat suitable for sensitive species such as the arroyo toad and the least Bell's vireo.

**Purpose of the SAMP/MSAA.** The purpose of the SAMP/MSAA (being prepared jointly by the USACE and CDFG as lead agencies) is to provide for the protection and long-term management of sensitive aquatic resources (biological and hydrological) on a landscape or watershed level. Aquatic resources in the watershed include creeks, seeps, vernal pools, alkali meadows, freshwater marshes, and riparian wetlands. To the extent practicable, state and federal waters (including wetlands) would be avoided and unavoidable impacts would be minimized and fully mitigated under the SAMP/MSAA. The SAMP/MSAA would also be designed to enable reasonable economic activities and development to be permitted within the study area portions of the San Juan Creek and western San Mateo Creek watersheds consistent with the requirements of federal and state laws (CWA, Section 404 and *California Fish and Game Code*, Sections 1600 *et seq.*).

When complete, the SAMP would provide the foundation for long-term planning and regulatory actions under Section 404 of the federal CWA by the USACE for projects under its jurisdiction within that planning boundary.

The key objectives of the SAMP/MSAA for the San Juan Creek and western San Mateo Creek watersheds are: (1) to evaluate the extent and condition of existing aquatic resources in the project area; (2) to identify and evaluate alternative land development scenarios that have been developed as part of the NCCP/HCP and SAMP/MSAA processes; (3) to address, programmatically, water quality issues raised under state and federal laws; and (4) to develop a reserve program and comprehensive management plan for the reserve areas in order to preserve and enhance existing aquatic resources. As to this last point, the SAMP/MSAA would provide a restoration plan for enhancing and protecting jurisdictional state and federal waters' aquatic resources in the watersheds.

A separate Joint EIR/EIS is in process, and will address the potential impacts associated with the SAMP/MSAA. The Joint EIR/EIS is a separate document from this Program EIR and is being prepared pursuant to existing agency guidelines and the requirements of CEQA and the NEPA. The CDFG is the lead agency pursuant to CEQA and the USACE is the federal lead agency pursuant to NEPA. The EIR/EIS addresses the purpose and need for the SAMP/MSAA, describes the affected environment, and evaluates impacts on associated habitats resulting from the SAMP/MSAA program and project alternatives. In support of the SAMP/MSAA, the USACE conducted a landscape-level delineation to identify areas of potential USACE and CDFG jurisdiction along with the mapping of areas of potential wetlands and riparian habitat within the SAMP/MSAA study area.

**SAMP Study Area.** The primary difference in the study areas for the NCCP and the SAMP is the San Clemente Hydrologic Unit. This unit is excluded from the SAMP study area because the unit does not drain to either the San Juan Creek or the San Mateo Creek. The study area for the SAMP covers approximately 107,350 acres within the San Juan Creek and western San Mateo watersheds, including the Cleveland National Forest (Exhibit 4.3-10). Actions within the forest are subject to a separate planning process and would not be addressed in the SAMP/MSAA, except to the extent that coordination between the two programs would be necessary to implement management actions within the San Juan watershed (e.g., Arundo control). The SAMP study area includes all or portions of the following six cities: Mission Viejo, Rancho Santa Margarita, Laguna Hills, Laguna Niguel, Dana Point, and San Juan Capistrano. Public and operating agencies affected by the SAMP include, but are not limited to, the SMWD and TCA.

The IWMD intends to address the long-term impacts to resources under the jurisdiction of the CDFG and USACE that would result from the ultimate build out of Prima through the eradication

of *Arundo donax* at a ratio of 1:1 within a portion of San Juan Creek located within Caspers Wilderness Park. This restoration will include a one-time payment to a non-profit entity to be created, that among other things, will be responsible for implementing a comprehensive exotic plant species eradication program within San Juan Creek. Prima Deshecha Landfill is not located within the San Juan Creek/San Mateo Creek SAMP boundary. In addition, opportunities to address impacts to resources under CDFG and USACE jurisdiction are limited within the project site. The study boundaries currently proposed for the NCCP/HCP and SAMP are depicted in Exhibit 4.3-10.

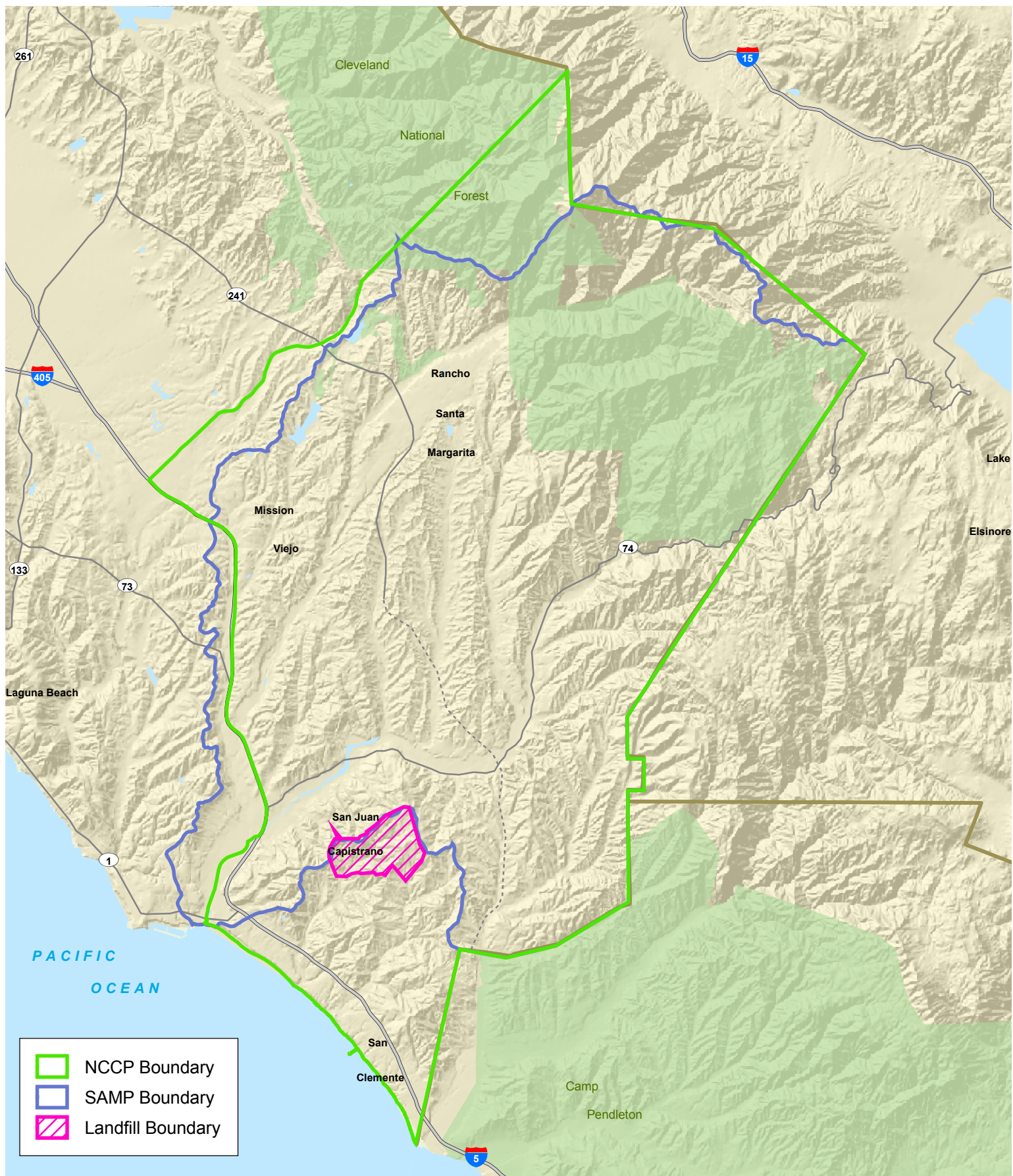
It is the intent of the IWMD to seek: (1) certification of SEIR 597; (2) approval of Amendment No. 2 to the 2001 GDP; (3) approval of an Individual Permit from the USACE pursuant to Section 404 of the CWA and associated Section 7 Consultation/Biological Opinion for potential effects to the least Bell's vireo and California gnatcatcher; and (4) an acquisition of an MSAA pursuant to Sections 1600–1603 of the *California Fish and Game Code* while the NCCP/HCP and SAMP programs are in process. This will enable coordination of the proposed GDP project with planning for these other regional programs. It should be noted that the NCCP/HCP and SAMP programs may not be completed by the date of the County action on the Proposed Project.

Although approval of Amendment No. 2 to the 2001 GDP will likely occur in advance of approvals and subsequent authorizations under the NCCP/HCP or SAMP, the Proposed Project has been developed consistent with the planning guidelines and conservation strategies established for these regional planning efforts. Therefore, the Proposed Project and associated SEIR can move forward without jeopardizing the preparation of the NCCP/HCP and SAMP.

### **La Pata Avenue Extension/Improvements**

As described more fully in Section 8.0, the County's Resource Development and Management Department (RDMD), in coordination with the cities of San Clemente, San Juan Capistrano, and the IWMD, are currently conducting a Feasibility Study, Project Design Report, and EIR for the extension of La Pata Avenue from Ortega Highway (through the PDL property) to Calle Saluda in San Clemente. This work will ultimately generate a final alignment for the La Pata Avenue extension. This circulation project, although occurring in close geographic proximity to the proposed project for Amendment No. 2 at the PDL site, has a different project purpose and implementation timeframe from Amendment No. 2. Accordingly, both projects will, out of necessity, have their own separate environmental documentation and regulatory permitting requirements and will proceed on very different schedules.

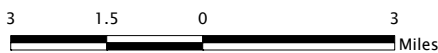
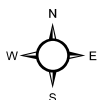
Owing to the complexities and differences in implementation horizon associated with various La Pata Avenue alignment alternatives and the long-term implementation schedule for these improvements, the baseline assumption for the Prima Amendment No. 2 project to be presented in SEIR 597 will be the La Pata Avenue alignment as shown in the 2001 GDP. However, a sensitivity analysis of the current La Pata Avenue alternatives under consideration within the La Pata Avenue Feasibility Study has been included within SEIR 597 in Section 8.0, Cumulative Impacts, for information. As it is a stated goal of the 2001 GDP to accommodate adopted MPAH arterial highway alignments through the site, none of the Proposed Project alternatives presented within SEIR 597 will preclude the development of a full range of alternatives for the La Pata Avenue extension project. Close coordination between the two project efforts will continue throughout the environmental permitting process with RDMD leading and coordinating the La Pata project effort and the IWMD leading and coordinating the landfill project effort.



# Study Boundaries for South NCCP and Western San Juan Creek and San Mateo Creek Watersheds SAMP

Exhibit 4.3-10

Prima Deschecha Landfill Supplemental Environmental Impact Report 597



## SECTION 5.0 ENVIRONMENTAL ANALYSIS

### 5.1 INTRODUCTION

This section presents the environmental impact analysis for those resource categories potentially affected by the Proposed Project. The potential effects to these resources required detailed analyses to determine whether the Proposed Project resulted in “no substantial change” over those impacts identified in FEIR 575, or if there were “more severe impacts” or new significant impacts to these resources.

All mitigation measures from the 2001 GDP EIR 575 remain as project commitments that apply to the Proposed Project, as modified by Amendment No. 2. These mitigation measures from EIR 575 are reiterated in the sections below under “Previously Adopted Mitigation.” Additional mitigation measures, if any, are indicated under “Mitigation For Impacts Associated with Amendment No. 2 to the 2001 GDP.” For Hydrology and Water Quality, some of the previously adopted mitigation measures were included in the Geology section of EIR 575, and therefore have slightly varying numerical designations.

Per CEQA Section 15125, an environmental setting must be presented to serve as a baseline from which to determine the significance of proposed project impacts. This discussion also provides the basis for an understanding of the regional context for the project. Existing conditions are described for each resource category below including the environmental setting.

The County of Orange, Integrated Waste Management Department (IWMD) is responsible for the implementation of all mitigation measures. Air quality mitigation measures will be implemented immediately and continuously upon certification of Amendment No. 2 and SEIR 597. All other mitigation measures will be implemented prior to either the construction of the Proposed Project or the initiation of Proposed Project impacts. As the Pre-mitigation Plan is designed to ensure no temporal loss of habitat prior to impact, the elements of this plan will be in place before the initiation of landfill operations in Zone 4.

### 5.2 GEOPHYSICAL

This section provides a summary of the information contained in Section 4.2 of EIR 575 and information associated with landslide remediation actions on site as contained within the *Prima Deshecha Landfill Geotechnical Investigations Report – Zone 4* (GeoLogic Associates, 2002). Both documents are available at the County of Orange Integrated Waste Management Department (IWMD) offices in Santa Ana, whose address is included in Section 1.1.6, and are listed as references in Section 12.0 of this report.

The information presented herein regarding impacts and potential mitigation measures for the Proposed Project buildout is based on data and mapped information contained within these reports. All requisite engineering analyses were performed per the methodology outlined in EIR 575, which includes all additional technical references pertaining to the analyses.

The methodology employed in conducting the impact analysis for geophysical resources was based on review of the references cited above and readily available updated geologic maps and accompanying data.

## 5.2.1 EXISTING CONDITIONS

### **Geology**

The maximum change in relief across the Prima Deshecha Landfill (PDL) site is about 895 feet, with elevations that range from about 1,125 above mean sea level (msl) in the northeastern corner to about 230 feet above msl where the main channel of Prima Deshecha Cañada exits the southwestern corner of the property.

The PDL site is situated in the western foothills of the Santa Ana Mountains, which are part of the Peninsular Ranges Province of southern California. Bedrock materials exposed in the area consist of predominantly Tertiary marine sediments from the middle to late Miocene period. These sediments are comprised, from oldest to youngest, of the San Onofre Breccia, Monterey Formation, and Capistrano Formation (Exhibit 5.2-1). Collectively, these sedimentary bedrock units form a sequence of fairly impermeable breccia, sandstone, siltstone, claystone, and shale. On the surface, these bedrock materials are overlain by locally derived landslide deposits, soil debris slumps, and landslides; modern alluvial deposits in the main drainage channels; and various types of native soils (including colluvium and slopewash). These soil deposits cover much of the finer claystone and siltstone units.

The distribution, lithology, and engineering properties of the various geologic units exposed on the site are summarized below. This information has been summarized from FEIR 575.

### ***Geologic Units***

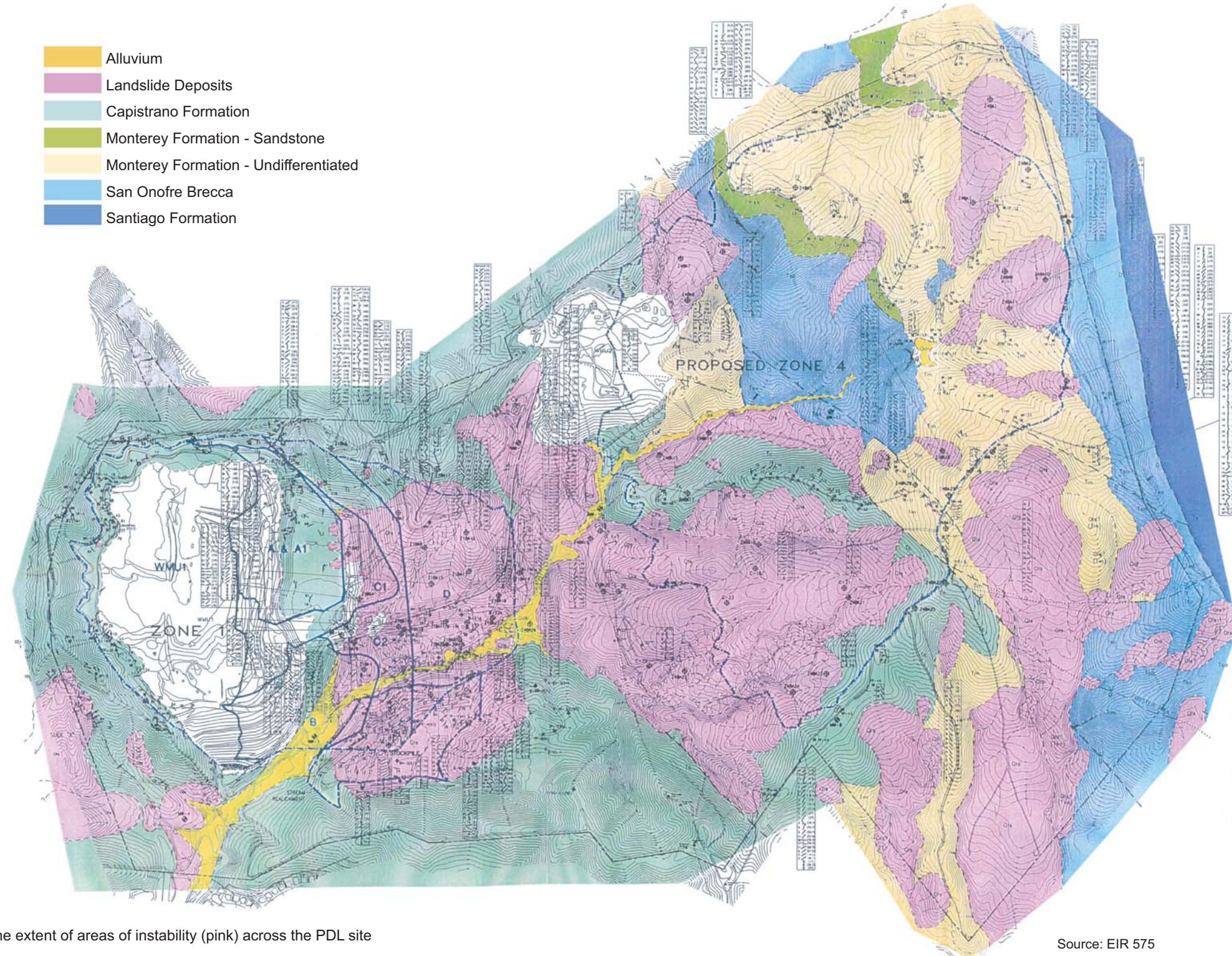
There are 7 geologic units at the PDL contributing to physical site conditions that affect the Proposed Project (Exhibit 5.2-1). Brief summaries of these units are listed below; detailed descriptions of these can be found in FEIR 575.

San Onofre Breccia. San Onofre Breccia is found in the north-central portion of the eastern half of the site and along the eastern border; it is a fairly resistant feature and usually forms steep cliffs and rugged terrain. Excavation of the San Onofre Breccia varies from “workable” (with some difficulty with heavy power equipment) to lesser weathered “hard” portions which likely require blasting to excavate. Slope stability is considered fair-to-poor along shear/fault zones, but generally good elsewhere. Permeability is primarily controlled by fractures and joints, but is moderately porous in highly weathered portions near the ground surface.

Monterey Formation (Tm). The Monterey Formation is exposed throughout the eastern portion of the site and is largely covered by locally derived landslides. Landforms associated with areas underlain by this formation are represented by rounded, gently rolling hills with steep sloughing slopes. The majority of the Monterey Formation is easily excavated with light power equipment and the silicified portions and sandstones can generally be readily excavated with heavy power equipment. Slope stability of the formation is very poor, permeability is very low and expansivity is high.

Capistrano Formation (Tc). The Capistrano Formation is exposed throughout the western two-thirds of the study area and is covered by a number of large landslides composed of materials from the Capistrano Formation. Landforms associated with this formation are characterized by moderate steepness with well-rounded topography. The formation’s overall slope stability is poor, as noted by the number of large landslides which are derived from it, and permeability is generally low.

Landslide Deposits (Qls). Landslides derived from the Capistrano and Monterey Formations cover at least 50 percent of the site area and vary in size from small surficial slumps to large



Note: Purpose of exhibit is to illustrate the extent of areas of instability (pink) across the PDL site

Source: EIR 575

### Geologic Features

*Prima Deshecha Landfill  
Supplemental Environmental Impact Report 597*



### Exhibit 5.2-1



landslide masses up to 120 acres in size. These landslides are very problematic relative to existing and future landfill operations.

Alluvium-Slopewash (Qa). Alluvium-slopewash materials are generally restricted to the lower reaches of the larger tributaries and along the main drainage course of Prima Deshecha Cañada. The permeability is generally moderate to high except in silty clay lenses and layers, and the silty clay portions are also expansive.

Man Made Fill (af). Class III landfill materials occupy two areas on the site. Waste Management Unit 1 (WMU1) occupies approximately 160 acres and is located in the westernmost portion of the site. Waste Management Unit 2 (WMU2) occupies approximately 25 acres and is located in the north-central portion of the site. The average depth of refuse in WMU1 is estimated to be approximately 150 feet (GLA 2002). WMU2 has a depth of about 100 feet and is not currently accepting landfill materials.

### **Geologic Structure and Seismicity**

The PDL site is located within the Peninsular Ranges Province, characterized by north- to northwest-trending folds and fault systems. Ongoing seismic activity and geologically young fault features show that the Province is tectonically active. The eastern half of the site is crossed by a series of north to northwest-striking, west-dipping normal faults associated with the Cristianitos fault which is located near the eastern limit of Zone 4. Branches of the Cristianitos fault include the Forster fault which crosses through the center of the proposed Zone 4 development, and several other unnamed synthetic and antithetic faults that also cross Zone 4. No significant faulting has been mapped in the proposed Zone 1 development area.

While the majority of bedrock in the Zone 1 area is positioned on a northwest dipping homocline, 2 large-scale folds have been interpreted within the Zone 4 area. The first is a north-plunging syncline that is bordered to the south by the Forster fault. The second fold is a west-plunging syncline located in southwestern Zone 4, west of the Forster fault that appears to continue westward through the southern Zone 1 area (south of Prima Deshecha Cañada). In the Zone 4 area, the axis of this west-plunging syncline is overlain by a large, west-directed landslide complex that appears to have formed, at least in part, in response to the structure of the syncline. In addition to the large-scale structures, small-scale folding is prevalent in the Monterey Formation and less common in the Capistrano Formation.

The majority of the joint and fracture planes observed at the surface were open as much as several inches, but are believed to decrease substantially at shallow depths below the ground surface. Jointing in the San Onofre Breccia is likely to be responsible for the creation of pathways for groundwater movement and the formation of a spring located at the base of these cliff-forming rocks. The cliff-forming rocks and spring are located in the central portion of the Zone 4 landfill area on the site as shown in Exhibit 5.2-1.

There are no known Holocene (i.e., active) faults that trend toward or through the site. The seismicity of the region, based on instrument recordings of earthquakes since 1932, is relatively low compared to most of southern California. The most important faults for seismic hazards are those that are closest to the site and that are active or potentially active. These include the Newport-Inglewood (2 miles), Whittier-Elsinore (21 miles), San Jacinto (35 miles) and San Andreas (51 miles) faults.

The northwesterly trending Forster Fault and its associated branches traverse the eastern half of the site. Although the Forster Fault and its fault branches are not known to be active, a number of landslides on the site can be attributed, at least in part, to the presence of these

faults. In many cases, the faults occur in close proximity to the headscarp or marginal region of several landslides.

The northwesterly trending Cristianitos Fault, located about 225 feet east of the site at its closest approach, is not considered to be active (i.e., no movement in the last 11,000 years, based on criteria established by the California Department of Mines and Geology [CDMG]).

Seismically induced seiche and tsunami are considered a remote possibility on the site due to the topographic location of the site and its distance from the ocean and large inland bodies of water.

Existing landslides may be reactivated during strong earthquake-induced ground motion, and new landslides could develop in the bedrock of the Capistrano and Monterey Formations. Thick accumulations of soils on the flanks of many of the ridges and slopes are also considered prone to landsliding during a strong seismic event in the region. Rock falls from the steep ridges in the Zone 4 development area may also occur in response to strong ground motion.

### **Soils**

Soils on the site have been identified as belonging generally to the following soil series: Alo, Calleguas, Balcom, Bosanko and Botella (Wachtell, 1978). Each of these is described below.

Alo Soils. Alo soils overlie the Capistrano Formation. The Natural Resources Conservation Service (NRCS) classifies these soils as clay, which is relatively expansive (i.e., it has a high shrink-swell potential), easily erodible, occurs on slopes of 9 to 75 percent, exhibits very slow infiltration rates of 0.15 to 0.51 centimeters per hour and is typically up to 40 inches thick.

Calleguas Soils. Calleguas soils generally overlie the siltstone and sandy bedrock of the Capistrano Formation and portions of the Monterey Formation, are classified as clay loam, and are moderately expansive, easily erodible, occur on slopes of 9 to 75 percent, and exhibit very slow infiltration rates of 0.15 to 0.51 centimeters per hour.

Balcom and Bosanko Soils. Balcom and Bosanko soils typically overlie the Monterey Formation. These soils are classified as clay and clay loam, which are highly expansive, easily erodible, occur on slopes of 9 to 75 percent, and have very slow infiltration rates of 0.15 to 0.51 centimeters per hour.

Botella Soils. Botella soils occupy the major alluviated drainage on the site. These soils are classified as silty clay loam, which contains moderately expansive, fine-grained layers and lenses defined as slopewash materials. This soil is highly erodible, and has infiltration rates of 0.15 to 5.1 centimeters per hour.

In summary, all the surficial soil materials on the site are subject to erosion and mass failure through slumping on moderate-to-steep slopes. Experience has shown that on-site soils are generally subject to collapse and hydroconsolidation upon placement of overlying loads such as structural foundations and embankment fills. The surficial soil materials on the site are also prone to varying degrees of expansion. Although these soils are considered suitable for use as daily and intermediate landfill cover, they are not suitable for low permeability cover/liner materials due to the abundance of organic-rich materials (e.g., roots) and inherent low strengths.



## 5.2.2 SIGNIFICANCE CRITERIA

The CEQA Guidelines indicates a project will normally have a significant effect on the environment related to geology, seismicity, soils, and groundwater if it will "...expose people or structures to major geologic hazards..." or "...substantially degrade or deplete groundwater resources..."

For the purposes of this SEIR, the Proposed Project was determined to have a significant effect on the environment related to geology, seismicity, or soils if any feature of the Proposed Project created an impact which could not be designed to existing seismic standards or if any feature exceeded the thresholds as defined by the environmental checklist issued by the County of Orange.

## 5.2.3 POTENTIAL IMPACTS

Per the County of Orange Environmental Checklist, the Proposed Project would have a significant effect on geophysical resources if it would:

*(1) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault; strong seismic ground shaking; seismic-related ground failure, including liquefaction; landslides.*

Proposed Project impacts from seismic activity are expected to be less than significant as the engineering design of new project features will take seismic design standards established in 27 CCR into account, resulting in remediation measures that provide stability under the design earthquake loads. Secondary seismic impacts could include differential settlement, which will also be appropriately factored in to project design. Landfill grading and cut-and-fill slopes remain generally the same as that analyzed within the 2001 GDP, and do not change with the Proposed Project; therefore there is no substantial change from previous analyses identified within the 2001 GDP.

*(2) Result in substantial soil erosion or the loss of topsoil.*

The Proposed Project does not result in substantial soil erosion or the loss of topsoil in significant amounts over that identified within the 2001 GDP. There is no additional material that is proposed for off-site handling or disposal due to the Proposed Project. All excavated material generated from the construction of buttress fills may be temporarily stockpiled on site and then used as backfill. This material will be handled similarly to the project features of the 2001 GDP.

Impacts to native soils are also expected to be less than significant as native soils temporarily removed due to landslide excavation will be used on site as compacted backfill material.

All mitigation measures and best management practices (BMPs) defined within the GDP will be applied to the Proposed Project, and will result in no substantial change from previous analyses within the 2001 GDP.

*(3) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.*

The preceding discussion presents the technical background for slope instability at the project site due to numerous geologic conditions. Slope instability at the project site was acknowledged within EIR 575 which states:

...given the instability of the various bedrock units and the inherent instability of the numerous landslides on the site, hazards relating to new slope failures and, perhaps more importantly, reactivation of existing landslides, could occur. In fact, portions of a number of the larger landslides in the eastern portion of the site display evidence of recent movement under natural conditions. Slope stability analyses undertaken to support the Landfill Master Plan have resulted in the development of subgrade and final landfill fill slopes which have acceptable factors of safety under static and earthquake-loading conditions. Future development of the landfill will result in total or partial removal of landslide deposits that would underlie the landfill, and engineered fills have been designed to stabilize slopes that would otherwise be prone to failure.

Geology, geologic structure, jointing and fracture planes, soil characteristics, and old landslide complexes and deposits all interact to create a significant risk of slope movement on site. As indicated above, although this information was known and incorporated into the project design for the 2001 GDP, the areal extent of the future landslide remediation activities were not fully identified. As discussed in Section 3.0, Purpose and Need for Amendment No. 2 to the 2001 GDP, one of the primary purposes of the Proposed Project is to provide for the areal extent of landslide remediation activities around the PDL so that landfill operations can be permitted in the future. Without the ability to provide for adequate slope stabilization measures, agency and operating permits for full development of the site would not be approved; this would seriously truncate the currently planned life and capacity of the landfill facility. With appropriate design and construction of landslide-stabilization features, the potential significant effects of these hazards of the Proposed Project can be avoided or substantially reduced.

Areas of potential slope stabilization within the updated limits of disturbance that are required for continuation of landfill operations are identified on Exhibit 4.3-1 as the hatched portions on the perimeter of Zones 1 and 4. These areas will likely be stabilized by buttress fills and/or a shear key, with a substantial fill and/or shear key required to stabilize the largest landslide complex in Zone 4. The Zone 4 shear key concept was a part of the project described for implementation in the 2001 GDP, but a review and update of the site's available geotechnical information has been recently conducted to better define the potential limits of disturbance required for future landslide remediation. Impacts due to known conditions from landslide features or slope failure are planned to be remediated through implementation of the Proposed Project. As these incremental remediation features will be located largely outside the refuse footprint, there will be no impacts upon landfill subsidence.

Geotechnical factors affecting the design of the newly proposed desilting system for Zone 4 and its associated desilting basins have not changed from the design considerations required by the 2001 GDP; therefore, the basins, as described in the Proposed Project, will incorporate similar measures for geotechnical stability. These perimeter basins have been sited in areas believed to be stable or in areas to be stabilized as part of the landfill design.

All mitigation measures that were incorporated into the 2001 GDP project will be applied to the Proposed Project; accordingly, there is no substantial change in effect over that which was identified in the 2001 GDP.

*(4) Be located on expansive soils, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.*

The Proposed Project will not be located on expansive soils resulting in a substantial risk to life or property. Inappropriate expansive soils will be removed and used as backfill material.

*(5) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal system where sewers are not available for the disposal of wastewater.*

The Proposed Project will not require the use of septic tanks or alternative wastewater disposal systems.

Accordingly, as none of the elements of the Proposed Project will incrementally expose people or structures to major geologic hazards over those identified within EIR 575, and all elements will be designed to the existing seismic standards stated in 27 CCR. There is therefore no substantial change upon geophysical resources within the project site from the Proposed Project.

## 5.2.4 MITIGATION MEASURES

### Previously Adopted Mitigation

The following mitigation measures are currently in place for impacts associated with the landfill component of the 2001 GDP, as identified in EIR 575 (numerical designations are from EIR 575). All mitigation commitments contained within FEIR 575 and the 2001 GDP will apply to the Proposed Project.

***Impact 4.2-1: Hillside excavations for construction of landfill refuse capacity and daily cover soil could expose people or property to landslide or mudslide activity during the excavation period.***

MM 4.2-1a: Prior to designing each phased landfill plan and specifications, the IWMD shall conduct a geotechnical investigation to determine the extent of landslide material and the soil foundation characteristics of the proposed phase. A geotechnical report of the phased site area shall be prepared which includes a landslide excavation and removal plan prepared to the satisfaction of the Director, IWMD.

MM 4.2.1b: For each phased grading plan, the excavation and grading plan shall ensure the stability of all cut, fill and lined slopes. Slopes shall be designed to withstand the most probable earthquake based on a return period of 100 years or as required by current regulations. Liner design plans shall be submitted to the San Diego Regional Water Quality Control Board for approval. The plans shall also be incorporated in an JTD and submitted to the LEA for approval and to the CIWMB for concurrence.

***Impact 4.2-2: Seismic activity occurring along any of the active regional faults could subject the landfill property to seismic shaking which could damage landfill facilities and/or structures.***

MM 4.2-2a: The IWMD shall demonstrate that landfill design plans comply with the state and federal seismic requirements in CCR Title 27, and 40 Code of Federal Regulations (CFR) §258.14 (Seismic Impact Zones) and §258.15 (Unstable Areas). These demonstrations shall be incorporated in the IWMD Operating Record prior to construction of said plans.

MM 4.2-2b: Prior to commencement of daily excavations for borrow material, grading plans shall be prepared, analyzed for slope stability and submitted for approval by the Director, IWMD, or his designee.

MM 4.2-2c: As part of a JTD, the IWMD shall present the assumptions, methods and calculations used to demonstrate seismic safety. This measure is required only if final slopes are planned to be steeper than a ratio of 3:1 (horizontal to vertical), if the site is located in an area subject to liquefaction or in unstable areas with poor foundation conditions as described in the Seismic Safety Element of the Orange County General Plan (27 CCR 17777).

***Impact 4.2-3: Differential settlement associated with compression and decomposition of solid waste materials can be expected on the order of 30 percent of the total refuse thickness.***

MM 4.2.3: As part of a JTD, the IWMD shall present the assumptions, methods and calculations used to demonstrate that differential settlement of the site will not result in future environmental impacts (27 CCR 21090).

***Impact 4.2-4: Continued use of the site for landfill purposes will create the demand for soil to be used as cover material.***

MM 4.2-4: When the JTD is prepared, the IWMD shall identify the assumptions, methods and calculations performed to demonstrate that the excavation plans provide for sufficient quantities and sources of suitable soils or alternative cover systems for daily and intermediate cover, final cover and liner materials. This section of the JTD should also reference and summarize any borrow studies conducted to demonstrate the availability of sufficient quantities of materials. If materials are obtained on site, the description shall include which sections of the site will be excavated for each sequence of landfilling and where these materials will be stockpiled for use. Stockpile locations should not interfere with unloading, spreading, compacting, access, safety, drainage or other operations on the site. Stockpiles should be clearly shown on the fill sequencing and excavation plans prepared for construction. (27 CCR 21600).

### **Mitigation For Impacts Associated with Amendment No. 2 to the 2001 GDP**

No additional mitigation measures are required.

### **5.2.5 LEVEL OF SIGNIFICANCE AFTER MITIGATION**

The Proposed Project has been determined to have no substantial change from previous analyses on geophysical resources.

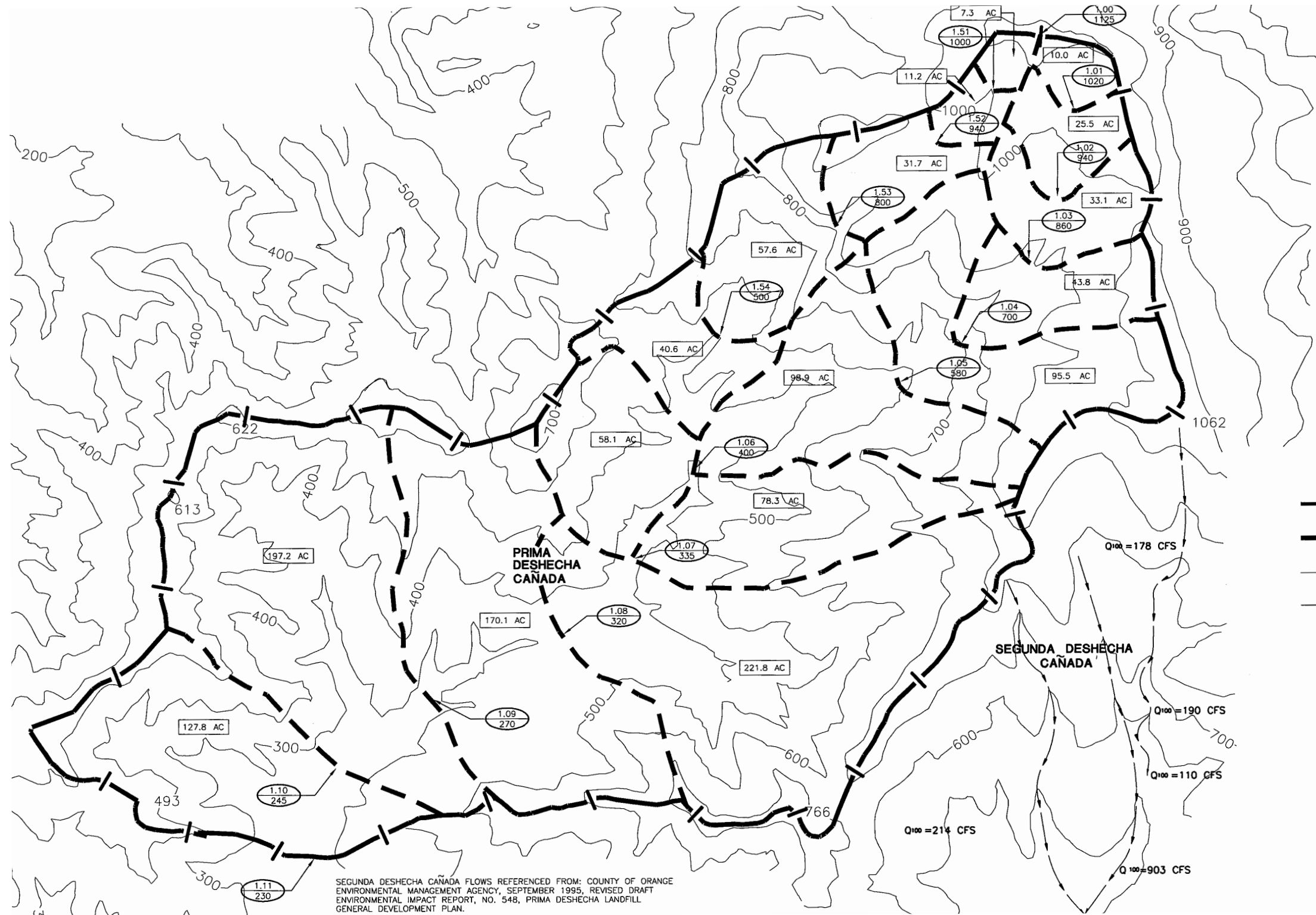
### **5.3 HYDROLOGY AND WATER QUALITY**

This section provides a summary of relevant information from FEIR 575 and is updated with more recent information that was provided by supplemental studies and analyses.

#### **5.3.1 EXISTING CONDITIONS**

The PDL site is located within the 2 major watersheds of Prima Deshecha Cañada and Segunda Deshecha Cañada, as shown on Exhibit 5.3-1.

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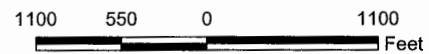
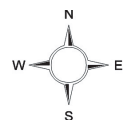
### LEGEND

- PRIMA DESHECHA CAÑADA DRAINAGE TRIBUTARY AREA
- PRIMA DESHECHA CAÑADA DRAINAGE SUB-AREA
- EXISTING GROUND
- FLOWLINE
- NODE NAME  
ELEVATION
- NODE DESCRIPTION
- AREA IN ACRES
- 100-YEAR STORM FLOW (CUBIC FEET PER SECOND)

## Pre-Development Site Hydrology

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Exhibit 5.3-1



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The following presents a summary of the hydrologic information contained within the 2001 GDP and EIR 575, *Prima Deshecha Landfill Geotechnical Investigations Report – Zone 4* (GeoLogic Associates 2002), and an *Analysis of Groundwater Resources in Zone 4, Prima Deshecha Landfill, Orange County, California* (GeoLogic Associates 2004, located in Appendix E).

### **Prima Deshecha Cañada**

The Prima Deshecha Cañada watershed covers approximately 1,298.5 acres, or roughly 84 percent of the project site. As shown on Exhibit 5.3-1, the Prima Deshecha Cañada channel is the major hydrologic feature on the site and extends from the northeastern corner to the southwestern corner of the property. Several small tributary streams extend into the canyon and flow into the main southwesterly trending channel. The surface flows exit the site at the southwestern corner and enter the upstream inlet of the M01-reinforced concrete box (RCB) storm drain in the City of San Clemente. This RCB parallels Camino de los Mares to the Shorecliffs Golf Course, where the flows are discharged into an RCB that traverses the golf course. At the southern end of the golf course, the flows enter a double RCB that crosses Avenida Vaquero and Pacific Coast Highway where it is discharged into the Pacific Ocean.

As it qualifies as a “water of the United States,” the Prima Deshecha Cañada watercourse is under the jurisdiction of Section 404 of the Clean Water Act, administered by the USACE (see Section 4.3.3 for more detailed information on the 404 permit program). California Department of Fish and Game (CDFG) jurisdictional areas are also present on the site pursuant to Division 2, Chapter 6, Sections 1600–1603 of the California *Fish and Game Code* (see also Section 4.3.3). A Jurisdictional Delineation for the site was completed in 2003 and can be found in Appendix F. The jurisdictional limits of the CDFG and USACE referenced in this SEIR are the result of this detailed field delineation.

### ***Water Sources for Prima Deshecha Cañada Stream***

Flows within Prima Deshecha Cañada stream occur predominantly in a southwesterly direction. A perennial spring is located in the northernmost reaches of Prima Deshecha Cañada stream close to the center of Zone 4 (Exhibit 5.3-1), within an outcrop of the San Onofre Breccia near the head of the canyon. Currently, the primary sources of water for the stream are believed to be precipitation runoff and spring flows. Average rainfall precipitation at the PDL is approximately 10.2 inches per year (GLA 2004), 90 percent of which typically falls between December and March. Between March and December, the only source of surface water to the stream is believed to be spring flow, estimated at approximately two to five gallons per minute (GLA 2004). Surface flow continues down the channel to a point where it eventually submerges into the alluvium of the streambed.

As referenced in EIR 575, the source of the groundwater emanating from the spring may be an artesian aquifer in the formation. It is also possible the groundwater may be derived from underlying geologic units such as the Topanga Formation, with groundwater moving upwards (towards the surface) along fractures in the San Onofre Breccia and/or along the fault which is in close proximity to the spring. In addition, some portion of the spring flow may be derived from downward percolation of surface water in a structural depression (probably a syncline) east of the spring. More recent field observations and analytical geological investigations indicate that the source of spring flows is groundwater stored in the Monterey Formation and uppermost San Onofre Breccia (GLA 2002) (Exhibit 5.3-2). It is likely that this spring daylights in this area due to a splay of the Forster Fault, which juxtaposes the low permeability claystone of the Capistrano Formation against the higher permeability breccia and conglomerate of the San Onofre Breccia. Without a detailed study of on-site groundwater resources, there is some uncertainty as to specific contribution made by each of the geologic units to overall spring flow rates. However, owing to its geologic characteristics relative to the spring, the Monterey Formation is assumed

to provide the major component of spring flows into the Prima Deshecha Cañada stream channel. Accordingly, the easterly portion of Zone 4 would likely function as the recharge area for the Monterey Sandstone aquifer that feeds the spring.

### **Segunda Deshecha Cañada**

The Segunda Deshecha Cañada watershed (referred to as “Segunda Deshecha” on site) covers approximately 230 acres or roughly 15 percent of the site. It drains to the southeastern corner of the site and continues approximately 1.5 miles as a natural channel to Avenida Pico (Exhibit 5.3-1). Upon reaching Avenida Pico, flows from the Segunda Deshecha Cañada stream channel enter an RCB for about 3,400 feet. Flows then continue in a natural channel until entering another RCB approximately 2,700 feet north of the Interstate 5 freeway (I-5). That RCB opens into a concrete-lined trapezoidal channel for a short distance before it transitions to an RCB that flows under the I-5 and a shopping center to the south. Flows continue south through a concrete-lined trapezoidal channel with culverts at Calle de los Molinos, El Camino Real, and Avenida Pico. The channel becomes a double RCB as it crosses under Pacific Coast Highway, a restaurant, and a parking lot before it opens into a concrete-lined channel that crosses under the railroad tracks and discharges into the ocean at the north beach parking lot near Avenida Pico and Pacific Coast Highway.

The portion of the PDL site within the Segunda Deshecha Cañada watershed is incised by four small channels. The 100-year storm flows ( $Q_{100}$ ) for these 4 streams range from 110 cubic feet per second (cfs) to 214 cfs prior to their confluence south of the site where the  $Q_{100}$  has been calculated to be 903 cfs (EIR 575). The Segunda Deshecha Cañada channel continues in a southerly direction beyond the confluence of the four tributary channels.

A small area along the northern and western periphery of the site, covering approximately 17 acres or about 1 percent of the site, drains north through natural channels to San Juan Creek. This peripheral area is characterized by minor surface flows which drain to the north and west after leaving the site. The 100-year storm flows from this entire portion would total approximately 200 cfs. This area of the site contributes only a very small amount of the surface flow within that adjacent drainage area due to its location at the extreme outer reaches of the watershed.

### **Groundwater**

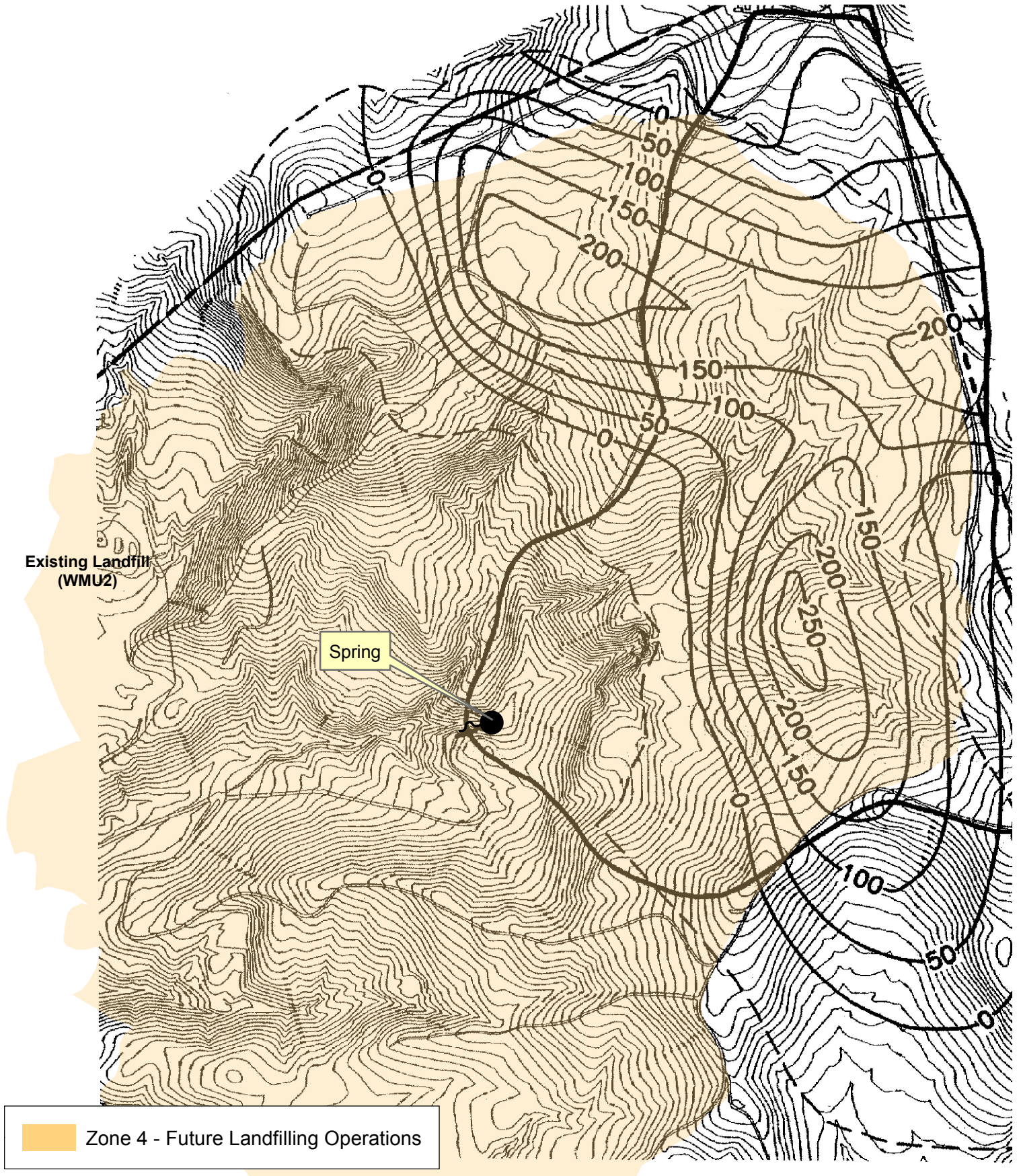
The PDL site lies in the San Clemente Subunit of the San Juan Groundwater Basin. EIR 575 classifies regional groundwater resources as follows:

1. The shallow aquifer (of depth ranging from 10 to 20 feet) exists within the erosional channels (alluvium) incised into the Capistrano siltstone formation. Surface water runoff and mineral springs in the area intermittently recharge the shallow aquifer. It has been documented that two cattle-water wells in the shallow aquifer were destroyed because of the low yield and the high ion concentration.
2. The deep aquifer (of known beneficial uses in the region) is primarily found in the San Onofre Breccia formation at a depth of approximately 1,000 feet.

### ***Regional Groundwater Resources***

Groundwater from alluvial deposits in the San Clemente subunit is only known to have been produced from two shallow wells in Segunda Deshecha. These wells, previously used to water cattle by the Rancho Mission Viejo Company, are no longer in existence. The direction of groundwater movement in Segunda Deshecha, based on historic water levels in these two

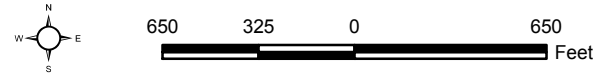
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### Water Source Evaluation for Zone 4 Spring

Exhibit 5.3-2

Prima Deshecha Landfill  
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wells, is towards the Pacific Ocean to the south. Groundwater resources in this area are not anticipated to be affected by the Proposed Project, as there will be no disruption to Segunda Deshecha. The only uses proposed for this area are passive recreation, open space, and native habitat. Based on these hydrologic conditions, small channels within Segunda Deshecha were identified for potential riparian restoration in the proposed Pre-mitigation Plan. Also, some portions of the upland areas within Segunda Deshecha were identified for coastal sage scrub and southern needlegrass grassland restoration in fulfillment of the mitigation requirements for the ultimate buildout of Prima Deshecha Landfill.

The closest wells to the site with groundwater from alluvial deposits are located in the San Juan subunit, about two miles north of the site (EIR 575). These wells, which are hydrologically upgradient of the site, are in San Juan Creek which drains in a westerly direction into Oso Creek. There are no known wells which produce groundwater from alluvial aquifers downgradient of the site (EIR 575).

Relative to the geologic formations comprising the project site, the Capistrano Formation is believed to have a low potential for groundwater. The principal usable reserves of groundwater in the area surrounding the site occur at a depth of approximately 400 to 900 feet below ground surface (bgs) in the Capistrano Formation. Water is pumped from this depth at a small well field in San Clemente (EIR 575). Groundwater in this unit is produced from poorly consolidated sandstones and conglomeratic sandstone lenses. The groundwater flow direction is generally seaward, towards the west. Groundwater in these aquifers is believed to exist under confined conditions (Exhibit 5.3-3)

Regionally, the Monterey Formation is considered to have minor potential for groundwater due to the abundance of low permeability siltstone, shale, and mudstone and the fact that no economic groundwater resources are known to occur in this unit in the vicinity of the site (EIR 575).

The San Onofre Breccia may contain economic quantities of groundwater based on the exposed lithologies in this formation and the presence of the spring emanating from surface outcrops at the toe of an approximately 200 foot high bluff/cliff area in the eastern central half of the site (Exhibit 5.3-1).

### ***On-Site Groundwater Occurrences***

EIR 575 has identified groundwater resources at the site in 4 discrete environments occurring:

- Unconfined within alluvial sediments;
- Perched above low-permeability concretions or clay beds;
- Unconfined or confined within bedrock joints or fractures; and
- Unconfined or confined within sandstone beds.

Groundwater in the first environment (i.e., unconfined within alluvial sediments) occurs in alluvial sediments along Prima Deshecha Cañada stream and its tributaries and eventually infiltrates the underlying bedrock along fractures and joints (thereby contributing to remaining environments identified above). Alluvial groundwater is monitored by six monitoring wells located along Prima Deshecha Cañada stream.

The remaining groundwater environments (i.e., the second, third, and fourth bullets identified above) occur in the landslide deposits and bedrock units throughout the site, and are monitored by monitoring wells MW-1 through MW-11, S-1, and the spring (Exhibit 5.3-3). Hydraulic conductivities are variable in the bedrock environments, and based on well development and sampling observations, it appears that the hydraulic conductivity is highest within the Monterey

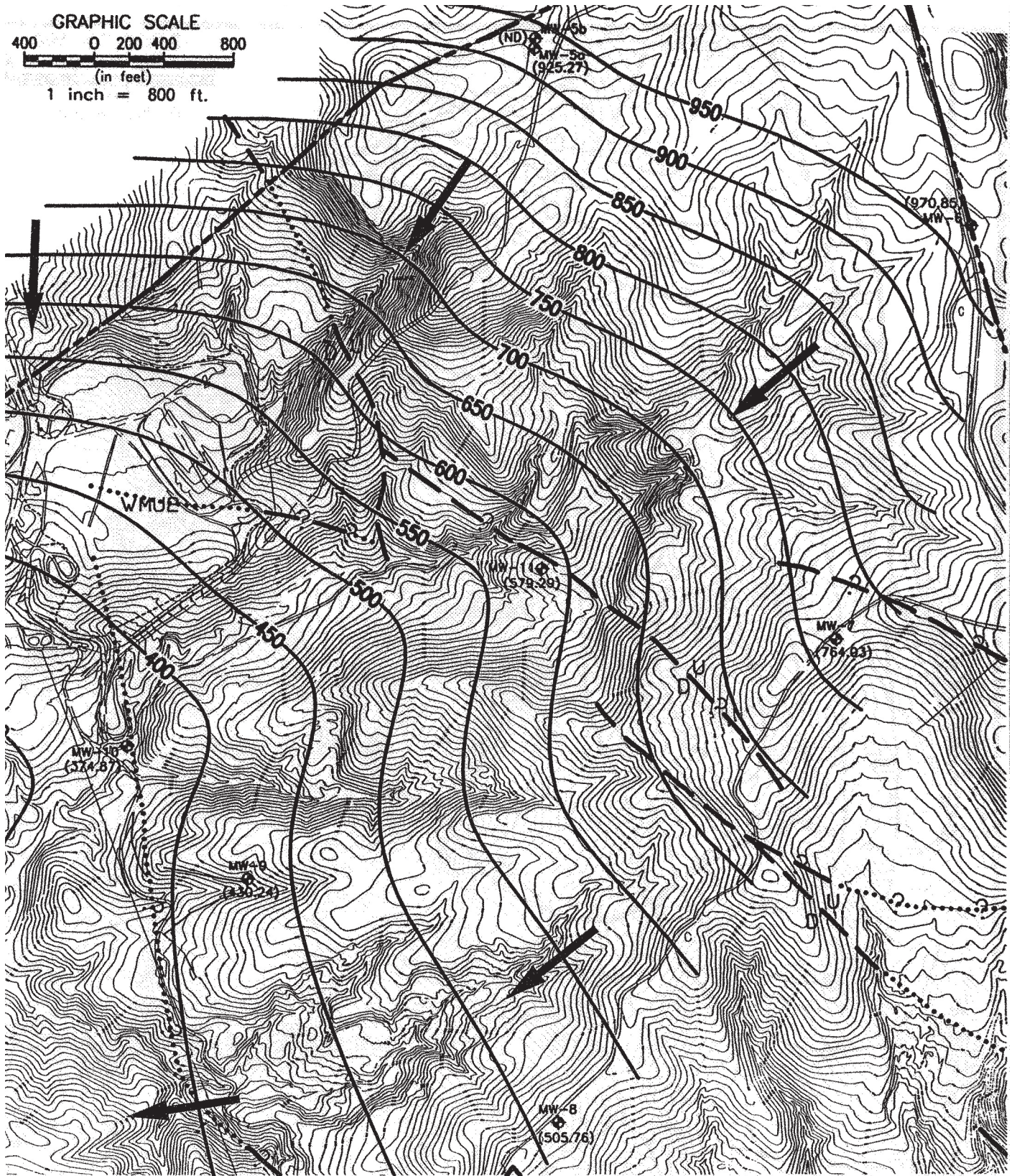
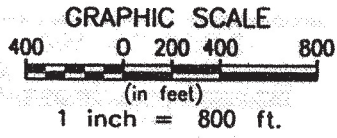
Formation sandstone and lowest within the Capistrano Formation claystone. Previously measured groundwater elevations indicate that groundwater flows from the northeast to the southwest at hydraulic gradients ranging from approximately 0.12 feet (horizontally) per foot (topographically) in the northeastern portion of the site, to about 0.03 feet per foot near the southwestern portion of the site (GeoSyntec 1999). The Forster fault zone transects the eastern half of the site, and these faults may act as impedances to groundwater flow, accounting for the steeper gradient within the northeastern portion of the site.

Beneath Zone 4, groundwater was encountered in 31 of 37 boreholes at depths ranging from 18 to 336.5 feet bgs (GLA 2002). Eight groundwater monitoring wells were installed as part of a geotechnical investigation that was commissioned in 1996, the findings of which were published in January 2002 (GLA 2002). Wells were screened again in each of the 3 geologic formations exposed in Zone 4 (the Capistrano formation, the Monterey formation, and the San Onofre Breccia). Each well was constructed to evaluate uppermost groundwater conditions in the bedrock adjacent to the proposed Zone 4 development area. Comparison of the first-encountered groundwater elevation to the static water elevation suggests that groundwater in the bedrock exists under semi-confined to confined conditions. There may be areas that would require dewatering during construction prior to the development of the Zone 4 liner system (i.e., within the landslide remediation areas), even though the majority of the proposed refuse fill area will be separated from the uppermost groundwater by a minimum of 5 feet. Accordingly, a dendritic subdrain system was incorporated into the composite liner system to prevent buildup of hydrostatic stress beneath the liner and to maintain a five foot separation between refuse deposits and groundwater. Associated discharges from this system will be evaluated prior to the development of Zone 4 in order to determine the permit requirements in effect at that time for non-stormwater discharges and to check for compliance with amended waste discharge requirements for the site.

### **Groundwater Quality**

The results of water quality analyses indicate that groundwater in each formation contains elevated concentrations of numerous inorganic constituents. Table 5.3-1 presents water quality data collected between 1994 and 1997 at the spring located within Zone 4. Comparison of sampling results with the state and federal Applicable or Relevant and Appropriate Requirements (ARARs) and the Basin Objectives that were established by the San Diego Regional Water Quality Control Board (SDRWQCB) indicate that background water quality is very poor and exceeds the various concentration limits for chloride, sulfate, specific conductance, total dissolved solids, boron, and several other metals. Furthermore, a groundwater chemistry assessment of samples collected from wells screened in bedrock formations indicates that bedrock groundwater is of poor quality and is characterized by dissolved solids, chloride, and sulfate concentrations that exceed the State of California drinking water standards. However, it should be noted that the water quality characteristics of the spring feeding the Prima Deshecha Cañada channel have not adversely affected riparian resources in the downstream corridor.

Comparison of the on-site studies with the regional studies suggests that the regionally defined "shallow aquifer" corresponds with the on-site observations of alluvial groundwater. However, the regionally-defined "deep aquifer" has not been intercepted by on-site studies.



Source: Geologic Associates, 1999

## Groundwater Monitoring Wells and Gradients

## Exhibit 5.3-3

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**TABLE 5.3-1  
HISTORICAL SUMMARY DATA – GROUNDWATER SPRING  
GEOTECHNICAL INVESTIGATION**

Analyte	Units	Mar 1991	May 1991	Feb 1992	Jun 1992	Mar 1993	May 1993	Aug 1993	Nov 1993	Feb 1994	May 1994	Oct 1994	Apr 1996	Jul 1996	Apr 1997	Jul 1997	MED.	AVG.	STD. DEV.	MIN.	MAX.
<b>GENERAL CHEMISTRY</b>																					
Alkalinity	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	273	245	250	267	259	259	12	245	273
Bicarbonate Alkalinity	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	273	245	250	267	259	259	12	245	273
Carbonate	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.7	0.7	0.7	0.7	NC	NC	NC	NC	NC
Chloride	mg/L	1,257	1,212	1,165	1,167	795	NA	768	800	771	787	770	944	900	888	858	798	949	218	768	1,257
Hardness	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,883	1,782	1,859	1,817	1,838	1,835	45	1,782	1,883
Ion Balance	%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.008	0.87	2.1	1.52	1.20	1.12	0.90	0.008	2.1
Nitrate (as N)	mg/L	2.2	2.2	2.2	2.2	7	NA	3.1	1.8	1.3	0.6	1.7	0.3	0.4	0.4	0.44	10	1.70	2.1	0.3	7
Nitrogen, Total	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NC	NC	NC	NC	NC
pH	units	7.70	7.30	8.00	7.20	8.20	8.37	8.25	8.18	8.25	7.99	8.31	7.86	7.92	8.04	7.92	8.00	7.97	0.35	7.2	8.37
Phosphate, Total	mg/L	NA	NA	NA	NA	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NC	NC	NC	NC	NC
Specific Conductance	µmhos/cm	NA	NA	NA	NA	3,630	NA	NA	NA	NA	NA	NA	4,340	4,340	4,570	4,210	4,210	4,018	386	4,570	4,340
Sulfate	mg/L	1,491	1,552	1,519	1,496	1,190	NA	847	860	923	980	888	1,051	1,003	1,038	982	1,021	1,130	267	847	1,552
Total Dissolved Solids	mg/L	4,422	4,574	4,746	4,804	3,100	2,700	3,040	3,350	2,740	2,980	3,250	3,550	3,124	3,520	3,382	3,350	3,552	723	2,700	4,804
Turbidity	NTU	0.94	23	49	31	1.1	4	1.6	0.65	3.1	1.7	73.5	6.7	3.5	NA	NA	3.5	15.4	22.9	0.65	73.5
<b>METALS</b>																					
Aluminum	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NC	NC	NC	NC	NC
Antimony	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NC	NC	NC	NC	NC
Arsenic	mg/L	0.006	0.004	0.005	0.005	0.01	NA	0.014	0.01	0.01	0.01	0.01	NA	NA	NA	NA	0.005	0.005	0.001	0.004	0.006
Barium	mg/L	0.05	0.07	0.07	0.06	0.06	NA	0.02	0.06	0.05	0.05	0.04	NA	NA	NA	NA	0.06	0.06	0.01	0.04	0.08
Beryllium	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NC	NC	NC	NC	NC
Cadmium	mg/L	0.01	0.01	0.01	0.01	0.01	NA	0.01	0.01	0.01	0.01	0.01	NA	NA	NA	NA	NC	NC	NC	NC	NC
Calcium	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	412	388	409	407	408	404	11	388	412
Chromium	mg/L	0.01	0.01	0.01	0.01	0.02	NA	0.02	0.02	0.02	0.02	0.02	NA	NA	NA	NA	NC	NC	NC	NC	NC
Cobalt	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NC	NC	NC	NC	NC
Copper	mg/L	0.01	0.01	0.02	0.01	0.02	NA	0.08	0.02	0.02	0.02	0.02	NA	NA	NA	NA	0.02	0.04	0.04	0.01	0.08
Iron	mg/L	0.19	1.54	0.07	0.13	0.1	NA	0.1	0.1	0.1	0.1	0.0	NA	NA	NA	NA	0.16	0.48	0.71	0.07	1.54
Lead	mg/L	0.01	0.01	0.01	0.01	0.02	NA	0.02	0.02	0.02	0.02	0.02	NA	NA	NA	NA	NC	NC	NC	NC	NC
Magnesium	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	208	198	204	195	201	201	6	195	208
Mercury	mg/L	0.001	0.001	0.001	0.001	0.002	NA	0.002	0.002	0.002	0.002	0.002	NA	NA	NA	NA	NC	NC	NC	NC	NC
Molybdenum	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NC	NC	NC	NC	NC
Nickel	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NC	NC	NC	NC	NC
Potassium	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.82	8.14	8.31	9.39	8.23	8.42	0.68	7.82	9.39
Selenium	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NC	NC	NC	NC	NC
Silver	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NC	NC	NC	NC	NC
Sodium	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	386	332	379	344	361.5	360.3	26.3	332	386
Thallium	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NC	NC	NC	NC	NC
Tin	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NC	NC	NC	NC	NC
Vanadium	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NC	NC	NC	NC	NC
Zinc	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NC	NC	NC	NC	NC
<b>VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS – None Detected</b>																					
Notes: Compound or analyte not detected; value reported is the laboratory method detection limit (MDL). Compound or analyte is measured at a trace concentration between the laboratory MDL and the practical quantitation limit (PQL). Quantified concentration or value. Constituent or analyte not analyzed during that monitoring.																					
Source: GLA 2002																					

### 5.3.2 SIGNIFICANCE CRITERIA

The CEQA Guidelines indicate that a project will normally have a significant effect on the environment related to hydrology and groundwater if it will "...substantially degrade or deplete ground water resources...interfere substantially with ground water recharge...[or] cause substantial flooding, erosion, or siltation..."

For the purposes of this SEIR, the GDP was determined to have a significant effect on the environment related to hydrology and groundwater if a GDP impact met the language of the CEQA Guidelines or exceeded the thresholds set by the Environmental Checklist issued by the County of Orange.

### 5.3.3 POTENTIAL IMPACTS

Per the County of Orange Environmental Checklist, the Proposed Project would have a significant effect on hydrology and water quality if it would:

- (1) Violate any water quality standards or waste discharge requirements.*

The Proposed Project will not create either runoff or water discharge that will exceed water quality standards or violate existing waste discharge requirements (WDRs). Operations proposed in Amendment No. 2 to the 2001 GDP will be consistent with the operations currently covered under the site's WDRs and its General Permit to Discharge Stormwater Associated With Industrial Activity (including stormwater collection, leachate collection, and disposal and groundwater subdrain flow collection and disposal). WDRs at the PDL were updated in 2004 and 2005 for ongoing landfill operations, and all applicable measures and BMPs will be in place before and during project construction so that the site will comply with water quality standards during the construction of project features.

In addition to ongoing compliance with National Pollutant Discharge Elimination System (NPDES) requirements for industrial discharges, the proposed project will comply with Section 7 of Orange County's Drainage Area Management Plan (DAMP), which requires a Water Quality Management Plan. Compliance with the DAMP is a project mitigation requirement, and the IWMD will coordinate compliance with the County of Orange Watershed Coastal Resources Division accordingly.

Any flows from the proposed subsurface reservoir that are released into Prima Deshecha Cañada stream channel are not expected to leave the property boundary but are intended to percolate into the alluvium within the length of the riparian corridor. However, should any flows actually cross the property boundary, they will discharge into improved stormwater channels that flow into the ocean and will therefore not impact any downstream water bodies. Permitting requirements for the subsurface reservoir will be addressed closer to the development of Zone 4 (prior to facility construction) in order to ensure that water quality standards and waste discharge requirements are met.

- (2) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).*

Full project buildout within Zone 4 will significantly affect the spring providing flows into the Prima Deshecha Cañada stream. In addition, the area believed to provide a recharge function for this spring will be largely impacted by landfill operations within Phases D, E and G, which are

currently estimated to begin in the year 2045. At that time, the spring head waters would be removed by landfill grading operations, and the recharge area would be reduced by the construction of the liner system that is required for landfill operations.

This recharge area has not been shown to be significant relative to regional groundwater resources; however, on-site groundwater occurrences appear to be related to quantities of flow through the Monterey Sandstone, which is exposed throughout the eastern portion of the site within Zone 4. Consequently, impact to on-site groundwater resources may occur as this recharge area is reduced.

Most importantly, the biological resources occupying the riparian zone along the Prima Deshecha Cañada stream are largely dependent upon maintenance of these flows within the stream channel. A series of alternatives have been developed for augmenting surface water flows, as needed, to offset potential project impact to stream flow. The Proposed Project analyzed in SEIR 597 considers a potentially promising concept involving modification to Zone 4's desilting system through the incorporation of a subsurface rainfall storage reservoir(s). This (these) reservoir(s) would serve to offset the impacts of removal of the spring and its recharge area on local groundwater resources by storing stormwater collected in planned desilting basins, and slowly discharging these flows downstream through an outlet pipe. The reservoirs would be located adjacent to or beneath one or more of the future permanent desilting basins proposed for Zone 4, and would consist of a series of large underground pipes (Exhibit 4.3-5). These pipes will be used for storage of desilted water that can be collected from stormflows routed from Zone 4. Rainfall runoff would be stored in water-tight pipes (i.e., large high density polyethylene [HDPE], gasketed reinforced concrete pipes, or sealed corrugated galvanized steel pipes). As water is collected in the western basin(s), a portion of the desilted water will be directed into the underground storage system where it will be released via gravity flow into the downstream channel. If the underground storage system is full, remaining storm water will be released directly into the channel downstream of the western desilting basin. Pending engineering feasibility studies and operational and permit requirements, this system is proposed to mitigate potential negative local effects from groundwater recharge reduction. Should this option prove infeasible, other surface water augmentation options would be pursued.

*(3) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on site or off site.*

As indicated above, landfill operations within Zone 4 will eventually remove the Prima Deshecha Cañada stream channel and its associated spring. This impact constitutes a substantial alteration of the existing drainage pattern of the area in the short term, as identified in EIR 575. Exhibit 5.3-4 presents post-project hydrologic conditions at the site. The construction of a subsurface rainfall storage system (or other surface water augmentation measures) will serve to mimic the natural drainage pattern of the site by maintaining flows within the remaining downstream portions of the channel for sustenance of the biological resources within the riparian corridor. Proposed Project Zone 4 desilting system revisions will not substantially alter the post-project hydrologic conditions at the site, as analyzed in the EIR 575. The revised desilting system primarily functions to better utilize desilted water from the site and minimizes direct biological impacts from desilting basin construction.

Per existing commitments in EIR 575, sediment- and erosion-control plans will be prepared and implemented on an annual basis to reduce sediment and to control erosion on the landfill site. Silt generated on the active landfill surface will be reduced further with the desilting facilities required by 27 CCR. These facilities include permanent and interim desilting basins that are intended to prevent substantial on- or off-site erosion or siltation.

*(4) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on site or off site.*

Although there will be permanent alteration of the existing drainage pattern on the site (Exhibit 5.3-4), there will be no increase in the rate or amount of surface water that is generated by any element of the Proposed Project, and there will be no induced flooding on site or off site from the Proposed Project over that which was analyzed in EIR 575.

*(5) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.*

Project drainage features, as incorporated into EIR 575, will be designed to regulate 100-year flows off the project site. The Proposed Project will have no negative incremental effect on these flows.

*(6) Have a significant adverse impact on groundwater quality or otherwise substantially degrade water quality.*

Groundwater quality will not be affected by construction of the desilting basins, the rainfall storage reservoir, or the landslide remediation features included in the Proposed Project. Adequate and appropriate desilting features will accompany project construction and operation.

*(7) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.*

The Proposed Project will not increase flood flows off the project site or impact mapped flood hazard areas. No housing development is associated with the Proposed Project.

*(8) Place within a 100-year flood hazard area structures, which would impede or redirect flood flows.*

The Proposed Project will not place any structures within a 100-year floodplain that would impede or redirect flows.

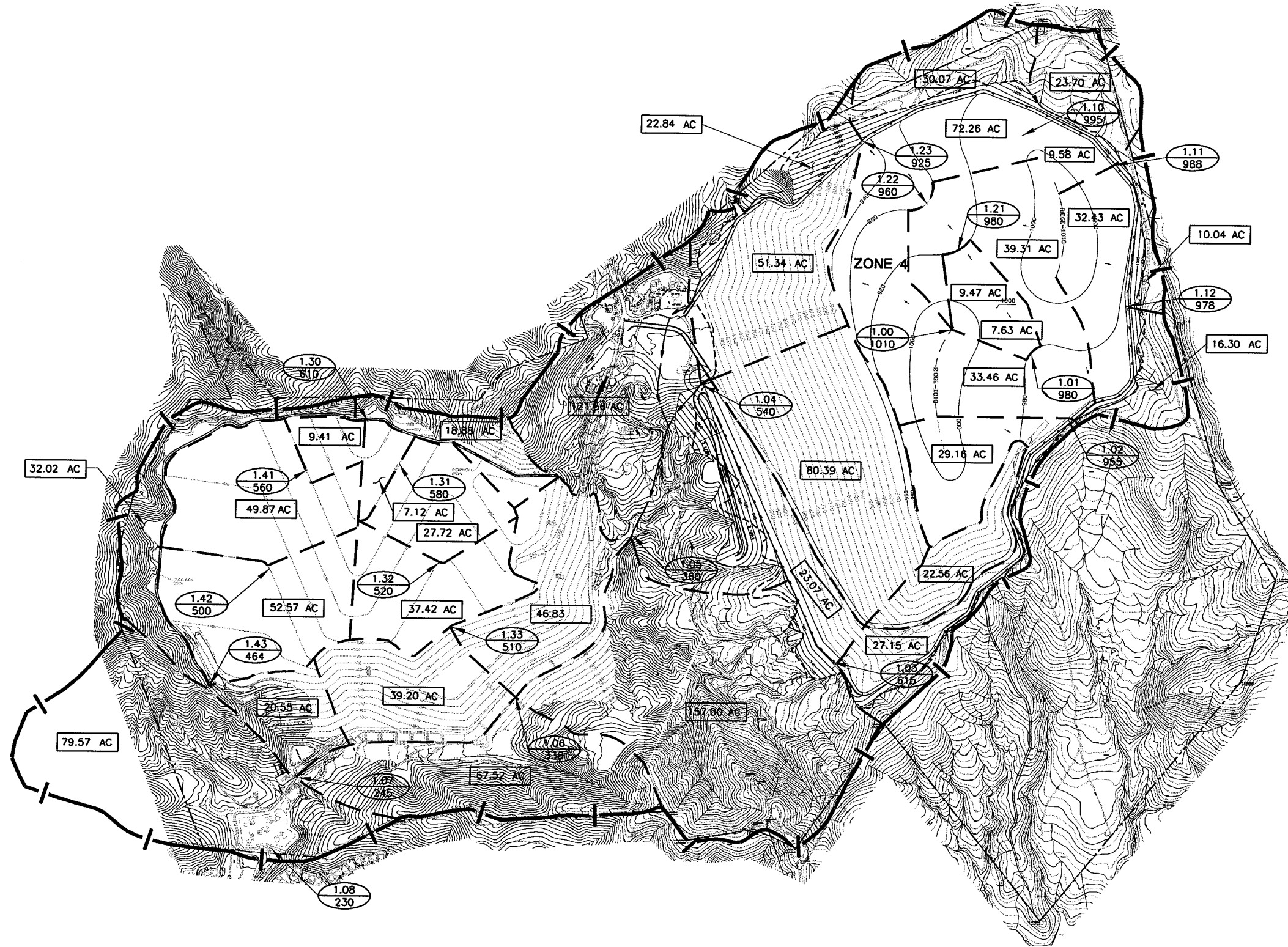
*(9) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.*

The Proposed Project will not alter the risk of either people or structures to loss, injury or death associated with flooding or damage to flood-control facilities.

*(10) Inundation by seiche, tsunami, or mudflow.*

Seiches and tsunamis are not potential issues at the project site due to the lack of proximity to a major body of water. The Proposed Project will not incrementally affect the occurrence or probability of mudflows on the site.

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**LEGEND**

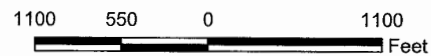
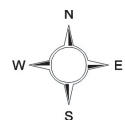
- DRAINAGE TRIBUTARY AREA
- DRAINAGE SUB-AREA
- PROPOSED CONTOURS
- EXISTING CONTOURS
- DAYLIGHT LINE
- PROPERTY BOUNDARY
- EXISTING WATER COURSE
- NODE NAME  
ELEVATION
- AREA IN ACRES

Q<sub>100</sub> = 1864 CFS      100-YEAR STORM FLOW  
(CUBIC FEET PER SECOND)

### Post-Project Hydrologic Conditions at Project Site

Prima Deshecha Landfill Supplemental Environmental Impact Report 597

### Exhibit 5.3-4





### 5.3.4 MITIGATION MEASURES

#### Previously Adopted Mitigation

The following mitigation measures are currently in place for impacts associated with the landfill component of the 2001 GDP, as identified in EIR 575 (numerical designations are from EIR 575). All mitigation commitments contained within EIR 575 and the 2001 GDP will apply to the Proposed Project.

***Impact 4.2-5: The potential exists for landfill leachate migration into groundwater through fractured and porous alluvium.***

MM 4.2-5a: The IWMD shall continue to operate its existing leachate control system within the active landfill area. In addition, the IWMD shall be required to construct a corresponding leachate control and recovery system in those areas where new liners are constructed and in areas added to the active landfill area.

MM 4.2-5b: The site shall continue to operate under the groundwater monitoring requirements contained in Waste Discharge Requirements, Order No. 89-102, Technical Change Order (TCO) No. 1, Amended Waste Discharge Requirements contained in Order No. 93-86, and any future orders issued by the San Diego Regional Water Quality Control Board. TCO No. 1 contains the detailed Groundwater and Vadose Zone Monitoring Program for the Prima Deshecha Landfill.

MM 4.2-5c: As part of a revised JTD, the IWMD shall present the assumptions, methods and calculations used to predict leachate generation and sizing of the components of the leachate collection system.

***Impact 4.3-1: Modification of the landfill surface will alter the surface hydrology of the site and could result in increases in stormwater runoff.***

MM 4.3-1a: As part of a Joint Technical Document (JTD) to be prepared by IWMD, the IWMD shall present the assumptions, methods and calculations used to calculate the potential flow quantities for run-on, runoff, and sediment content of storm water flow used in sizing drainage and sediment control facilities.

MM 4.3-1b: As part of a JTD to be prepared by IWMD, the IWMD shall include surface drainage plans for final fill and bottom excavation plans, including any berms, down drain systems, storm drain systems, direction of flow in perimeter drainage channels, and the location of off-site discharge point for runoff water.

MM 4.3-1c: Detention, diversion, and drainage facilities shall be designed and constructed to accommodate the anticipated volume of precipitation and peak flows from surface runoff under the precipitation conditions specified in §20365 of Title 27 of the California Code of Regulations for each class of waste management unit (WMU). In addition, drainage facilities for WMUs shall be designed to prevent washout of the WMUs during a 100-year storm event.

***Impact 4.4-1: The potential exists for surface water quality degradation from landfilling.***

MM 4.4-1a: The IWMD shall comply with its National Pollutant Discharge Elimination System (NPDES) Storm Water Pollution Prevention Plan (SWPPP) and its NPDES Monitoring and Reporting Plan for the landfilling under the GDP. This plan will

ensure that the measures taken to safeguard surface water quality are effective and are being correctly employed.

MM 4.4-1b: The IWMD shall continue to implement the existing Surface Water Runoff Monitoring Program as described in the currently effective Waste Discharge Requirements.

***Impact 4.4-2: Potential erosion associated with construction of the landfill-related projects could increase the silt load in surface waters.***

MM 4.4-2: As part of the NPDES program and prior to approval of construction contracts, the Director, IWMD, or a designee, shall ensure that silt loading to surface waters from the construction activities will be periodically tested and controlled, where necessary, by appropriate erosion control measures, siltation basins or other settling structures.

**Mitigation for Impacts Associated with Amendment No. 2 to the 2001 GDP**

Although several project impacts have been identified in the above analyses relative to permanent impacts on groundwater recharge and drainage patterns within Zone 4, the Proposed Project has been designed to offset these impacts through the creation of a rainfall collection system and subsurface reservoir to augment surface water flows (or other water augmentation measures deemed to be feasible and approved by the regulatory agencies). These design features are intended to mimic natural hydrologic conditions and serve to maintain biological resources within Prima Deshecha Cañada stream channel. Consequently, with these project elements in place in addition to the mitigation measures identified above for the 2001 GDP, there will be no effect to on- or off-site resources. However, compliance with current requirements set forth in the DAMP will be required.

MM 5.3-1 The Proposed Project will comply with Section 7 of the Drainage Area Management Plan (DAMP) for Orange County through the development of a Water Quality Management Plan.

**5.3.5 LEVEL OF SIGNIFICANCE AFTER MITIGATION**

With the incorporation of the mitigation measures above and implementation of the Proposed Project as presented, there will be no significant impacts to Hydrology and Water Quality from the Proposed Project.

**5.4 AIR QUALITY**

This section provides a summary of the information contained in Section 4.9 of FEIR 575, supplemented with updated information on existing air quality conditions and revised air quality rules and regulations that affect operations at the PDL site. A copy of FEIR 575 is available at the IWMD offices in Santa Ana. Please refer to Section 1.1.6 for the location of the IWMD offices.

The Proposed Project would not require additional equipment, additional soil disturbance, or additional vehicle miles traveled (VMT) over and above the project as it was analyzed in FEIR 575 due to the fact that landslide remediation and related activities are ongoing events at the landfill that were part of the analyzed project. Although the area of disturbance that was analyzed in FEIR 575 would expand as a result of the Proposed Project, the following issues that are of concern in air quality analyses would not change and, therefore, air quality emissions would not change:

- The types and quantities of equipment used for daily operations and landslide remediation activities at the project site would be consistent with the types and quantities of equipment that are used for ongoing landfill operations covered under FEIR 575. No additional equipment is anticipated over that used for landslide remediation activities covered under FEIR 575.
- The quantity of soil that would be disturbed on a daily basis during landslide remediation activities for the Proposed Project is not anticipated to be greater than the quantity of soil excavated for previous landslide-remediation activities covered under FEIR 575. Even if activity occurs in landslide-remediation areas and active portions of the landfill disposal area simultaneously, total quantities would not exceed those of the project analyzed in FEIR 575.
- Daily VMT would not increase as a result of the Proposed Project. The number of vehicle trips associated with landfill operations and landslide-remediation activities are not anticipated to be greater than VMTs for previous landslide-remediation activities and landfill operations covered under FEIR 575. No additional trips are anticipated due to implementation of the proposed project.

#### **5.4.1 EXISTING CONDITIONS**

##### **Air Quality Management Framework**

The Prima Deshecha Landfill is located in the South Coast Air Basin (SCAB) which is within the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAQMD prepares the Air Quality Management Plan (AQMP) and adopts and enforces rules and regulations for stationary sources in the Basin. The 2003 AQMP is the SCAB's current operative air plan.

##### ***Monitored Air Pollutants in the SCAB***

State and federal ambient air quality standards have been established for carbon monoxide (CO), ozone (O<sub>2</sub>), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), lead (Pb), and sulfate(SO<sub>4</sub>), as illustrated in Table 5.4-1.

##### **Carbon Monoxide**

CO is a colorless, odorless gas that results from the incomplete combustion of fossil fuels. Over 80 percent of the CO emitted in urban areas is contributed by motor vehicles. High levels of CO commonly occur near major roadways and freeways. CO interferes with the blood's ability to carry oxygen to the body's tissues and results in numerous adverse health effects. CO is a criteria air pollutant. The federal and state standards for CO are presented in Table 5.4-1, State and Federal Ambient Air Quality Standards.

##### **Nitrogen Dioxide**

Nitrogen dioxide (NO<sub>2</sub>) is a criteria air pollutant and may result in numerous adverse health effects. It absorbs blue light, resulting in a brownish-red cast to the atmosphere and reduced visibility.

## Nitrogen Oxides

“Nitrogen oxides” is a general term pertaining to compounds of nitric acid (NO<sub>x</sub>), NO<sub>2</sub>, and other oxides of nitrogen. Nitrogen oxides are typically created during combustion processes and are major contributors to smog formation and acid deposition.

## Ozone

Ozone is a strong-smelling, pale blue, reactive toxic chemical gas that consists of three oxygen atoms. Ozone is a product of the photochemical process that involves the sun’s energy. Ozone exists in the upper atmosphere ozone layer and at the earth’s surface. Ozone at the earth’s surface causes numerous adverse health effects and is a criteria air pollutant. It is a major component of smog.

Ozone is a secondary pollutant; it is not directly emitted. Ozone is the result of chemical reactions between other pollutants, most importantly hydrocarbons and NO<sub>2</sub>, which occur only in the presence of bright sunlight. Pollutants emitted from upwind cities react during transport downwind to produce the oxidant concentrations that are experienced in the area. Many areas of the SCAQMD contribute to the ozone levels experienced at the monitoring stations, with the more significant areas being those directly upwind.

**TABLE 5.4-1  
STATE AND FEDERAL AMBIENT AIR QUALITY STANDARDS**

Air Pollutant	State Standard	National Standard	
		Primary	Secondary
Ozone (O <sub>3</sub> )	0.09 ppm, 1-hr avg. 0.07 ppm, 8-hr avg.	0.08 ppm, 8-hr avg.	0.08 ppm, 8-hr avg.
Respirable Particulate Matter (PM10)	50 µg/m <sup>3</sup> , 24-hr avg. 20 µg/m <sup>3</sup> AGM	150 µg/m <sup>3</sup> , 24-hr avg. 50 µg/m <sup>3</sup> AAM	150 µg/m <sup>3</sup> , 24-hr avg. 50 µg/m <sup>3</sup> AAM
Fine Particulate Matter (PM2.5)	No 24-hr., State std. 12 µg/m <sup>3</sup> AGM	65 µg/m <sup>3</sup> , 24-hr avg. 15 µg/m <sup>3</sup> AAM	65 µg/m <sup>3</sup> , 24-hr avg. 15 µg/m <sup>3</sup> AAM
Carbon Monoxide (CO)	9.0 ppm, 8-hr avg. 20 ppm, 1-hr avg.	9 ppm, 8-hr avg. 35 ppm, 1-hr avg.	None
Nitrogen Dioxide (NO <sub>2</sub> )	0.25 ppm, 1-hr avg.	0.053 ppm, annual avg.	0.053 ppm, annual avg.
Sulfur Dioxide (SO <sub>2</sub> )	0.25 ppm, 1-hr 0.04 ppm, 24-hr avg.	0.03 ppm, annual avg. 0.14 ppm, 24-hr avg.	0.5 ppm, 3-hr avg.
Lead (Pb)	1.5 µg/m <sup>3</sup> , monthly avg.	1.5 µg/m <sup>3</sup> , calendar quarter	1.5 µg/m <sup>3</sup>
Visibility-Reducing Particles	Extinction coefficient of 0.23 per km, visibility of 10 miles at relative humidity less than 70%, 1 observation	—	—
Sulfates (SO <sub>4</sub> )	25 µg/m <sup>3</sup> , 24-hr avg.	—	—
Hydrogen Sulfide (H <sub>2</sub> S)	0.03 ppm, 1-hr avg.	—	—
Vinyl Chloride	0.01 ppm, 24-hr avg.	—	—
ppm = parts per million by volume µg/m <sup>3</sup> = micrograms per cubic meter AAM = annual arithmetic mean AGM = annual geometric mean  Source: SCAQMD 2003			

## **Particulate Matter**

Particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) is a major air pollutant that consists of tiny solid or liquid particles of soot, dust, smoke, fumes, and aerosols. The size of the particles allows them to easily enter the air sacs in the lungs where they may be deposited, resulting in adverse health effects. Particulate matter also causes visibility reduction. PM<sub>10</sub> and PM<sub>2.5</sub> are criteria air pollutants. PM<sub>10</sub> refers to particulate matter ten microns or smaller; PM<sub>2.5</sub> are two and one-half microns and smaller.

Particulate levels in the area are generally due to natural sources, grading operations, and motor vehicles. According to the EPA, some people are much more sensitive than others to breathing fine particles (PM<sub>10</sub> and PM<sub>2.5</sub>). People with influenza, chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death due to breathing these fine particles. People with bronchitis can expect aggravated symptoms from breathing in fine particles. Children may experience decline in lung function due to breathing in PM<sub>10</sub> and PM<sub>2.5</sub>. Other groups considered sensitive are smokers and people who cannot breathe well through their noses. Exercising athletes are also considered sensitive because many breathe through their mouths.

## **Reactive Organic Gas (ROG)**

Reactive organic gas (ROG) is a reactive chemical gas, composed of hydrocarbons that may contribute to the formation of smog (also see volatile organic compounds [VOC]).

## **Volatile Organic Compounds (VOC)**

VOCs are hydrocarbon compounds that exist in the ambient air. VOCs contribute to the formation of smog and/or may, themselves, be toxic. VOCs often have an odor. Some examples of VOCs include gasoline, alcohol, and the solvents used in paints.

## ***SCAB Attainment Status***

The EPA has designated the SCAB as an extreme non-attainment area for 1-hour ozone; a "severe 17" non-attainment area for 8-hour ozone; a serious non-attainment area for PM<sub>10</sub> and CO; and a non-attainment area for PM<sub>2.5</sub>. The Basin must achieve the federal 1-hour ozone standard by November 15, 2010. The deadline for achieving the federal PM<sub>10</sub> and 8-hour CO standards is December 31, 2006. The 2007 South Coast AQMP, which is currently under preparation, will address issues related to the Basin's current attainment status and include measures to reduce emissions and comply with federal and state air quality standards.

## ***Air Quality Mitigation Approaches in the SCAB***

Consistent with its overall goal to meet applicable state and federal requirements and to demonstrate attainment with ambient air quality standards, the 2003 AQMP, which builds on the 1997 AQMP, uses 2 tiers of emission reduction measures: (1) short- and intermediate-term measures and (2) long-term measures.

Short- and intermediate-term measures propose the application of available technologies and management practices by the year 2010. These measures rely on known technologies and proposed actions to be taken by several agencies that currently have statutory authority to implement such measures. These measures rely on both traditional command and control and alternative approaches for implementation.

To ultimately achieve ambient air quality standards, additional emission reductions will be necessary. Long-term measures rely on the advancement of technologies and control methods that can reasonably be expected to occur between 2010 and 2030. These long-term measures rely on further development and refinement of known low- and zero-emission control technologies for both mobile and stationary sources, along with technological breakthroughs.

### ***Meteorology and Climate***

Meteorological conditions are an important factor in air quality. The SCAB lies within a large coastal plain that contains broad valleys and low hills. It is bordered by the Pacific Ocean on the southwest side and surrounded by mountains on all other sides. The local climate is typically mild, with cool summers, mild winters, and infrequent rainfall. While these conditions result in poor air quality throughout much of the SCAB, south Orange County enjoys relatively healthful air quality most of the time.

The average annual temperature in south Orange County is 62°F with limited diurnal and seasonal variations. The San Juan Capistrano area averages slightly more than 10 inches of rainfall annually. Seasonal rainfall amounts are strongly dependent upon large-scale global weather patterns such as El Niño or La Niña conditions.

Winds at the Prima Deshecha site are characterized by onshore flows from the southwest and west at seven to nine miles per hour during the day, especially in the summer. At night, particularly in the winter, a weak offshore flow develops and the wind direction rotates through the southeast and south until the onshore flow becomes dominant in the early afternoon. Santa Ana winds occasionally result in strong, hot, dry, gusty winds from the northeast and east across the south Orange County area.

Temperature inversions that control the vertical depth through which pollutants can be mixed contribute to poor air quality conditions throughout much of southern California. The daytime onshore flow of marine air is capped by a massive dome of warm air that acts like a giant lid over the SCAB. As the clean ocean air moves inland, pollutants are continually added from below without any dilution from above and unhealthy levels of smog, consisting mainly of ozone (O<sub>3</sub>), are formed. A second inversion forms at night as cool air pools in low elevations while the air aloft remains warm. Shallow radiation inversions are formed, especially in winter. These tend to trap pollutants near intensive traffic sources such as freeways and shopping centers, forming localized violations of carbon monoxide (CO), or CO hot spots.

### ***Site Micrometeorology***

Pre-monitoring efforts conducted during preparation of EIR 575 formed the basis for selecting the optimal sites in developing monitoring plans for the Prima Deshecha Landfill, as required by several mandatory air monitoring programs. The measurement programs showed that the general pattern of offshore flows at night and onshore flows during the day is observed across much of the project site.

Nocturnal winds follow the canyon terrain from northeast to southwest. Because this light flow occurs in conjunction with low-level trapping inversions, any air emissions (such as odorous landfill gas generation [LFG]) are concentrated near the desilting basin at the south end of WMU1 and near the homes south of the landfill beyond the site boundary. Historical odor complaints have come primarily from the small group of residents near the nocturnal landfill outflow.

Daytime winds are predominantly south-to-north because of canyon trending. The net daytime transport route is northward and slightly eastward toward undeveloped parcels that are currently used for cattle grazing.

### **Existing Air Quality**

Air quality at any site is affected by regional air quality and local pollutant sources. Regional air quality is determined by the release of pollutants throughout the air basin. Estimates for existing emissions in the SCAB are included in the *1997 Air Quality Management Plan* (SCAQMD 1996). The data indicate that mobile sources (i.e., on-road motor vehicles) are the major contributor to regional emissions, accounting for approximately 51 percent of VOC, 63 percent of NOx emissions, and approximately 78 percent of CO emissions.

The Prima Deshecha Landfill is located near the Saddleback Valley and Central Orange County air quality monitoring stations. The data collected at these stations are considered representative of the air quality experienced in the vicinity of the landfill.

Table 5.4-2 presents the federal and state air quality standards as well as the monitored pollutant levels from the Saddleback Valley monitoring station (for CO, ozone, PM10, and PM2.5) and the Central Orange County monitoring station (for NOx).

As Table 5.4-2 illustrates, ozone and particulate matter (both PM10 and PM2.5) are the air pollutants of primary concern in the vicinity of the Prima Deshecha Landfill.

#### Ozone

Both the state and the federal 1-hour ozone standards were exceeded several days during each of the past three years at the Saddleback Valley monitoring station. Likewise, the federal 8-hour ozone standard was exceeded a few days.

#### Particulate Matter

State PM10 standards were exceeded on only two occasions in the past three years at the Saddleback Valley station. Federal PM2.5 standards which were not available.

#### Carbon Monoxide

Currently, CO levels in the project region are in compliance with the state and federal 1-hour and 8-hour standards.

#### Nitrogen Dioxide

NO<sub>2</sub> levels in the project region are in compliance with state and federal standards.

It should be noted that air quality has improved in the vicinity of the Prima Deshecha Landfill, as it has throughout the entire SCAB, during the past five years (i.e., since preparation of FEIR 575). Consequently, exceedances of state and federal air quality standards are on the decline. The SCABs air quality improvements are attributable to several factors, including the availability and use of cleaner fuels and cleaner vehicles, as well as implementation of more stringent pollution controls.

**TABLE 5.4-2  
AIR QUALITY LEVELS MEASURED AT THE SADDLEBACK VALLEY  
MONITORING STATION**

Pollutant	California Standard	National Standard	Year	% Meas. <sup>a</sup>	Max. Level	Days State Standard Exceeded <sup>b</sup>	Days National Standard Exceeded
Ozone	0.09 ppm for 1 hr.	0.12 ppm for 1 hr.	2005	100	0.125	3	1
			2004	100	0.116	11	0
			2003	99	0.153	16	4
Ozone	No Standard	0.08 ppm for 8 hr.	2005	100	0.085	6	1
			2004	100	0.089	20	2
			2003	99	0.105	n/a	8
CO	20 ppm for 1 hr.	35 ppm for 1 hr.	2005	100	2.0	0	0
			2004	100	2.0	0	0
			2003	99	3.0	0	0
CO	9.0 ppm for 8 hr.	9 ppm for 8 hr.	2005	97	1.6	0	0
			2004	99	1.6	0	0
			2003	99	1.8	0	0
NOx	0.25 ppm for 1 hr.		2005	100	0.09	0	0
			2004	99	0.12	0	0
			2003	99	0.13	0	0
Particulates PM10 (24 Hour)	50 µg/m <sup>3</sup> for 24 hr.	150 µg/m <sup>3</sup> for 24 hr.	2005	15	41	0	0
			2004	16	47	0	0
			2003	16	64	2	0
Particulates PM10 (Annual)	20 µg/m <sup>3</sup>	50 µg/m <sup>3</sup>	2005	16	19.0	n/a	n/a
			2004	16	23.7	n/a	n/a
			2003	17	31.8	n/a	n/a
Particulates PM2.5 (24 Hour)	No State Standard	65 µg/m <sup>3</sup> For 24 hr.	2005	31	35.4	n/a	n/a
			2004	30	49.4	n/a	n/a
			2003	30	95	n/a	n/a
Particulates PM 2.5 Annual	12 µg/m <sup>3</sup> AAM <sup>c</sup>	15 µg/m <sup>3</sup> AAM <sup>c</sup>	2005	31	10.7	n/a	n/a
			2004	30	12.1	n/a	n/a
			2003	30	13.1	n/a	n/a

n/a Data not available.  
<sup>a</sup> Percent of year that measurements were made.  
<sup>b</sup> For the PM10 and PM 2.5 24-hour standards, daily monitoring is not performed.  
<sup>c</sup> Annual Arithmetic Mean

Note: Central Orange County Monitoring Station data accessed for nitrogen dioxide.

Source: SCAQMD 2006

### **Existing Site Pollution Sources**

Air pollutants are emitted in limited amounts from a variety of activities at the Prima Deshecha Landfill site. Existing sources of air pollutants include:

- Exhaust emissions from loaded packer trucks and public vehicles traveling from the landfill gate to the working face of the landfill and the return trips of the empty vehicles back to the site exit.
- Exhaust pollution from scrapers, dozers, compactors, water trucks, and other operations equipment.
- Combustion pollutants created during the combustion LFG in the energy recovery facility (ERF). The ERF combusts LFG to generate electricity. To further reduce emissions from unburned hydrocarbons, each ERF unit contains an afterburner that destroys 80 percent of the ROG's that are not destroyed in the engine-generator set.



- Combustion of LFG in a waste gas flare. The flare system is a back-up system to the ERF, and used only if the ERF is inoperative for maintenance or repair.
- Surface emission of LFG containing ROGs and trace amounts of toxic air contaminants from the fraction of LFG not captured by the control system.
- Fugitive dust from vehicle travel on unpaved surfaces, from the extraction and transport of cover material, from the placement of daily cover, and from dust in certain types of refuse such as demolition debris or dirty scrap lumber. The amount of dust generated is highly variable and does not lend itself to precise quantification. Because such dust generation is largely determined by the amount of dust control being implemented at the landfill site, the focus on fugitive dust analysis is less on emissions estimates and more on the implementation of conscientious and effective housekeeping procedures.

### **Existing Site Emissions**

The information in Table 5.4-3 is from FEIR 575 Section 4.9, Air Quality. Because daily emissions would not change as a result of the Proposed Project, this information is considered to be current and correct for the Proposed Project.

### **Toxic Air Contaminants**

The ERFs operating at the Prima Deshecha Landfill have the potential to emit toxic air contaminants. However, SCAQMD's Rule 1401 prohibits the air district from issuing an authority to construct or a permit to operate to any facility that would create an unacceptable public health risk from the emission of toxic air contaminants. Unacceptable individual cancer risk from a permitted source is one change in a million. If Toxics–Best Available Control Technology (T-BACT) is employed, the allowable risk is increased to ten in one million. According to the analysis contained in FEIR 575, the ERF at the Prima Deshecha Landfill underwent a Tier 4 (i.e., full health risk) Assessment as part of its permitting process. The calculated risk for the existing ERF/afterburner system was determined to be less than one in one million at full capacity: an acceptable level.

**TABLE 5.4-3  
EXISTING (2005) DAILY POLLUTANT EMISSIONS INVENTORY AT PRIMA  
DESHECHA LANDFILL (4,000 TPD)**

	Pollutant Emissions (lbs/day)				
	CO	ROG	NOx	PM10	SOx
Mobile Source Emissions	336	50	545	34	39
Energy Recovery Facility	860	152	300	286	15
Uncaptured LFG Surface Emissions	—	1,456	—	—	—
<b>TOTAL</b>	<b>1,196</b>	<b>1,658</b>	<b>845</b>	<b>320</b>	<b>54</b>
SCAQMD Significance Threshold	550	55	55	150	150
Significant?	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>NO</b>
Source: Giroux & Associates 1999 (FEIRS 575, Table 4.9-13)					

**TABLE 5.4-4  
FORECAST (2020) DAILY POLLUTANT EMISSIONS INVENTORY AT PRIMA  
DESHECHA LANDFILL (4,000 TPD)**

	Pollutant Emissions (lbs/day)				
	CO	ROG	NOx	PM10	SOx
Mobile Source Emissions	310	37	404	34	39
Energy Recovery Facility	979	173	341	325	17
LFG Combustion	82	13	99	22	14
Uncaptured LFG Surface Emissions	—	2,803	—	—	—
<b>TOTAL</b>	<b>1,371</b>	<b>3,026</b>	<b>844</b>	<b>381</b>	<b>70</b>
SCAQMD Significance Threshold	550	55	55	150	150
Significant?	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>NO</b>
Source: Giroux & Associates 1999 (FEIRS 575, Table 4.9-13)					

### **Odors**

Odors at the Prima Deshecha Landfill result from refuse as well as LFG operations. Under worst-case conditions, fresh trash odor is detectable up to one-half mile from landfill sites (County of Orange 1991). With prevailing daytime southwest-to-northeast winds at the Prima Deshecha Landfill, occasional fresh trash odor detection would be confined to on-site locations away from any existing or planned homes. Therefore, SEIR 575 determined that daytime odors from landfilling would not have a significant odor impact on any sensitive receptor population.

According to FEIR 575, odor complaints at the Prima Deshecha Landfill have almost always been in the evening, after disposal activity has ceased and all fresh trash has been buried, and originate less than one mile from the center of Landfill Zone 1.

### **Existing On-Site Odor Control**

As described in detail in Section 5.4.4, the IWMD has implemented several measures to reduce the potential for odor nuisance from the Prima Deshecha Landfill.

### **Dust**

Dust impacts can result from the excavation and placement of cover, from travel on unpaved roadways, and from dusty loaded refuse containing materials such as demolition debris. Dust generated during these types of landfilling activities may range from very small particles (PM2.5) to larger diameter particles. Dust generation and associated impacts are almost exclusively a daytime phenomenon at landfills.

The SCAQMD requires dust control from surface disturbance through Rule 403. Rule 403 contains a performance standard that limits the difference in downwind versus upwind dust levels.

### **Existing On-Site Dust Control**

As described in detail in Section 5.4.4 below, IWMD has implemented several measures to reduce the potential for dust nuisance from the Prima Deshecha Landfill.

## 5.4.2 SIGNIFICANCE CRITERIA

For purposes of analysis, the Proposed Project's air quality impacts are separated into short-term impacts due to construction and long-term permanent impacts from operations. The County of Orange, as the lead agency for the Prima Deshecha Landfill project, is responsible for making determinations regarding the existence of significant air quality impacts.

## 5.4.3 POTENTIAL IMPACTS

The criteria used to determine the significance of potential project-related air quality impacts are taken from the Initial Study checklist form in Appendix G of the State CEQA Guidelines. Based on these thresholds, the project would result in a significant impact related to air quality if it would:

- (1) Conflict with or obstruct implementation of the applicable air quality plan.
- (2) Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

The significance thresholds recommended by the SCAQMD in its *CEQA Air Quality Handbook* are presented in Table 5.4-5. Construction and operational emissions are considered by the SCAQMD to be significant if they exceed these thresholds.

**TABLE 5.4-5  
SCAQMD REGIONAL POLLUTANT EMISSION  
THRESHOLDS OF SIGNIFICANCE**

	Pollutant Emissions (lbs/day)				
	CO	ROG	NOx	PM10	SOx
Construction	550	75	100	150	150
Operation	550	55	55	150	150
Source: SCAQMD 1993					

In addition, project impacts would be significant if they exceed the following California standards for localized CO:

- 1-hour CO standard of 20.0 parts per million (ppm)
  - 8-hour CO standard of 9.0 ppm.
- (3) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors).
  - (4) Expose sensitive receptors to substantial pollutant concentrations.
  - (5) Create objectionable odors affecting a substantial number of people.

As discussed above, the proposed project would not result in a change in air quality emissions beyond those identified in FEIR 575, which analyzed the impacts associated with daily operations of up to 4,000 tpd and future recreational and roadway uses. No new impacts are anticipated. Consequently, no additional mitigation measures are required.

## 5.4.4 MITIGATION MEASURES

Notwithstanding the fact that the Proposed Project would be consistent with FEIR 575 (and would not, therefore, require additional mitigation), the SCAQMD has recently adopted substantial modifications to Rule 403 – Fugitive Dust, which is applicable to operations at the Prima Deshecha Landfill. Section 5.4.4.1, Previously Adopted Mitigation, describes the mitigation measures already in place at the Prima Deshecha Landfill. Section 5.4.4.2, Recommended Mitigation Measure Updates, provides recommendations for bringing the landfill up-to-date with current provisions of SCAQMD Rule 403.

### 5.4.4.1 Previously Adopted Mitigation

Note: The numbering in this section corresponds with the numbering in FEIR 575.

**Impact 4.9-1: *Potential odor nuisance could be associated with refuse brought to the landfill.***

MM 4.9-1: Landfill fee station personnel and/or landfill refuse inspectors shall reject extremely odorous loads for disposal in the landfill.

**Impact 4.9-2: *A potential odor nuisance affecting recreational users could be associated with fresh refuse odor at the active face of the landfill.***

MM 4.9-2: The active face of the landfill shall be covered daily. If the active face is in close proximity and upwind of on-site recreation uses, masking or neutralization agents may be added to exposed refuse to reduce the odor nuisance effects on the adjacent recreation uses.

**Impact 4.9-3: *A potential odor nuisance could be associated with LFG emissions if they are not collected and disposed by an efficient system.***

MM 4.9-3: The IWMD shall design, construct and operate new landfill areas in Zones 1 and 4 with LFG systems to maximize the collection of LFG. The LFG systems will include continuous monitoring of the LFG collection system to maximize efficient collection of LFG generated in these areas.

**Impact 4.9-4: *A potential odor nuisance could result from LFG leaks through cracks or flaws in the landfill cover in active and inactive landfill areas.***

MM 4.9-4: During landfill operations, the IWMD shall continue regular visual inspections of the landfill cover and monitoring of LFG emissions throughout the entire refuse fill areas. The purpose of these inspections is to locate cracks or other defects or flaws in the landfill cover, which may allow LFG to escape. When such areas are identified, the IWMD will implement the appropriate corrective action as soon as feasible. These corrective actions may include application and compaction of additional cover material, adjustment of the existing LFG control system and/or installation of new LFG control facilities.

**Impact 4.9-5: *A potential odor nuisance could be associated with LFG generated in the active and inactive landfill areas in landfilling Zones 1 and 4.***

MM 4.9-5: During landfill operations, the IWMD shall conduct periodic odor surveys on the landfill site and at various points in the area surrounding the site. The IWMD shall conduct odor surveys if any odors from the landfill are detected off site

and reported by nearby residents. When the source of these odors is identified, the IWMD will implement the appropriate corrective action as soon as feasible. These corrective actions may include application and compaction of additional cover material, use of masking or neutralizing agents, adjustment of the existing LFG control system and/or installation of new LFG control facilities.

**Impact 4.9-6: A potential dust nuisance could result to recreational users from landfilling operations.**

MM 4.9-6: During landfill operations, the IWMD shall ensure that landfill operations areas that are to be left exposed temporarily, including top deck and excavation slopes, are sprayed periodically with water, as needed.

**Impact 4.9-7: Exposed ground surfaces could result in a potential dust nuisance after the termination of active landfilling.**

MM 4.9-7: On landfilled areas that are no longer in use, the IWMD will, as appropriate, incorporate dust control systems or vegetative covers, consistent with the Final Closure Plans and with IWMD's approved Rule 403 Compliance Plan for landfilling Zones 1 and 4.

**Impact 4.9-8: Dusty refuse could result in a potential dust nuisance.**

MM 4.9-8: During landfill operations, the landfill fee station personnel and/or landfill refuse inspectors shall refrain from accepting dusty loads of refuse for disposal in either landfilling Zone 1 or 4. Alternatively, at the discretion of landfill personnel, dusty loads of refuse may be accepted for disposal, if they are sprayed with water prior to leaving the fee station and accessing the active face of the landfill.

**Impact 4.9-9: On-site vehicular travel on unpaved roads could result in a potential dust nuisance.**

MM 4.9-9a: During landfill operations, the IWMD shall maintain water trucks on site to spray water on on-site unpaved roads as needed to minimize the generation of dust as vehicles travel on these roads, as per IWMD's approved Rule 403 Compliance Plan.

MM 4.9-9b: During landfill operations, the IWMD shall, to the extent feasible while still maintaining appropriate landfill operations, restrict vehicular travel on unpaved roads on the site. In the event that unpaved roads must be used, the IWMD shall spray water on these roads as needed.

MM 4.9-9c: As unpaved on-site roads are removed from active service, the IWMD will spray these areas with a hydromulch solution or synthetic binder.

**Impact 4.9-10: A potential dust nuisance could be associated with graded areas or areas where the vegetation has been removed or severely disturbed.**

MM 4.9-10: During landfill operations, the IWMD will use the on-site water trucks to spray water on graded areas or areas where the vegetation has been removed or severely disturbed as a result of landfilling activities, as per IWMD's approved Rule 403 Compliance Plan.

### 5.4.4.2 Recommended Mitigation Measure Updates

#### ***Particulate Emission (PM10) Control***

MM 5.4-1: IWMD and its contractors shall be required to comply with regional rules to reduce air pollutant emissions. SCAQMD Rule 401 sets limits on the opacity of visible plumes of dust resulting from activities at the landfill. SCAQMD Rule 402 requires that air pollutant emissions generated at the landfill not be a nuisance off site. SCAQMD Rule 403 requires that fugitive dust be controlled with the best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. Two options are presented in Rule 403: monitoring of particulate concentrations, or active control. Monitoring involves a sampling network around the project with no additional control measures unless specified concentrations are exceeded. The active control option does not require any monitoring, but requires that a list of measures be implemented on a daily basis.

SCAQMD Rule 403 requires that “best available control measures” be utilized whenever a dust-generating activity occurs in the Air Basin. These measures are listed in Table 1 of Rule 403 and called out in Table 5.4-6 below. It is important to note that all applicable measures from Table 5.4-6 should be implemented to achieve the required PM10 emissions reductions.

Rule 403 requires that “Large Projects” implement additional measures. A Large Project is defined as “any active operations on property which contains 50 or more acres of disturbed surface area; or any earth-moving operation with a daily earth-moving or throughput volume of 3,850 cubic meters (5,000 cubic yards) or more than three times during the most recent 365 day period. The Prima Deshecha Landfill would be considered a Large Project under Rule 403. Therefore, the landfill is required to implement the applicable actions specified in Table 2 of the Rule. Table 2 from Rule 403 is presented below as Table 5.4-7.

As a Large Operation, the landfill will also be required to:

- Submit a fully executed Large Operation Notification (SCAQMD Form 403N) to the SCAQMD Executive Officer within 7 days of qualifying as a large operation;
- Include, as part of the notification, the name(s), address(es), and phone number(s) of the person(s) responsible for the submittal, and a description of the operation(s), including a map depicting the location of the site;
- Maintain daily records to document the specific dust-control actions taken, maintain such records for a period of not less than three years; and make such records available to the Executive Officer upon request;
- Install and maintain project signage with project contact signage that meets the minimum standards of the *Rule 403 Implementation Handbook*, prior to initiating any earthmoving activities;

**TABLE 5.4-6  
REQUIRED BEST AVAILABLE CONTROL MEASURES  
(SCAQMD RULE 403, TABLE 1)**

Control Measure	Guidance
<b>Backfilling</b>	
01-1 Stabilize backfill material when not actively handling; and 01-2 Stabilize backfill material during handling; and 01-3 Stabilize soil at completion of activity.	<ul style="list-style-type: none"> <li>• Mix backfill soil with water prior to moving</li> <li>• Dedicate water truck or high capacity hose to backfilling equipment</li> <li>• Empty loader bucket slowly so that no dust plumes are generated</li> <li>• Minimize drop height from loader bucket</li> </ul>
<b>Clearing and Grubbing</b>	
02-1 Maintain stability of soil through pre-watering of site prior to clearing and grubbing; and 02-2 Stabilize soil during clearing and grubbing activities; and 02-3 Stabilize soil immediately after clearing and grubbing activities.	<ul style="list-style-type: none"> <li>• Maintain live perennial vegetation where possible</li> <li>• Apply water in sufficient quantity to prevent generation of dust plumes</li> </ul>
<b>Clearing Forms</b>	
03-1 Use water spray to clear forms; or 03-2 Use sweeping and water spray to clear forms; or 03-3 Use vacuum system to clear forms.	<ul style="list-style-type: none"> <li>• Use of high pressure air to clear forms may cause exceedance of Rule requirements</li> </ul>
<b>Crushing</b>	
04-1 Stabilize surface soils prior to operation of support equipment; and 04-2 Stabilize material after crushing.	<ul style="list-style-type: none"> <li>• Follow permit conditions for crushing equipment</li> <li>• Pre-water material prior to loading into crusher</li> <li>• Monitor crusher emissions opacity</li> <li>• Apply water to crushed material to prevent dust plumes</li> </ul>
<b>Cut and Fill</b>	
05-1 Pre-water soils prior to cut and fill activities; and 05-2 Stabilize soil during and after cut and fill activities.	<ul style="list-style-type: none"> <li>• For large sites, pre-water with sprinklers or water trucks and allow time for penetration</li> <li>• Use water trucks/pulls to water soils to depth of cut prior to subsequent cuts</li> </ul>
<b>Demolition – Mechanical/Manual</b>	
06-1 Stabilize wind erodible surfaces to reduce dust; and 06-2 Stabilize surface soil where support equipment and vehicles will operate; and 06-3 Stabilize loose soil and demolition debris; and 06-4 Comply with AQMD Rule 1403.	<ul style="list-style-type: none"> <li>• Apply water in sufficient quantities to prevent the generation of visible dust plumes</li> </ul>
<b>Disturbed Soil</b>	
07-1 Stabilize disturbed soil throughout the construction site; and 07-02 Stabilize disturbed soil between structures	<ul style="list-style-type: none"> <li>• Limit vehicular traffic and disturbances on soils where possible</li> <li>• If interior block walls are planned, install as early as possible</li> <li>• Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes</li> </ul>
<b>Earth-Moving Activities</b>	
08-1 Pre-apply water to depth of proposed cuts; and 08-2 Re-apply water as necessary to maintain soils in a damp condition and to ensure that visible emissions do not exceed 100 feet in any direction; and 08-3 Stabilize soils once earth-moving activities are complete.	<ul style="list-style-type: none"> <li>• Grade each project phase separately, timed to coincide with construction phase</li> <li>• Upwind fencing can prevent material movement on site</li> <li>• Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes</li> </ul>

**TABLE 5.4-6 (Continued)  
REQUIRED BEST AVAILABLE CONTROL MEASURES  
(SCAQMD RULE 403, TABLE 1)**

Control Measure		Guidance
<b>Importing/Exporting of Bulk Materials</b>		
09-1	Stabilize material while loading to reduce fugitive dust emissions; and	<ul style="list-style-type: none"> <li>• Use tarps or other suitable enclosures on haul trucks</li> <li>• Check belly-dump truck seals regularly and remove any trapped rocks to prevent spillage</li> <li>• Comply with track-out prevention/mitigation requirements</li> <li>• Provide water while loading and unloading to reduce visible dust plumes</li> </ul>
09-2	Maintain at least six inches of freeboard on haul vehicles; and	
09-3	Stabilize material while transporting to reduce fugitive dust emissions; and	
09-4	Stabilize material while unloading to reduce fugitive dust emissions; and	
09-5	Comply with Vehicle Code Section 23114.	
<b>Landscaping</b>		
10-1	Stabilize soils, materials, slopes	<ul style="list-style-type: none"> <li>• Apply water to materials to stabilize Maintain materials in a crusted condition</li> <li>• Maintain effective cover over materials</li> <li>• Stabilize sloping surfaces using soil binders until vegetation or ground cover can effectively stabilize the slopes</li> <li>• Hydroseed prior to rain season</li> </ul>
<b>Road Shoulder Maintenance</b>		
11-1	Apply water to unpaved shoulders prior to clearing; and	<ul style="list-style-type: none"> <li>• Installation of curbing and/or paving of road shoulders can reduce recurring maintenance costs</li> <li>• Use of chemical dust suppressants can inhibit vegetation growth and reduce future road shoulder maintenance costs</li> </ul>
11-2	Apply chemical dust suppressants and/or washed gravel to maintain a stabilized surface after completing road shoulder maintenance.	
<b>Screening</b>		
12-1	Pre-water material prior to screening; and	<ul style="list-style-type: none"> <li>• Dedicate water truck or high capacity hose to screening operation</li> <li>• Drop material through the screen slowly and minimize drop height</li> <li>• Install wind barrier with a porosity of no more than 50% upwind of screen to the height of the drop point</li> </ul>
12-2	Limit fugitive dust emissions to opacity and plume length standards; and	
12-3	Stabilize material immediately after screening.	
<b>Staging Areas</b>		
13-1	Stabilize staging areas during use; and	<ul style="list-style-type: none"> <li>• Limit size of staging area</li> <li>• Limit vehicle speeds to 15 miles per hour</li> <li>• Limit number and size of staging area entrances/exists</li> </ul>
13-2	Stabilize staging area soils at project completion.	
<b>Stockpiles/Bulk Material Handling</b>		
14-1	Stabilize stockpiled materials.	<ul style="list-style-type: none"> <li>• Add or remove material from the downwind portion of the storage pile</li> <li>• Maintain storage piles to avoid steep sides or faces</li> </ul>
14-2	Stockpiles within 100 yards of off-site occupied buildings must not be greater than eight feet in height; or must have a road bladed to the top to allow water truck access or must have an operational water irrigation system that is capable of complete stockpile coverage.	
<b>Traffic Areas for Construction Activities</b>		
15-1	Stabilize all off-road traffic and parking areas; and	<ul style="list-style-type: none"> <li>• Apply gravel/paving to all haul routes as soon as possible to all future roadway areas</li> <li>• Barriers can be used to ensure vehicles are only used on established parking areas/haul routes</li> </ul>
15-2	Stabilize all haul routes; and	
15-3	Direct construction traffic over established haul routes.	



**TABLE 5.4-6 (Continued)  
REQUIRED BEST AVAILABLE CONTROL MEASURES  
(SCAQMD RULE 403, TABLE 1)**

Control Measure		Guidance
<b>Trenching</b>		
16-1	Stabilize surface soils where trencher or excavator and support equipment will operate; and	<ul style="list-style-type: none"> <li>• Pre-watering of soils prior to trenching is an effective preventive measure.</li> <li>• For deep trenching activities, pre-trench to 18 inches soak soils via the pre-trench and resuming trenching</li> <li>• Washing mud and soils from equipment at the conclusion of trenching activities can prevent crusting and drying of soil on equipment</li> </ul>
16.2	Stabilize soils at the completion of trenching activities.	
<b>Truck Loading</b>		
17-1	Pre-water material prior to loading; and	<ul style="list-style-type: none"> <li>• Empty loader bucket such that no visible dust plumes are created</li> <li>• Ensure that the loader bucket is close to the truck to minimize drop height while loading</li> </ul>
17.2	Ensure that freeboard exceeds six inches (CVC 23114)	
<b>Turf Overseeding</b>		
18-1	Apply sufficient water immediately prior to conducting turf vacuuming activities to meet opacity and plume length standards; and	<ul style="list-style-type: none"> <li>• Haul waste material immediately off site</li> </ul>
18-2	Cover haul vehicles prior to exiting the site.	
<b>Unpaved Roads/Parking Lots</b>		
19-1	Stabilize soils to meet the applicable performance standards; and	<ul style="list-style-type: none"> <li>• Restricting vehicular access to established unpaved travel paths and parking lots can reduce stabilization requirements</li> </ul>
19-2	Limit vehicular travel to established unpaved roads (haul routes) and unpaved parking lots.	
<b>Vacant Land</b>		
20-1	In instances where vacant lots are 0.10 acre or larger and have a cumulative area of 500 square feet or more that are driven over and/or used by motor vehicles and/or off-road vehicles, prevent motor vehicle and/or off-road vehicle trespassing, parking and/or access by installing barriers, curbs, fences, gates, posts, signs, shrubs, trees or other effective control measures.	

- Identify a dust control supervisor that is employed by or contracted with the property owner or developer, is on the site or available on-site within 30 minutes during working hours, has the authority to expeditiously employ sufficient dust mitigation measures to ensure compliance with all Rule requirements, and has completed the AQMD Fugitive Dust Control Class and has been issued a valid Certificate of Completion for the class; and
- Notify the SCAQMD Executive Officer in writing within 30 days after the site no longer qualifies as a large operation.

**TABLE 5.4-7  
FUGITIVE DUST CONTROL ACTIONS  
(SCAQMD RULE 403, TABLE 1)**

<b>Fugitive Dust Source Category Control Actions</b>	
<b>Earth-moving (except construction cutting and filling areas, and mining operations)</b>	
(1a)	Maintain soil moisture content at a minimum of 12 percent, as determined by the ASTM [American Society for Testing and Materials] method D2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations each subsequent four-hour period of active operations; OR
(1a-1)	For any earth-moving which is more than 100 feet from all property lines, conduct watering as necessary to prevent visible dust emissions from exceeding 100 feet in length in any direction.
<b>Earth-moving: Construction fill areas</b>	
(1b)	Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. For areas which have an optimum moisture content for compaction of less than 12 percent, as determined by ASTM Method 1557 or other equivalent method approved by the Executive Officer and the California Air Resources Board and the U.S. EPA, complete the compaction process as expeditiously as possible after achieving at least 70 percent of the optimum soil moisture content. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations during each subsequent four-hour period of active operations.
<b>Earth-moving: Construction cut areas and mining operations</b>	
(1c)	Conduct watering as necessary to prevent visible emissions from extending more than 100 feet beyond the active cut or mining area unless the area is inaccessible to watering vehicles due to slope conditions or other safety factors.
<b>Disturbed surface areas (except completed grading areas)</b>	
(2a/b)	Apply dust suppression in sufficient quantity and frequency to maintain a stabilized surface. Any areas which cannot be stabilized, as evidenced by wind driven fugitive dust must have an application of water at least twice per day to at least 80 percent of the unstabilized area.
<b>Disturbed surface areas: Completed grading areas</b>	
(2c)	Apply chemical stabilizers within five working days of grading completion; OR
(2d)	Take actions (3a) or (3c) specified for inactive disturbed surface areas.
<b>Inactive disturbed surface areas</b>	
(3a)	Apply water to at least 80 percent of all inactive disturbed surface areas on a daily basis when there is evidence of wind driven fugitive dust, excluding any areas which are inaccessible to watering vehicles due to excessive slope or other safety conditions; OR
(3b)	Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; OR
(3c)	Establish a vegetative ground cover within 21 days after active operations have ceased. Ground cover must be of sufficient density to expose less than 30 percent of unstabilized ground within 90 days of planting, and at all times thereafter; OR
(3d)	Utilize any combination of control actions (3a), (3b), and (3c) such that, in total, these actions apply to all inactive disturbed surface areas.
<b>Unpaved Roads</b>	
(4a)	Water all roads used for any vehicular traffic at least once per every two hours of active operations [3 times per normal 8 hour work day]; OR
(4b)	Water all roads used for any vehicular traffic once daily and restrict vehicle speeds to 15 miles per hour; OR
(4c)	Apply a chemical stabilizer to all unpaved road surfaces in sufficient quantity and frequency to maintain a stabilized surface.

**TABLE 5.4-7 (Continued)**  
**FUGITIVE DUST CONTROL ACTIONS**  
**(SCAQMD RULE 403, TABLE 1)**

<b>Fugitive Dust Source Category Control Actions</b>	
<b>Open storage piles</b>	
(5a)	Apply chemical stabilizers; OR
(5b)	Apply water to at least 80 percent of the surface area of all open storage piles on a daily basis when there is evidence of wind driven fugitive dust; OR
(5c)	Install temporary coverings; OR
(5d)	Install a three-sided enclosure with walls with no more than 50 percent porosity which extend, at a minimum, to the top of the pile. This option may only be used at aggregate-related plants or at cement manufacturing facilities.
<b>All Categories</b>	
(6a)	Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 2 may be used.

Rule 403 also requires that the construction activities “shall not cause or allow PM10 levels to exceed 50 micrograms per cubic meter when determined by simultaneous sampling, as the difference between upwind and down wind sample.” Large Projects that cannot meet this performance standard are required to implement the applicable actions specified in Table 3 of Rule 403. Table 3 from Rule 403 is presented below as Table 5.4-8.

Further, Rule 403 requires that that the project shall not “allow track-out to extend 25 feet or more in cumulative length from the point of origin from an active operation.” All track-out from an active operation is required to be removed at the conclusion of each workday or evening shift. Any active operation with a disturbed surface area of five or more acres, or with a daily import or export of 100 cubic yards or more of bulk materials must utilize at least one of the measures listed in Table 5.4-9 at each vehicle egress from the site to a paved public road.

**TABLE 5.4-8  
CONTINGENCY CONTROL MEASURES FOR LARGE OPERATIONS  
(SCAQMD RULE 403, TABLE 3)**

<b>Fugitive Dust Source Category Control Actions</b>	
<b>Earth-moving</b>	
(1A)	Cease all active operations; OR
(2A)	Apply water to soil not more than 15 minutes prior to moving such soil.
<b>Disturbed surface areas</b>	
(0B)	On the last day of active operations prior to a weekend, holiday, or any other period when active operations will not occur for not more than four consecutive days: apply water with a mixture of chemical stabilizer diluted to not less than 1/20 of the concentration required to maintain a stabilized surface for a period of six months; OR
(1B)	Apply chemical stabilizers prior to wind event; OR
(2B)	Apply water to all unstabilized disturbed areas 3 times per day. If there is any evidence of wind driven fugitive dust, watering frequency is increased to a minimum of four times per day; OR
(3B)	Take the actions specified in Table 2, Item (3c); OR
(4B)	Utilize any combination of control actions (1B), (2B), and (3B) such that, in total, these actions apply to all disturbed surface areas.
<b>Unpaved Roads</b>	
(1C)	Apply chemical stabilizers prior to wind event; OR
(2C)	Apply water twice per hour during active operation; OR
(3C)	Stop all vehicular traffic.
<b>Open Storage Piles</b>	
(1D)	Apply water twice per hour; OR
(2D)	Install temporary coverings.
<b>Paved Road Track-Out</b>	
(1E)	Cover all haul vehicles; OR
(2E)	Comply with the vehicle freeboard requirements of Section 23114 of the California Vehicle Code for both public and private roads.
<b>All Categories</b>	
(1F)	Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 3 may be used.

**TABLE 5.4-9  
TRACK OUT CONTROL OPTIONS**

(A) Install a pad consisting of washed gravel (minimum-size: one inch) maintained in a clean condition to a depth of at least six inches and extending at least 20 feet wide and 50 feet long.
(B) Pave the surface extending at least 100 feet and a width of at least 20 feet wide.
(C) Utilize a wheel shaker/wheel spreading device consisting of raised dividers (rails, pipe, or grates) at least 24 feet long and 10 feet wide to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.
(D) Install and utilize a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.
(E) Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified items (A) through (D) above.

### **Mobile Equipment Emission Control**

MM 5.4-2: To reduce equipment emissions, the following measures shall be implemented when feasible.

- Use low emission mobile construction equipment. "CARB Certified" heavy construction equipment conforms to the latest off-road CARB emission standards and is the lowest polluting equipment available. The use of this equipment would reduce heavy equipment NO<sub>x</sub> emissions by approximately 30 percent and heavy equipment PM<sub>10</sub> emissions by approximately 50 percent from the emissions levels shown in Tables 5.4-3 through 5.4-5. This is a substantial reduction but will not reduce emissions to less than the significance thresholds.
- Maintain construction equipment engines by keeping them tuned.
- Use low sulfur fuel for stationary construction equipment. This is required by SCAQMD Rules 431.1 and 431.2.
- Utilize existing power sources (i.e., power poles) when feasible. This measure would minimize the use of higher polluting gas or diesel generators.
- Use aqueous diesel fuel where feasible and reasonably commercially available.
- Use cooled exhaust gas recirculation (EGR) where feasible and reasonably commercially available.

Several of the mitigation measures listed above are advanced emission control technologies that are currently not commercially available. For example, aqueous diesel fuel reduces NO<sub>x</sub> formation by reducing combustion temperatures, resulting in lower NO<sub>x</sub> emissions. According to the SCAQMD, the current availability of this fuel technology is limited, and it may not be available for use at the landfill. In addition, with EGR diesel engines, a small amount of hot exhaust gas is routed through a cooler and is mixed with fresh air entering the engine. The exhaust gas helps reduce the temperature during combustion, which lowers the formation of thermal NO<sub>x</sub>. EGR technology is in the development phase, and has not been fully commercialized. To the extent that the advanced emissions-control technologies become reasonably commercially available, or are required by the CARB from grading contractors, then such advanced emissions-control technologies will be used.

Furthermore, a requirement to install diesel particulate filters on construction equipment used at the landfill was considered to further reduce emissions. However, the availability of construction equipment retrofitted with diesel particulate filters is limited. This is a result of operational problems in diesel engines equipped with these filters. Therefore, this potential mitigation measure for construction is considered infeasible.

#### **5.4.5 LEVEL OF SIGNIFICANCE AFTER MITIGATION**

The Prima Deshecha Landfill is currently implementing several mitigation measures to reduce potential air quality impacts. Implementation of the mitigation measures described in Section 5.4.4 would help to further reduce air quality impacts that result from operations at the Prima Deshecha Landfill. However, even with implementation of all existing and recommended mitigation measures, operations at the Prima Deshecha Landfill would result in significant and unavoidable air quality impacts.

### **5.5 BIOLOGICAL RESOURCES**

#### **5.5.1 EXISTING CONDITIONS**

##### **Vegetation Types**

Vegetation mapping for the project site was completed by P&D Consultants in 1999 (County of Orange 2004). Site-wide vegetation surveys were conducted by a qualified Biologist in October 2000 using a 400-scale color aerial photograph, which was later transferred by clear acetate to a 400-scale topographic base and provided the basis for the creation of Exhibit 4.5-1 of EIR 575.

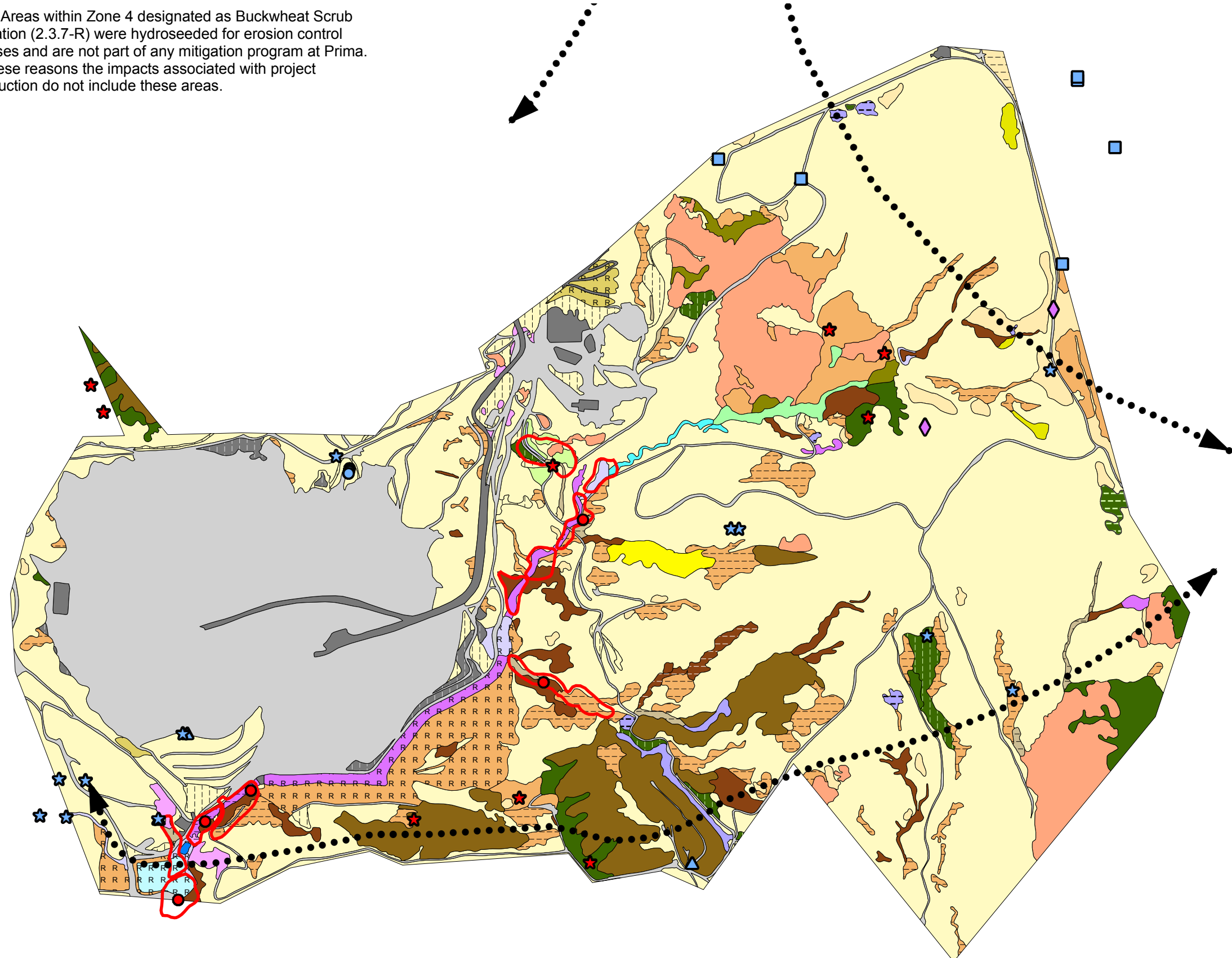
In 2003 and 2005, BonTerra Consulting reviewed, refined, and updated the vegetation mapping data to reflect the current landfill operation and associated limits of disturbance, as shown in Exhibit 5.5-1. The project site has undergone some changes since the certification of EIR 575 including ongoing landfilling operations addressed by this document, the Site B Landslide Remediation Project and associated creation of the Bio-Mitigation program, and the additional headscarp grading expansion of the landslide remediation project within Zone 1.

Grassland, coastal sage scrub, coastal sage scrub-grassland ecotones, chaparral, riparian, woodlands, wet meadows and marshes, and other areas are described in detail. The updates to the existing vegetation types and acreage from January 31, 2001, to present are identified in Table 5.5-1.

As previously indicated, the 2001 vegetative database was originally mapped using large-scale color aerial photography with some limited ground-truthing. BonTerra Consulting updated the vegetation database in 2003 and 2005 to reflect disturbances associated with the ongoing landfill operations and management. In addition, areas identified as containing coastal sage scrub habitat were evaluated in the field by a qualified Biologist as construction occurred to determine if the habitat met the standard under the Orange County Habitat Classification System (HCS) for coastal sage scrub. In some instances where the standard was not met, these areas were re-mapped as ruderal or annual grassland. Some areas containing coastal sage scrub were authorized for removal as part of the Landslide Remediation Project. The vegetation database also includes the habitat enhancement efforts associated with the landslide remediation project. In addition, BonTerra Consulting updated all vegetation mapping for the site in 2005 using HCS and mapping to a scale of 1 inch equals 200 feet.

Note: Areas within Zone 4 designated as Buckwheat Scrub vegetation (2.3.7-R) were hydroseeded for erosion control purposes and are not part of any mitigation program at Prima. For these reasons the impacts associated with project construction do not include these areas.

- Property Boundary
- Limits of Disturbance
- Vegetation, 2005**
- California Sagebrush-Orange Bush Monkeyflower Scrub
- Black Sage Scrub
- Sagebrush Scrub
- Sagebrush-Coyote Brush
- Sagebrush-Grassland
- Buckwheat Scrub (Revegetation)
- Buckwheat-Grassland
- Coyote Brush
- Coyote Brush/Mule Fat Scrub
- Mixed Sage Scrub
- Mixed Sage Scrub (Revegetation)
- Mixed Sage Scrub-Grassland
- Toyon-Sumac Chaparral
- Annual Grassland
- Southern Coastal Needlegrass Grassland
- Southern Coastal Needlegrass Grassland/Mexican Elderberry Woodland
- Elymus Grassland
- Ruderal
- Mixed Perennial Grassland
- Castor Bean/Fennel
- Freshwater & Alkali Marsh/Southern Willow Scrub (Revegetation)
- Riparian
- Riparian Herb
- Riparian Herb (Revegetation)
- Southern Willow Scrub
- Southern Willow Scrub (Revegetation)
- Southern Willow Scrub/Coyote Brush
- Mule Fat Scrub
- Mule Fat Scrub/Coyote Brush
- Mule Fat Scrub/Coyote Brush (Revegetation)
- Southern Sycamore Riparian Woodland
- Mexican Elderberry Riparian Scrub
- Mexican Elderberry Woodland
- Open Water
- Non-Urban Commercial/Industrial/Institutional
- Parks and Ornamental Plantings
- Parks and Ornamental Plantings/Southern Willow Scrub
- Cleared or Graded
- Other Developed Areas (Erosion Control Plantings)
- Special Status Plants**
- Brodiaea filifolia*
- Convolvulus simulans*
- Deinandra paniculata*
- Hordeum intercedens*
- Special Status Birds**
- Least Bell's Vireo Territories, 2005
- Least Bell's Vireo Nests
- Coastal California Gnatcatcher Locations, 2006
- Special Status Amphibians**
- Western Spadefoot Toad
- Wildlife Movement Corridors



**Biological Resources**

Prima Deshecha Landfill

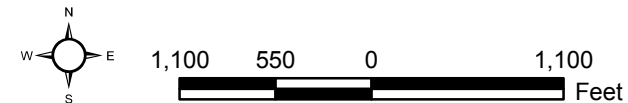



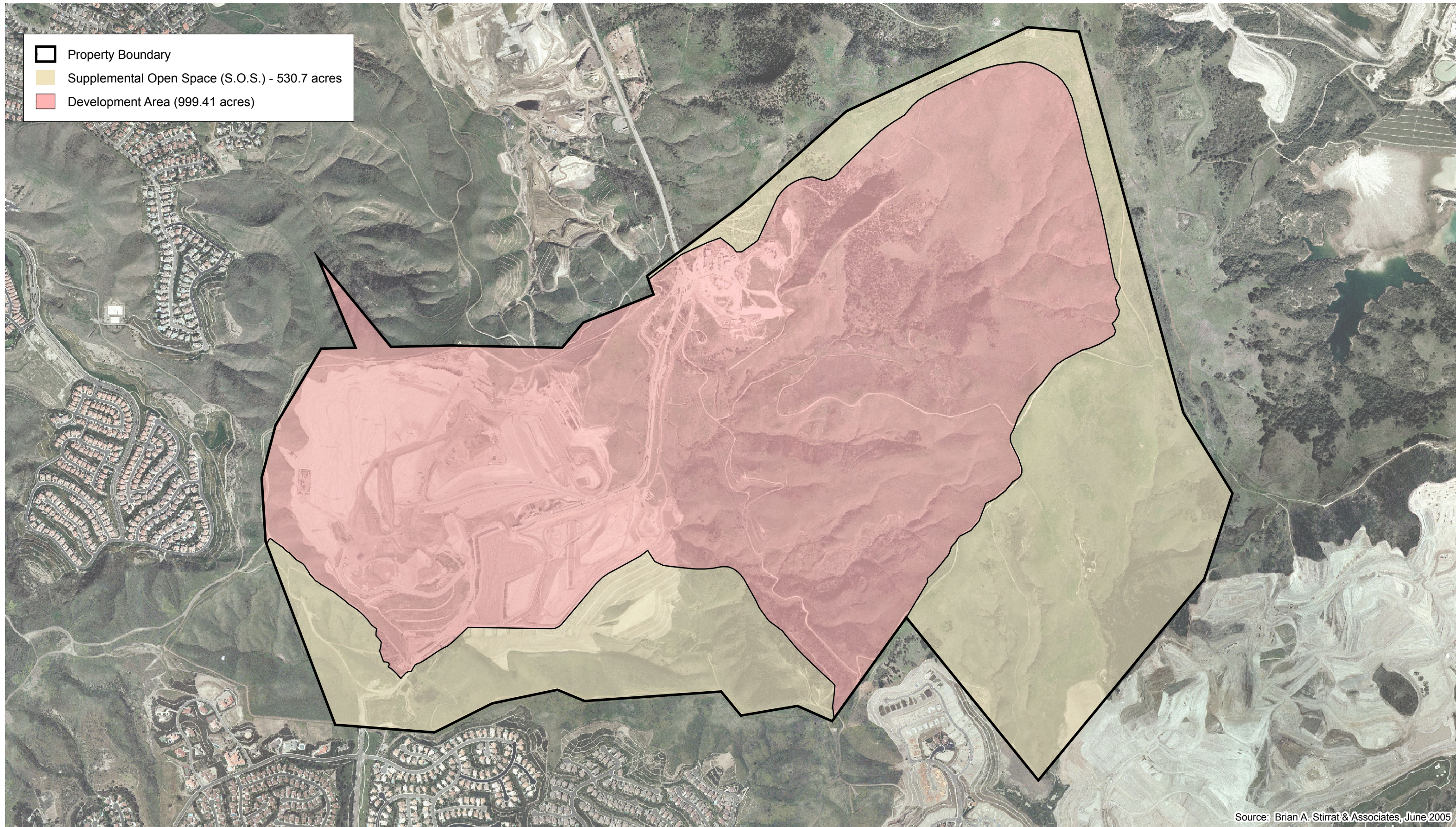


Exhibit 5.5-1

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-  Property Boundary
-  Supplemental Open Space (S.O.S.) - 530.7 acres
-  Development Area (999.41 acres)



Source: Brian A. Stirrat & Associates, June 2005

**South NCCP/HCP Designations**

*Prima Deshecha Landfill Supplemental Environmental Impact Report*

**Exhibit 5.5-2**



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**TABLE 5.5-1  
VEGETATION TYPES AND OTHER AREAS ACREAGE IN  
2001, 2003, AND 2005**

Vegetation Classification <sup>a</sup>	Vegetation Types and Other Areas	January 31, 2001 Habitat Acres <sup>b</sup>	2003 Updated Habitat Acres	2005 Updated Habitat
<b>Grasslands</b>				
4.1	Annual Grassland	910.10	804.40	783.80
4.2	Elymus Grassland			5.13
4.3	Southern Coastal Needlegrass Grassland	15.00	14.30	21.75
4.6	Ruderal	83.00	27.60	18.43
4.7	Mixed Perennial Grassland			2.41
4.9	Castor Bean/Fennel			2.43
<b>Coastal Sage Scrub</b>				
2.3.2	California Sagebrush-Orange Bush Monkeyflower			68.98
2.3.4	Black Sage Scrub	22.50	21.40	5.10
2.3.6	Sagebrush Scrub	78.90	77.60	23.20
2.3.7-R	Buckwheat Scrub (Revegetation)			3.53
2.3.9	Coyote Brush	58.80	54.70	26.31
2.3.10	Mixed Sage Scrub			25.56
2.3.10-R	Mixed Sage Scrub (Revegetation)			31.91
<b>Coastal Sage Scrub-Grassland Ecotone</b>				
2.8.1	Sagebrush-Grassland	2.50	2.50	1.91
2.8.2	Buckwheat-Grassland	6.10	4.90	0.67
2.8.5	Mixed Sage Scrub-Grassland	34.20	29.80	56.87
<b>Chaparral</b>				
3.12	Toyon-Sumac Chaparral	63.80	63.10	71.41
<b>Riparian</b>				
7.1	Riparian Herb	2.10	2.10	2.56
7.2	Southern Willow Scrub	8.60	5.40	3.83
7.3	Mule Fat Scrub	10.50	7.70	1.76
7.4	Southern Sycamore Riparian Woodland	3.30	3.30	4.09
7.12	Mexican Elderberry Riparian Scrub			3.37
<b>Woodland</b>				
8.4	Mexican Elderberry Woodland	2.50	2.40	2.19
<b>Wet Meadows and Marshes</b>				
5.2	Alkali Meadow	0.20	0.20	0.00
6.3	Freshwater & Alkali Marsh <sup>c</sup>	0.40	0.00	3.90
<b>Other Areas</b>				
15.3	Non-Urban Commercial/Industrial/Institutional	16.30	0.40	17.64
15.5	Parks and Ornamental Plantings	10.60	4.30	3.87
16.1	Cleared or Graded	210.90	404.20	303.46
16.2	Other Developed Areas (Erosion Control Plantings)			5.78
<b>Total</b>		<b>1530.30</b>	<b>1530.30</b>	<b>1530.06</b>
<sup>a</sup>	The habitat codes and names represent the Orange County Habitat Classification System.			
<sup>b</sup>	Vegetation types and acreage were obtained from EIR 575 Table 4.5-1.			
<sup>c</sup>	This vegetation type is not described below because it was removed as part of the landslide remediation project during re-location of the Prima Deshecha Cañada channel. The habitat type is being recreated as part of the Bio-Mitigation program.			

## **Grasslands**

The project site is generally characterized by areas of annual grassland, dominated by naturalized annual grasses and forbs. Large portions of the grasslands on the project site are extremely degraded by infestation of large stands of cardoon (artichoke thistle, *Cynara cardunculus*) and black mustard (*Brassica nigra*). Other grassland vegetation types on the project site include patches of southern coastal needlegrass grassland, Elymus grassland, mixed perennial grassland, castor bean/fennel, and ruderal (disturbed) areas.

### Annual Grassland (4.1)

The majority of the project site is generally characterized by large areas of annual grassland. This vegetation type consists of naturalized annual grasses and forbs, along with a minor amount of subshrub cover. Common grasses found in this vegetation type included ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), foxtail barley (*Hordeum murinum* ssp. *leporinum*), foxtail chess (*Bromus madritensis* ssp. *rubens*), slender wild oat (*Avena barbata*), perennial ryegrass (*Lolium perenne*), wild oat (*Avena fatua*), and little-seed canary grass (*Phalaris minor*).

Many of these grasslands have an open cover or dense patches of black mustard and cardoon. Other characteristic forbs include bur clover (*Medicago polymorpha*), red-stemmed filaree (*Erodium cicutarium*), shortpod mustard (*Hirschfeldia incana*), arroyo lupine (*Lupinus succulentus*), common sow thistle (*Sonchus oleraceus*), tocalote (*Centaurea melitensis*), dove weed (*Eremocarpus setigerus*), narrow-leaved milkweed (*Asclepias fascicularis*), common horseweed (*Conyza canadensis*), tall wreath plant (*Stephanomeria virgata*), coyote melon (*Cucurbita foetidissima*), cheese weed (*Malva parviflora*), Italian thistle (*Carduus pycnocephalus*), common fiddleneck (*Amsinckia menziesii*), Australian saltbush (*Atriplex semibaccata*), prickly lettuce (*Lactuca serriola*), telegraph weed (*Heterotheca grandiflora*), rose clover (*Trifolium hirtum*), fascicled tarweed (*Deiandra fasciculata*), and vinegar weed (*Trichostema lanceolatum*).

Many moist areas in these grasslands contain curly dock (*Rumex crispus*), annual sunflower (*Helianthus annuus*), bristly ox tongue (*Picris echioides*), western ragweed (*Ambrosia psilostachya*), white sweet clover (*Melilotus alba*), horehound (*Marrubium vulgare*), little-seed canary grass, perennial rye grass, soft chess, and cocklebur (*Xanthium strumarium*).

Occasionally, scattered shrub or subshrub cover is found in these grassland vegetation types. Common shrub species included coastal goldenbush (*Isocoma menziesii*), coyote brush (*Baccharis pilularis*), tree tobacco (*Nicotiana glauca*), cudweed aster (*Lessingia filaginifolia*), and coastal prickly pear (*Opuntia littoralis*).

### Elymus Grassland (4.2)

The Elymus grassland vegetation type occurs on mesic slopes and is dominated by a near-monotypic stand of giant wild rye (*Leymus [=Elymus] condensatus*). Occasional individuals of Mexican elderberry (*Sambucus mexicana*) and coyote brush (*Baccharis pilularis*) are also present in this vegetation type.

### Southern Coastal Needlegrass Grassland (4.3)

A grassland containing at least five percent cover of purple needlegrass (*Nassella pulchra*) is found on the project site. Other annual grasses found in this vegetation type consist of soft chess, ripgut brome, nit grass (*Gastridium ventricosum*), foxtail fescue (*Vulpia myuros*), and slender wild oat.

Common forbs in this vegetation type consist of shortpod mustard, dove weed, blue-eyed grass (*Sisyrinchium bellum*), common fiddleneck, sliver puffs (*Uropappus lindleyi*), coast jepsonia (*Jepsonia parryi*), arroyo lupine, black mustard, coyote melon, and cardoon.

Shrubs and subshrubs occasionally found in this vegetation type consist of coastal goldenbush, cudweed aster, coastal prickly pear, long-stemmed buckwheat (*Eriogonum elongatum*), coyote brush, and California sagebrush (*Artemisia californica*).

#### Ruderal (4.6)

The ruderal vegetation type includes disturbed areas on the project site, often found near the active landfill or other previously graded localities. Some areas consist of stands of Russian thistle (*Salsola tragus*) associated with Australian saltbush, black mustard, bur clover, bristly ox tongue, tall wreath plant, Crete hedydnis (*Hedynis cretica*), common horseweed, riggut brome, crystal ice plant (*Mesembryanthemum crystallinum*), Persian knotweed (*Polygonum argyrocoleon*), suberect saltbush (*Atriplex suberecta*), foxtail barley, tumbling pigweed (*Amaranthus albus*), Bermuda grass (*Cynodon dactylon*), Italian thistle, puncture vine (*Tribulus terrestris*), prickly lettuce, dove weed, common knotweed (*Polygonum arenastrum*), fennel (*Foeniculum vulgare*), soft chess, cheese weed, and horehound.

Other areas consist of dense stands of black mustard or cardoon. These stands were often found with riggut brome, annual sunflower, bristly ox tongue, bur clover, horehound, rose clover, Australian saltbush, white sweet clover, tree tobacco, common horseweed, Russian thistle, common sow thistle, and perennial rye grass.

#### Mixed Perennial Grassland (4.7)

The mixed perennial grassland vegetation type is similar to southern coastal needlegrass grassland, but is dominated by a mix of native perennial grass species including California brome (*Bromus carinatus*), needle grasses (*Nassella* spp.), giant wild rye, and bent grass (*Agrostis pallens*).

In addition to the dominant perennial grasses, widely scattered woody shrubs are found in these grasslands including coyote brush, coastal goldenbush, and California sagebrush. Common forb species found in this vegetation type include common fiddleneck, common goldenstar (*Bloomeria crocea*), goose grass (*Galium aparine*), and western verbena (*Verbena lasiostachys*).

#### Castor Bean/Fennel (4.9)

The castor bean/fennel vegetation type category was created to differentiate large stands of invasive castor bean (*Ricinus communis*) and fennel from other common grassland and ruderal vegetation types present on the project site. Patches of castor bean/fennel vegetation are present in disturbed areas just south of the recycling center on the site. Other species that may be present within the castor bean/fennel vegetation type include non-native grasses such as wild oat (*Avena* sp.) and annual bromes (*Bromus* sp.), and occasional weedy forbs including black mustard.

### **Coastal Sage Scrub**

#### California Sagebrush-Orange Bush Monkeyflower Scrub (2.3.2)

The California sagebrush-orange bush monkeyflower vegetation type is a mesic expression of coastal sage brush vegetation that is dominated by California sagebrush and orange bush

monkeyflower (*Mimulus aurantiacus*), with abundant coyote brush, Mexican elderberry, and giant wild rye present. Other species that may be present in this vegetation type include coastal goldenbush, black sage (*Salvia mellifera*), white sage (*Salvia apiana*), and poison oak (*Toxicodendron diversilobum*). This vegetation type occurs on mesic slopes in several areas of the project site.

#### Black Sage Scrub (2.3.4)

Black sage scrub is found on south facing slopes in association with the sumac chaparral. This scrub is dominated by stands of black sage. Other species occurring in this vegetation type include California bush sunflower (*Encelia californica*), interior flat-topped buckwheat (*Eriogonum fasciculatum* var. *foliolosum*), coastal goldenbush, California brickellbush (*Brickellia californica*), coastal prickly pear, and deer weed (*Lotus scoparius*). Laurel sumac (*Malosma laurina*) and lemonadeberry (*Rhus integrifolia*) are often associated with this scrub.

The understory is composed of foxtail chess, shortpod mustard, finger-leaved morning glory (*Calystegia macrostegia* ssp. *arida*), foxtail fescue, bicolored everlasting (*Gnaphalium bicolor*), caterpillar phacelia (*Phacelia cicutaria*), fascicled tarweed, black mustard, slender wild oat, tocalote, red-stemmed filaree, and foothill needlegrass (*Nassella lepida*).

#### Sagebrush Scrub (2.3.6)

A coastal sage scrub dominated by California sagebrush is found on several localities within the project site. More mesic stands of this vegetation type are associated with orange bush monkeyflower, giant wild rye, poison oak, coyote brush, Mexican elderberry, coastal goldenbush, and lemonadeberry. The understory in the mesic stands of this vegetation type consists of ripgut brome, Italian thistle, black mustard, California everlasting (*Gnaphalium californicum*), nit grass, soft chess, bur clover, common golden star, rigid hedge nettle (*Stachysrigida*), foothill needlegrass, western verbena, slender wild oat, tall wreath plant, and foxtail fescue.

The xeric aspects of this vegetation type are associated with white sage, interior flat-topped buckwheat, black sage, laurel sumac, coastal prickly pear, cudweed aster, coastal goldenbush, orange bush monkeyflower, deerweed, and long-stemmed buckwheat. The understory found in the xeric aspects of this vegetation type consists of foxtail chess, purple needlegrass, soft chess, tall wreath plant, fascicled tarweed, shortpod mustard, common fiddleneck, blue-eyed grass, ripgut brome, red-stemmed filaree, and bicolored everlasting.

#### Buckwheat Scrub (2.3.7-R)

Buckwheat scrub is characterized by nearly monotypic stands of California buckwheat. Other species may be present in low densities in this vegetation type including black sage, California sagebrush, big saltbush (*Atriplex lentiformis*), and fourwing saltbush (*Atriplex canescens*). Non-native forbs and grasses are also common in this vegetation type including wild oats (*Avena* sp.), black mustard, and sourclover (*Melilotus indica*). All the buckwheat scrub areas mapped on the project site were coastal sage scrub revegetation sites dominated by California buckwheat.

#### Coyote Brush Scrub (2.3.9)

A coastal sage scrub dominated by coyote brush is found on the steep sides of drainages and other mesic areas of the project site. This scrub is characterized by coyote brush, along with giant wild rye, California sagebrush, orange bush monkeyflower, Mexican elderberry, coastal goldenbush, poison oak, and tree tobacco.

The understory consists of a variety of grasses and forbs. Common species in this vegetation type include black mustard, ripgut brome, Italian thistle, foxtail fescue, soft chess, western verbena, California everlasting, scarlet pimpernel (*Anagallis arvensis*), common golden star, purple needlegrass, bur clover, sharp-tooth sanicle (*Sanicula arguta*), rattlesnake weed (*Daucus pusillus*), nit grass, and rigid hedge nettle.

#### Mixed Sage Scrub (2.3.10 and 2.3.10-R)

Mixed sage scrub is dominated by an even mix of four or more species of sage scrub species including black sage, California sage brush, California buckwheat, laurel sumac, California bush sunflower, and deerweed. In more mesic expressions of this vegetation type, coastal goldenbush, white sage, orange bush monkeyflower, and coyote brush may occur. Species found in more xeric stands include coastal prickly pear and wishbone bush (*Mirabilis californica*).

### **Coastal Sage Scrub-Grassland Ecotone**

#### Sagebrush-Grassland Ecotone (2.8.1)

This ecotonal sage scrub vegetation type consists of open stands of California sagebrush, coastal goldenbush, and coyote brush in the annual grassland. The species composition of the annual grassland is similar to that described above for the annual grassland vegetation type.

#### Buckwheat-Grassland Ecotone (2.8.2)

This open scrub vegetation type is found on previously disturbed slopes within the active landfill or near adjacent facilities. Interior flat-topped buckwheat is the dominant plant species, which is associated with coastal goldenbush, white sage, four-wing saltbush, black sage, California bush sunflower, big saltbush, and tree tobacco.

The grassland in this ecotonal vegetation type is comprised of black mustard, ripgut brome, rose clover, slender wild oat, Australian saltbush, common sow thistle, foxtail chess, white sweet clover, telegraph weed, shortpod mustard, arroyo lupine, common horseweed, bur clover, tall wreath plant, sweet alyssum (*Lobularia maritima*), tocalote, sea-lavender (*Limonium* sp.), and Russian thistle.

#### Mixed Sage Scrub-Grassland Ecotone (2.8.5)

Mixed sage scrub-grassland ecotone is a common vegetation type on the project site and consists of small-to-large stands of coyote brush in the grassland. Other shrubs found scattered in this vegetation type consist of giant wild rye, coastal goldenbush, and California sagebrush.

The grassland component of this vegetation type is generally composed of ripgut brome, soft chess, black mustard, curly dock, Italian thistle, dove weed, western ragweed, cardoon, shortpod mustard, bristly ox tongue, bur clover, white sweet clover, and narrow-leaved milkweed.

### **Chaparral**

#### Toyon-Sumac Chaparral (3.1.2)

Several of the mesic slopes above the steep canyons contain chaparral vegetation characterized by stands of lemonadeberry and laurel sumac. This vegetation type often contains large areas of coastal sage scrub between the large evergreen sumac shrubs. Other

characteristic shrubs found in this chaparral included black sage, interior flat-topped buckwheat, coastal prickly pear, California sagebrush, coastal goldenbush, California brickellbush, orange bush monkeyflower, deerweed, giant wild rye, and coyote brush.

The understory in this chaparral consists of foxtail chess, shortpod mustard, rippgut brome, caterpillar phacelia, black mustard, bicolored lupine, foothill needlegrass, finger-leaved morning glory, tall wreath plant, tocalote, and white everlasting (*Gnaphalium canescens*).

## **Riparian**

### Riparian Herb (7.1)

Several of the tributaries to Prima Deshecha Cañada, some of the retention basins, and a former cattle pond in the northeast portion of the site contain herbaceous species commonly found in moist vegetation types. Common species in these vegetation types include western ragweed, cocklebur, common celery (*Apium graveolens*), fennel, Mexican tea (*Chenopodium ambrosioides*), narrow-leaved cattail (*Typha angustifolia*), bristly ox tongue, curly dock, Bermuda grass, rippgut brome, soft chess, annual beard grass (*Polypogon monspeliensis*), Johnsongrass (*Sorghum halepense*), common plantain (*Plantago major*), white sweet clover, saltgrass (*Distichlis spicata*), Persian knotweed (*Polygonum argyrocoleon*), Mexican sprangletop (*Leptochloa uninervia*), common horseweed, dwarf nettle (*Urtica urens*), and tree tobacco.

### Southern Willow Scrub (7.2 and 7.2-R)

Southern willow scrub is found in Prima Deshecha Cañada and generally consists of dense stands of arroyo willow (*Salix lasiolepis*) in the drainage. Other willows occasionally found in this vegetation type include red willow (*Salix laevigata*) and black willow (*Salix gooddingii*). Other species in this scrub include mule fat (*Baccharis salicifolia*), coyote brush, giant wild rye, and California sagebrush.

The understory in this dense scrub is comprised of western ragweed, saltgrass, common plantain, rippgut brome, cocklebur, narrow-leaved cattail, bristly ox tongue, pampas grass (*Cortaderia sellonana*), soft chess, common celery, white sweet clover, annual beard grass, alkali bulrush (*Scirpus maritimus*), yerba mansa (*Anemopsis californica*), Bermuda grass, nettle (*Urtica dioica*), rigid hedge-nettle, mugwort (*Artemisia douglasiana*), and curly dock.

### Mule Fat Scrub (7.3)

Several of the feeder drainages and portions of Prima Deshecha Cañada contain a riparian scrub dominated by mule fat. Other, less common shrubs include coyote brush, arroyo willow, black willow, coastal goldenbush, and giant wild rye. Uncommon weedy shrubs in this vegetation type consist of tree tobacco, Mediterranean tamarisk (*Tamarix ramosissima*), and giant reed (*Arundo donax*).

The understory is often comprised of dense stands of western ragweed along with rippgut brome, soft chess, cocklebur, alkali heliotrope (*Heliotropium curassavicum*), mugwort, western verbena, bristly ox tongue, white sweet clover, curly dock, Bermuda grass, Italian thistle, milk thistle (*Silybum marianum*), nettle-leaved goosefoot (*Chenopodium murale*), annual beard grass, Mexican tea, common horseweed, common celery, saltgrass, fennel, Persian knotweed, and common plantain.

### Southern Sycamore Riparian Woodland (7.4)

This vegetation type is found in the upper drainage of Prima Deshecha Cañada. It consists of an overstory of western sycamore (*Platanus racemosa*), along with Mexican elderberry. A lower shrub layer is comprised of mule fat, lemonadeberry, laurel sumac, coyote brush, giant wild rye, poison oak, California wild rose (*Rosa californica*), and coastal prickly pear.

The understory is generally characterized by dense stands of riggut brome, western ragweed, Italian thistle, black mustard, western verbena, poison hemlock (*Conium maculatum*), coyote melon, rattlesnake weed, Douglas' nightshade (*Solanum douglasii*), and wild blackberry (*Rubus ursinus*).

Species found in or adjacent to the channel include water cress (*Rorippa nasturtium aquaticum*), nettle, saltgrass, common celery, common plantain, alkali bulrush, riggut brome, Italian thistle, western ragweed, cocklebur, and bristly ox tongue.

### Mexican Elderberry Riparian Scrub (7.12)

Mexican elderberry riparian scrub is similar to the Mexican elderberry woodland vegetation type found on the project site; however, this riparian scrub vegetation type is restricted to drainages and contains understory species typically associated with riparian habitats. Common understory species found in the Mexican elderberry riparian scrub vegetation type include scattered coyote brush and occasional Emory's baccharis (*Baccharis emoryi*). Dense stands of nettle (*Urtica dioica*) and giant wild rye are also common in this vegetation type, along with scattered western verbena and western ragweed.

## **Woodland**

### Mexican Elderberry Woodland (8.4)

Small stands of Mexican elderberry are found in isolated areas on the project site. These small islands are composed of Mexican elderberry associated with lemonadeberry, tree tobacco, giant wild rye, coyote brush, California brickellbush, coastal goldenbush, California sagebrush, coastal prickly pear, and laurel sumac.

## **Wet Meadows and Marshes**

### Alkali Meadow (5.2)

Alkali meadows have been historically found at a few localities along Prima Deshecha Cañada and on some of the tributaries to this channel. This vegetation type consists of dense mats of saltgrass. Other species found in this vegetation type include rabbit's foot grass, western ragweed, cocklebur, bristly ox tongue, soft chess, pitseed goosefoot (*Chenopodium berlandieri*), white sweet clover, alkali bulrush, and common celery.

None of the alkali meadow vegetation type areas were found during the 2005 field mapping surveys. Many of the areas previously mapped as alkali meadow were found to support mule fat or coyote brush scrub.

## **Other Areas**

### Non-Urban Commercial/Industrial/Institutional (15.3)

The various facility buildings for the landfill operation were mapped as non-urban institutional.

### Parks and Ornamental Plantings (15.5)

There is fairly large area of eucalyptus woodland in the southwestern corner of the project site, which is composed of river red gum trees (*Eucalyptus camadulensis*) and other species of eucalyptus (*Eucalyptus* spp.). Other ornamental plantings are found near the landfill entrance and around the existing facility buildings. These include plants of Peruvian pepper (*Schinus molle*), eucalyptus, golden wattle (*Acacia longifolia*), wattle (*Acacia* spp.), fan palm (*Chamaeropsis fortunei*), flowering plum (*Prunus* sp.), Japanese yew (*Podocarpus macrophyllus*), myoporum (*Myoporum laetum*), oleander (*Nerium oleander*), melaleuca (*Melaleuca* sp.), hottentot fig (*Carpobrotus edulis*), floss silk tree (*Chorisia speciosa*), western sycamore, Fraser's photinia (*Photinia fraseri*), African daisy (*Osteospermum ecklonis*), Spanish bayonet (*Yucca alifolia*), pittosporum (*Pittosporum tobria*), and several species of pines (*Pinus* spp.).

### Cleared or Graded (16.1)

The actively graded areas within the landfill, the landslide areas, and other localities within the project site that have been cleared of any vegetation are placed in this mapping unit.

### Other Developed Areas (Erosion-Control Plantings) (16.2)

The erosion-control landscaping mapping unit was created to describe several cut-slope areas that appear to have been treated with an erosion-control seed mix that contains both native and non-native species. The dominant species in these areas are brittlebush (*Encelia farinosa*) and rose clover. Occasional phacelia (*Phacelia* sp.) and deerweed are also present on these slopes. This vegetation type is found on manufactured slopes immediately adjacent to the active landfill area.

## **Wildlife**

### ***Fish***

Given the hydrologic and geologic conditions of the Prima Deshecha Cañada stream channel, this drainage course and its associated tributaries are considered ephemeral and support a very narrow non-contiguous riparian corridor containing southern willow scrub, mule fat scrub, and freshwater marsh. No fish species have been observed during previous surveys or during any subsequent field investigations. The only exception is in Basin B described below (Exhibit 2.2-7).

The Basin B component of the Bio-mitigation Program is located at the terminus of Prima Deshecha Cañada channel and was designed to capture and retain storm flows and intermittent flows to create the alluvial groundwater necessary for establishing a southern willow scrub and alkali and freshwater marsh habitats. As a result, Basin B may be inundated or ponded for up to four months each year depending on seasonal rainfall. As such, Orange County Vector Control (COVC) releases mosquito fish into the basin to control potential mosquito populations.

### ***Amphibians***

Amphibians require moisture for at least a portion of their life cycle, and many require standing or flowing water for reproduction. Terrestrial species may or may not require standing water for reproduction. These species are able to survive in dry areas by aestivating (i.e., remaining beneath the soil in burrows or under logs and leaf litter, emerging only when temperatures are low and humidity is high). Many of these species' habitats are associated with water and they emerge to breed once the rainy season begins. Soil moisture conditions can remain high



throughout the year in some habitat types, depending on factors such as the amount of vegetation cover, elevation, and slope aspect.

Common native species observed and/or expected to occur within the project area include the garden slender salamander (*Batrachoseps major*), Pacific tree frog (*Pseudacris regilla*), and western toad (*Bufo boreas*).

### **Reptiles**

Reptile diversity and abundance typically varies with vegetation type and character. Many species prefer only one or two vegetation types; however, most will forage in a variety of habitats. Most species occurring in open areas use rodent burrows for cover, protection from predators, and refuge during extreme weather conditions.

A variety of lizards and snakes have been observed during surveys on the project site. The lizards include side-blotched lizard (*Uta stansburiana*), western fence lizard (*Sceloporus occidentalis*), western whiptail (*Aspidoscelis tigris*), western skink (*Eumeces skiltonianus*), and southern alligator lizard (*Elgaria multicarinata*). Snakes observed during the surveys include ringneck snake (*Diadophis punctatus*), common kingsnake (*Lampropeltis getulus*), racer (*Coluber constrictor*), coachwhip (*Masticophis flagellum*), striped racer (*Masticophis lateralis*), gopher snake (*Pituophis catenifer*), western rattlesnake (*Crotalus viridis*), and red diamond rattlesnake (*Crotalus ruber*).

### **Birds**

A variety of bird species reside in habitats or utilize portions of the project area throughout the year. Other species are present only during certain seasons. For example, thousands of gulls visit the project area during the winter season in an attempt to forage within the refuse disposal area, but migrate out of the region during the summer breeding season. The list of bird species that have been observed or have the potential to occur on site has been updated from those provided in EIR 575 based on regular site visits to the project site from 2000 to present by Brian Daniels, BonTerra Consulting Senior Biologist.

Resident bird species that occur in the project area include the turkey vulture (*Cathartes aura*), mallard (*Anas platyrhynchos*), red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), California quail (*Callipepla californica*), killdeer (*Charadrius vociferous*), mourning dove (*Zenaidura macroura*), greater roadrunner (*Geococcyx californianus*), barn owl (*Tyto alba*), great horned owl (*Bubo virginianus*), Anna's hummingbird (*Calypte anna*), Nuttall's woodpecker (*Picoides nuttallii*), Say's phoebe (*Sayornis saya*), black phoebe (*Sayornis nigricans*), western scrub-jay (*Aphelocoma californica*), American crow (*Corvus brachyrhynchos*), common raven (*Corvus corax*), bushtit (*Psaltriparus minimus*), Bewick's wren (*Thryomanes bewickii*), house wren (*Troglodytes aedon*), wrentit (*Chamaea fasciata*), northern mockingbird (*Mimus polyglottos*), California thrasher (*Toxostoma redivivum*), common yellowthroat (*Geothlypis trichas*), spotted towhee (*Pipilo maculatus*), California towhee (*Pipilo crissalis*), rufous-crowned sparrow (*Aimophila ruficeps*), song sparrow (*Melospiza melodia*), red-winged blackbird (*Agelaius phoeniceus*), western meadowlark (*Sturnella neglecta*), Brewer's blackbird (*Euphagus cyanocephalus*), house finch (*Carpodacus mexicanus*), lesser goldfinch (*Carduelis psaltria*), and American goldfinch (*Carduelis tristis*).

Migratory bird species that breed during the spring and summer in the project area include Costa's hummingbird (*Calypte costae*), black-chinned hummingbird (*Archilochus alexandri*), ash-throated flycatcher (*Myiarchus cinerascens*), cliff swallow (*Petrochelidon pyrrhonota*), yellow-breasted chat (*Icteria virens*), grasshopper sparrow (*Ammodramus savannarum*), black-

headed grosbeak (*Pheucticus melanocephalus*), blue grosbeak (*Guiraca caerulea*), hooded oriole (*Icterus cucullatus*), and Bullock's oriole (*Icterus bullockii*).

Wintering bird species that occur in the project area include western gull (*Larus occidentalis*), glaucous-winged gull (*Larus glaucescens*), herring gull (*Larus argentatus*), California gull (*Larus californicus*), northern flicker (*Colaptes auratus*), ruby-crowned kinglet (*Regulus calendula*), blue-gray gnatcatcher (*Polioptila caerulea*), hermit thrush (*Catharus guttatus*), American pipit (*Anthus rubescens*), cedar waxwing (*Bombycilla cedrorum*), yellow-rumped warbler (*Dendroica coronata*), savannah sparrow (*Passerculus sandwichensis*), vesper sparrow (*Pooecetes gramineus*), Lincoln's sparrow (*Melospiza lincolni*), white-crowned sparrow (*Zonotrichia leucophrys*), golden-crowned sparrow (*Zonotrichia atricapilla*), and dark-eyed junco (*Junco hyemalis*).

Migrant bird species that occur in the project area during spring and fall migration include the spotted sandpiper (*Actitis macularia*), greater yellowlegs (*Tringa melanoleuca*), rufous hummingbird (*Selasphorus rufus*), western wood-pewee (*Contopus sordidulus*), western kingbird (*Tyrannus verticalis*), Cassin's vireo (*Vireo cassinii*), warbling vireo (*Vireo gilvus*), marsh wren (*Cistothorus palustris*), Nashville warbler (*Vermivora ruficapilla*), black-throated gray warbler (*Dendroica nigrescens*), Townsend's warbler (*Dendroica townsendii*), MacGillivray's warbler (*Oporornis tolmiei*), Wilson's warbler (*Wilsonia pusilla*), chipping sparrow (*Spizella passerina*), and lazuli bunting (*Passerina amoena*).

### **Mammals**

A variety of common small mammal species are expected to occur on the project site and are expected to include most of the following species: ornate shrew (*Sorex ornatus*), broad-footed mole (*Scapanus latimanus*), desert cottontail (*Sylvilagus audubonii*), California ground squirrel (*Spermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), San Diego pocket mouse (*Chaetodipus fallax*), California vole (*Microtus californicus*), house mouse (*Mus musculus*), dusky-footed woodrat (*Neotoma fuscipes*), California mouse (*Peromyscus californicus*), cactus mouse (*Peromyscus eremicus*), deer mouse (*Peromyscus maniculatus*), black rat (*Rattus rattus*), and western harvest mouse (*Reithrodonomys megalotis*).

Common bat species expected to occur on the project site include the big brown bat (*Eptesicus fuscus*), hoary bat (*Lasiurus cinereus*), California myotis (*Myotis californicus*), yuma myotis (*Myotis yumanensis*), western pipistrelle (*Pipistrellus hesperus*), and Brazilian free-tailed bat (*Tadarida brasiliensis*).

Larger mammal species known to occur or expected to occur on the project site include the Virginia opossum (*Didalphis virginiana*), coyote (*Canis latrans*), common raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), long-tailed weasel (*Mustela frenata*), mountain lion (*Felis concolor*), bobcat (*Lynx rufus*), and mule deer (*Odocoileus hemionus*).

### **Wildlife Movement**

A fundamental concept and central tenet of conservation biology theory is that habitat fragmentation and isolation leads to extinction of local populations as a result of two processes: (1) reduction in total habitat area which reduces effective population sizes and (2) insularization of local populations which affects dispersal and immigration rates (Wilcox and Murphy 1985; Wilcove et al. 1986). Wilcox and Murphy further point out that immigration may be impeded by conversion of natural habitat between occupied or potential habitat patches, thus increasing the probability of extinction. It is this latter point that is the crux of the habitat linkage problem. That is, isolation of habitat patches accompanied by intervening inhospitable land cover (e.g., urban development, roadways) is thought to increase the probability of permanent extinction of local

populations. Because of complex community-level interactions (e.g., mutualistic species, habitat guilds, keystone species), the loss of one or a few species from a habitat patch as a direct result of habitat fragmentation (primary extinctions) also may result in multiple “secondary” extinctions within the habitat patch (Wilcox and Murphy 1985).

Wildlife movement activities usually fall into one of three movement categories: (1) dispersal (e.g., juvenile animals from natal areas or individuals extending range distributions); (2) seasonal migration; and (3) movements related to home range activities (foraging for food or water, defending territories, searching for mates, breeding areas, or cover). A number of terms have been used in various wildlife movement studies (such as “wildlife corridor,” “travel route,” “habitat linkage,” and “wildlife crossing”) to refer to areas in which wildlife move from one area to another. To clarify the meaning of these terms and to facilitate the discussion on wildlife movement in this analysis, these terms are defined as follows:

**Travel route:** A landscape feature (such as a ridgeline, drainage, canyon, or riparian strip) within a larger natural habitat area that is used frequently by animals to facilitate movement and to provide access to necessary resources (e.g., water, food, cover, den sites). The travel route is generally preferred because it provides the least amount of topographic resistance in moving from one area to another. It contains adequate food, water, and/or cover while moving between habitat areas and provides a relatively direct link between target habitat areas.

**Wildlife corridors:** A piece of habitat, usually linear in nature, that connects two or more large blocks of habitat that would otherwise be fragmented or isolated from one another. A corridor generally contains suitable cover, food, and/or water to support species and facilitate movement while in the corridor. Urban areas or other areas unsuitable for wildlife usually bound wildlife corridors. Larger, landscape-level corridors (often referred to as “habitat or landscape linkages”) can provide both transitory and resident habitat for a variety of species. Wildlife corridors may also contain “choke-points” (e.g., hourglass or funnel shapes) that are most often man-made structures such as culverts and flood control channels that wildlife quickly move through.

**Wildlife crossing:** A small, narrow area, relatively short in length and generally constricted in nature, that allows wildlife to pass under or through an obstacle or barrier that otherwise hinders or prevents movement. Crossings typically are man-made and include culverts, underpasses, drainage pipes, and tunnels to provide access across or under roads, highways, pipelines, or other physical obstacles. These often represent “choke points” along a wildlife corridor.

**Habitat linkage:** Habitat or landscape linkages are areas of natural habitat that function to join two larger blocks of habitat. They serve as connections between habitat blocks and help reduce the adverse effects of habitat fragmentation by providing a potential route for gene flow and long-term dispersal. Habitat linkages may serve both as “live-in” habitat and avenues of gene flow for small animals such as reptiles, amphibians, and rodents. Habitat linkages also provide for the transit of larger species, but as opposed to wildlife corridors (as defined above) they also may be “live-in” habitat for larger species (i.e., support breeding sites, frequent use areas). Habitat linkages also may be represented by continuous habitat or by closely spaced habitat “islands” that function as stepping stones for dispersal and movement (especially for birds and flying insects).

Habitat linkages and wildlife corridors facilitate the dispersal by smaller, less mobile species and frequent movement (e.g., daily, weekly) by large mammal species such as mountain lion, mule deer, coyote, and bobcat. The identified species only highlight a much broader suite of species served by the habitat linkages and corridors. Accordingly, the species identified should not be

interpreted as the only species that benefit from the linkages and corridors. It can be reasonably assumed that linkages and corridors that function for large mammals also function for many other species.

The project site is located within the upper Prima Deshecha Cañada watershed that borders a mix of urbanized and open space areas. Urbanized areas border the project site to the west and south (San Clemente) and to the north (San Juan Capistrano). New development areas are to the north (Whispering Hills) and south (Talega) of the project site. Protected open space areas close to the project site include Forster Ranch to the northwest and the Talega Nature Preserve to the east. Although there have been disturbances due to landfilling operations within Zone 1 of the landfill facility, there remains a substantial amount of open space within the project site. These open space areas generally continue to facilitate wildlife movement in multiple directions and provide “live-in habitat” for many species. As such, the project site serves as an important habitat linkage between the open spaces of Forster Ranch and the Talega Nature Preserve.

### **Special Status Species – Federal- and State-Listed Species**

#### ***Special Status Plant Species***

Special status plant species include those species listed by the state or federal governments as Endangered, Threatened or Rare and species which are candidates for future listing. It also encompasses the species determined by the CNDDDB to meet the CEQA (Section 15380) criteria as “rare and endangered,” even though they have not been officially listed by any agency (CDFG 2004b). Finally, the list considers those species noted by the California Native Plant Society (CNPS 2001), considered within the Natural Communities Conservation Plan guidelines for coastal sage scrub (CDFG 1992), considered by the County of Orange as “rare or endangered,” or considered to be a species of special interest that requires consideration in CEQA or planning studies in the region (Bramlet 2003, Gray and Bramlet 1994a).

To determine the known localities of plant species of special interest in the study region, the CNDDDB (CDFG 2002b) element reports were developed for the San Clemente, Dana Point, San Juan Capistrano and Cañada Gobernadora USGS 7.5’ quadrangles. To supplement this information, recent EIRs and/or biological surveys in the region were also examined (Bramlet 1998; BonTerra Consulting 2000a, 2000b; MBA 1998; P&D 2002).

#### **Plant Species of Special Interest**

Table 5.5-2 presents 35 special status plant species potentially occurring on the project site.

**TABLE 5.5-2  
SPECIAL STATUS PLANT SPECIES POTENTIALLY OCCURRING ON THE  
PROJECT SITE**

<b>Species</b>	<b>Federal/ State</b>	<b>CNPS/ Other</b>	<b>Comments</b>
Coulter's saltbush <i>Atriplex coulteri</i>		CNPS 1B	Potential to occur on site. Not observed during previous surveys. Occurs in alkaline habitats in valley grassland and coastal sage scrub vegetation types.
South Coast saltscale <i>Atriplex pacifica</i>		CNPS 1B	Not expected to occur on site. Occurs on sea bluffs in coastal sage scrub vegetation types.
Parish's brittlescale <i>Atriplex parishii</i>		CNPS 1B	Not expected to occur on site. Occurs on alkali flats and in valley grassland vegetation types.
thread-leaved brodiaea <i>Brodiaea filifolia</i>	FT SE	CNPS 1B	Observed on site. Occurs in native and annual grassland vegetation types. The population on the project site consists of seven individuals and is located within the Phase C3 area (2005).
Catalina mariposa lily <i>Calochortus catalinae</i>		CNPS 4	Potential to occur on site. Not observed during previous surveys. Found in heavy soils in grassland and chaparral vegetation types.
intermediate mariposa lily <i>Calochortus weedii</i> var. <i>intermedius</i>		CNPS 1B	Potential to occur on site. Not observed during previous surveys. Occurs in coastal sage scrub, chaparral, and grassland habitats.
Santa Barbara morning-glory <i>Calystegia sepium</i> ssp. <i>binghamiae</i>		CNPS 1A	Not expected to occur on site. Occurs in coastal salt marsh vegetation types.
Buck's jewel-flower <i>Caulanthus heterophyllus</i> var. <i>pseudosimulans</i>		LC	Potential to occur on site. Not observed during previous surveys. Occurs in open scrub and chaparral vegetation types on granitic substrates.
southern tarplant <i>Centromadia [Hemizonia] parryi</i> ssp. <i>australis</i>		CNPS 1B	Potential to occur on site. Not observed during previous surveys. Occurs in moist, saline habitats in grassland vegetation types.
San Diego mountain mahogany <i>Cercocarpus minutiflorus</i>		LC	Not expected to occur on site. Occurs in chaparral and southern maritime chaparral vegetation types.
Orcutt's pincushion <i>Chaenactis glabriuscula</i> var. <i>orcuttiana</i>		CNPS 1B	Not expected to occur on site. Occurs on coastal dunes in coastal sage scrub vegetation types.
summer holly <i>Comarostaphylis diversifolia</i> ssp. <i>diversifolia</i>		CNPS 1B	Not expected to occur on site. Occurs on dry coastal slopes in chaparral vegetation types.
small-flowered morning-glory <i>Convolvulus simulans</i>		CNPS 4	Observed on site in grassland vegetation in the southwestern portion of the project site.
paniculate tarplant <i>Deinandra [Hemizonia] paniculata</i>		CNPS 4	Observed on site. Occurs in grassland vegetation types in the eastern and northwestern portions of the project site.
western dichondra <i>Dichondra occidentalis</i>		CNPS 4	Potential to occur onsite. Not observed during previous surveys. Occurs in the understory of coastal sage scrub and in needlegrass grassland.
Blochman's dudleya <i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i>		CNPS 1B	Not expected to occur on site. Occurs on dry, clay substrates in coastal sage scrub vegetation types directly on the coast.
many-stemmed dudleya <i>Dudleya multicaulis</i>		CNPS 1B	Potential to occur on site. Not observed during previous surveys. Occurs on dry, clay substrates in coastal sage scrub and chaparral vegetation types.
Laguna Beach dudleya <i>Dudleya stolonifera</i>	FT ST	CNPS 1B	Not expected to occur on site. Occurs on cliffs in coastal sage scrub vegetation types near Laguna Beach.
sticky dudleya <i>Dudleya viscida</i>		CNPS 1B	Not expected to occur on site. Not observed during previous surveys. Occurs on rocky cliffs in coastal sage scrub vegetation types.
Pendleton button-celery <i>Eryngium pendletonensis</i>		CNPS 1B	Not expected to occur on site. Narrow endemic occurring in clay, vernal mesic coastal bluff scrub, valley and foothill grassland, and vernal pool vegetation types.

**TABLE 5.5-2 (Continued)**  
**SPECIAL STATUS PLANT SPECIES POTENTIALLY OCCURRING ON THE**  
**PROJECT SITE**

Species	Federal/ State	CNPS/ Other	Comments
cliff spurge <i>Euphorbia misera</i>		CNPS 2	Not expected to occur on site. Occurs on sea bluffs in coastal sage scrub vegetation types.
Palmer's grapplinghook <i>Harpagonella palmeri</i>		CNPS 4	Potential to occur on site. Not observed during previous surveys. Occurs on dry slopes and mesas in chaparral vegetation types.
vernal barley <i>Hordeum intercedens</i>		CNPS 3	Observed on site. Occurs in alkali/saline conditions in vernal pool and grassland vegetation types
Robinson's peppergrass <i>Lepidium virginicum</i> var. <i>robinsonii</i>		CNPS 1B	Potential to occur on site. Not observed during previous surveys. Occurs in coastal sage scrub and chaparral vegetation types.
small-flowered microseris <i>Microseris douglasii</i> var. <i>platycarpha</i>		CNPS 4	Observed on site. Occurs on clay soils in grassland and alkali meadow vegetation types.
prostrate navarretia <i>Navarretia prostrata</i>		CNPS 1B	Not expected to occur on site. Occurs in vernal pool and alkali floodplain habitats.
chaparral nolina <i>Nolina cismontane</i>		CNPS 1B	Not expected to occur on site. Associated with sandstone or gabbro soils in coastal sage scrub and chaparral vegetation types.
golden-rayed pentachaeta <i>Pentachaeta aurea</i>		CNPS 4	Potential to occur on site. Not observed during previous surveys. Occurs in dry, open places in grassland, coastal sage scrub, and yellow pine forest vegetation types.
Nuttall's scrub oak <i>Quercus dumosa</i>		CNPS 1B	Not expected to occur on site. Associated with sandstone substrates in chaparral and foothill woodland vegetation types near the coast.
Coulter's matilija poppy <i>Romneya coulteri</i>		CNPS 4	Potential to occur on site. Not observed during previous surveys. Occurs in dry washes and canyons in chaparral and coastal sage scrub vegetation types.
San Miguel savory <i>Satureja chandleri</i>		CNPS 1B	Not expected to occur on site. Associated with rocky, gabbroic, or metavolcanic soils in chaparral, woodland, coastal scrub, riparian woodland, and grassland vegetation types.
rayless ragwort <i>Senecio aphanactis</i>		CNPS 2	Potential to occur on site. Not observed during previous surveys. Occurs in dry, open places in coastal sage scrub and chaparral vegetation types.
Salt Spring checkerbloom <i>Sidalcea neomexicana</i>		CNPS 2	Potential to occur on site. Not observed during previous surveys. Occurs in alkali habitats and in mesic areas in coastal sage scrub, chaparral, lower montane coniferous forest, Mojavean desert scrub, and playas.
Parry's tetraococcus <i>Tetraococcus dioicus</i>		CNPS 1B	Not expected to occur on site. Occurs on dry, stony slopes in chaparral vegetation types.
crownbeard <i>Verbesina dissita</i>	FT ST	CNPS 1B	Not expected to occur on site. Occurs on coastal slopes in maritime chaparral and coastal scrub vegetation types.
<b>Federal Designations</b>			
FE = Listed by the Federal government as an endangered species.			
FT = Listed by the Federal government as a threatened species.			
<b>State Designations</b>			
SE = Listed by the State of California as an endangered species.			
ST = Listed by the State of California as a threatened species.			
<b>California Native Plant Society (CNPS)</b>			
CNPS 1A = Plants presumed extinct in California.			
CNPS 1B = Plants considered rare, threatened or endangered in California and elsewhere.			
CNPS 2 = Plants rare, threatened or endangered in California but more common elsewhere.			
CNPS 3 = Plants about which we need more information - A review list.			
CNPS 4 = Plants of limited distribution - A watch list.			
<b>Other</b>			
LR = Locally rare species.			
LC = Species of local concern.			

### **Coulter's Saltbush (*Atriplex coulteri*)**

Coulter's saltbush is a CNPS List 1B species. This perennial herb typically blooms between March and October (CNPS 2001). It is found in somewhat alkaline low places in valley grassland and coastal sage scrub vegetation types (Munz 1974). It occurs in open sites in coastal shrubland from sea level to approximately 160 feet above mean sea level (msl) (Hickman 1993). This species is known from Los Angeles, Orange, Riverside, Santa Barbara, San Bernardino, and San Diego counties, and from the Channel Islands and Baja California (CNPS 2001). In Orange County this species has been recorded in Laguna Beach, Pelican Hill, Signal Hill, Newport Beach, Trabuco Canyon, and Cristianitos Canyon. This species was documented from the Whispering Hills project site (Bramlet 1998), and from Cristianitos Canyon (MBA 1998). Coulter's saltbush has the potential to occur in the project site but was not observed during previous surveys.

### **South Coast Saltscale (*Atriplex pacifica*)**

South Coast saltscale is a CNPS List 1B species. This annual herb typically blooms between March and October (CNPS 2001). It is found largely on sea bluffs in coastal sage scrub vegetation types (Munz 1974). It occurs from sea level to approximately 330 feet above msl (Hickman 1993). This species is known from Los Angeles, Orange, Riverside, San Diego, and Ventura counties, and from the Channel Islands and Baja California (CNPS 2001). This species is known to occur at San Clemente State Beach in the project vicinity (CDFG 2001). South Coast saltscale is not expected to occur in the project site.

### **Parish's Brittlescale (*Atriplex parishii*)**

Parish's brittlescale is a CNPS List 1B species. This annual herb typically blooms between June and October (CNPS 2001). It is found in alkali flats and valley grassland vegetation types, from cismontane southern California to the desert edges and to the Central Valley (Munz 1974). It occurs from sea level to approximately 6,230 feet above msl (Hickman 1993). This species is historically known from Los Angeles, Orange, Riverside, San Bernardino, and San Diego counties, and from Baja California (CNPS 2001). It is considered extirpated in Los Angeles, Orange, San Bernardino, and San Diego counties; this species has only been collected once in California since 1974, but is believed to be extant in Baja California (CNPS 2004). Parish's brittlescale is not expected to occur on the project site.

### **Thread-leaved Brodiaea (*Brodiaea filifolia*)**

Thread-leaved brodiaea is a federally listed Threatened species, a state-listed Endangered species, and a CNPS List 1B species. This bulbiferous perennial herb typically blooms between March and June (CNPS 2001). It is found in grassland and vernal pool habitats from approximately 200 to 980 feet above msl (Hickman 1993). This species typically occurs on clay soils in vernal pools, coastal scrub, chaparral openings, cismontane woodlands, playas, and valley and foothill grasslands (CNPS 2001). This species is known to occur in San Diego, Riverside, Los Angeles, San Bernardino, and Orange counties (CNPS 2001).

This species was only recently located in Orange County and is currently known to occur in Aliso Canyon, Casper's Regional Park, Talega Reserve, Segunda Deshecha, Forster Ranch, Camp Pendleton, and Cristianitos Canyon (CDFG 2001). The Forster Ranch population is the most significant population, containing over 4,000 plants; this site is located approximately 3.8 miles southwest of the project site. Other populations in Segunda Deshecha are found some 2.3 miles southeast of the project site.

Surveys along the foothill corridor alignment have located approximately eight localities of this species extending from north of the Ortega Highway in Cañada Gobernadora, to sites west of Cristianitos road extending from areas just south of the Ortega Highway to areas near the existing clay pits. Localities were also found in south Cristianitos Canyon on the west side of Cristianitos road and just south of the reserve boundaries. Finally, there is another group of localities in the lower portion of Cristianitos Canyon, just south of Pico. A total of 4,400 plants have been recorded for all of these localities.

During recent surveys at the Prima Deshecha landfill, a small locality (9 plants) of this species was found approximately 2,200 feet southwest of the landfill entrance, and south of the ridgeline access road (Bramlet 2004). The plants were found in a disturbed annual grassland that was dominated by artichoke thistle (*Cynara cardunculus*) on Alo clay soils on project site.

On December 8, 2004, the USFWS proposed to designate 9,403 acres of land as critical habitat for the federally Threatened thread-leaved brodiaea. The proposed areas include land in Los Angeles, San Bernardino, Orange, and San Diego counties. There are 23 known occurrences in Orange County, 13 of which are being proposed for critical habitat.

The proposed Critical Habitat Designation Unit 4d is located within the property boundaries of the Prima Deshecha Landfill. Proposed Critical Habitat Designation Unit 4d is described in the proposed Rule, on page 71292 as consisting of 119 acres of privately owned land northeast of San Clemente in western Orange County. However, the entire 119 acres of Unit 4d falls within the boundaries of the Prima Deshecha Landfill, which is publicly owned land.

As previously indicated, the Prima Deshecha Landfill has an approved General Development Plan for all future development phases of the landfill operation. Based on the Prima Deshecha Landfill remaining airspace capacity, the landfill is not anticipated to close until the year 2067.

As part of the amendment process for the 2001 General Development Plan focused biological surveys have been conducted on the entire Prima Deshecha property in order to determine the presence of the thread-leaved brodiaea. These focused biological surveys have determined that the only area of the site where the thread-leaved brodiaea is known to exist is less than 1 acre and is located within future landfilling area Zone 1, Phase C3. Seven thread-leaved brodiaea plants have been documented in this area based on surveys conducted in 2005 (BonTerra Consulting 2006c). This isolated brodiaea population is located in an area of the landfill site that contains invasive plant species such as artichoke thistle and black mustard that will affect the long-term viability of this small, isolated group of plants.

It is anticipated that landfill operations will begin to enter the Zone 1, Phase C3 area (Exhibit 2.2-3) within the next two years. Development of the landfill within this area will result in disturbance to the thread-leaved brodiaea. Therefore, the IWMD will work with the USFWS and the CDFG to develop a Thread-leaved Brodiaea Pre-mitigation Program for the site which may include transplanting of individual plants and soils to an area within the PDL outside any existing or future landfilling operations. The plan would also include seed collection, nursery propagation, and long-term monitoring.

In addition, the IWMD has submitted a letter to the USFWS requesting that the critical habitat designation for the thread-leaved brodiaea within the Prima Deshecha Landfill property boundary be eliminated.

### **Catalina Mariposa Lily (*Calochortus catalinae*)**

Catalina mariposa lily is a CNPS List 4 species due to the decline of known populations throughout southern California and the continued loss of habitat for this species. This



bulbiferous perennial herb typically blooms between February and May (CNPS 2001). It prefers heavy soil on open grassy slopes and openings in brush, in valley grassland, and in chaparral vegetation types (Munz 1974). It is found from sea level to approximately 2,300 feet above msl (Hickman 1993). This species is known from Los Angeles, Santa Barbara, San Diego, San Luis Obispo, Ventura, and Orange counties, and from the Channel Islands (CNPS 2001). This species is rather common in the open grasslands of the Santa Monica Mountains and is also found in Orange County, mostly in the northeastern portion of the County, but this species also ranges from the San Joaquin Hills and south to the Ortega Highway (Highway 74). South of Highway 74, this mariposa lily appears to be very uncommon. However, recent studies (P&D 2002) have noted four localities southeast of the landfill boundary. Catalina mariposa lily has the potential to occur on the project site but was not observed during previous surveys.

#### **Intermediate Mariposa Lily (*Calochortus weedii* var. *intermedius*)**

Intermediate mariposa lily is a CNPS List 1B species. This bulbiferous perennial herb typically blooms between May and July (CNPS 2001). It is found on hilly coastal sage scrub and valley grassland vegetation types (Munz 1974). It prefers dry, rocky, open slopes from sea level to approximately 2,230 feet above msl (Hickman 1993). This species is known from Los Angeles, Riverside, and Orange counties (CNPS 2001). This species is known to occur in the Chino Hills and Carbon Canyon, and in the Santa Ana Mountains to the Gypsum Canyon area. In Orange County, this species has been recorded from Chino Hills to the San Joaquin Hills. In the foothill areas, it is generally found on exposed sandstone substrate and extends from Gypsum Canyon south to Cristianitos Canyon. Intermediate mariposa lily has potential to occur on the project site but was not observed during previous surveys.

#### **Santa Barbara Morning-glory (*Calystegia sepium* ssp. *binghamiae*)**

Santa Barbara morning-glory is a CNPS List 1A species; List 1A species are those species that are presumed to be extinct. This species was probably extirpated by wetland modification and urbanization (CNPS 2001). This rhizomatous perennial herb typically bloomed between April and May (CNPS 2001). This species historically occurred in coastal salt marshes in Santa Barbara and Orange counties (Munz 1974). It was found from sea level to approximately 70 feet above msl (Hickman 1993). The only known historic locations in Orange County are in the Wintersberg Channel and a marsh along Pacific Coast Highway in Huntington Beach (CDFG 1998). Santa Barbara morning-glory is not expected to occur within the project site.

#### **Buck's Jewel-flower (*Caulanthus heterophyllus* var. *pseudosimulans*)**

Buck's jewel-flower is not formally listed by the resource agencies or CNPS, but is considered a species of local concern. It typically blooms between March and May (Munz 1974). This species is found in dry, open scrub and chaparral vegetation types, often following a fire or other disturbance, from sea level to approximately 4,270 feet above msl (Hickman 1993). It prefers granitic substrates. Although mostly known from the inland Riverside Valley, the Buck's jewel-flower also occurs in the Santa Monica and Santa Ana mountains. It has also been recorded from western San Bernardino County, including the lower elevations of the San Bernardino Mountains, and northern San Diego County. Although specimens have been annotated as this variety in various local herbaria, the nomenclature for this variety has not been formally published. Therefore, although this name is not currently valid, it has been recognized by CDFG (2003) and other agencies working on plant conservation (Reiser 2001). The distribution of the Buck's jewel-flower is not well known in Orange County. It has been recorded in the Santa Ana Mountains. It is also known occur in Blind Canyon, Fremont Canyon, Limestone Canyon, the San Joaquin Hills, south Laguna, and San Juan Hot Springs. It has recently been recorded from a single locality within the Donna O'Neill Reserve. Buck's jewel-flower has the potential to occur on the project site but was not observed during previous surveys.

### **Southern Tarplant (*Centromadia [Hemizonia] parryi* ssp. *australis*)**

Southern tarplant is a CNPS List 1B species. This annual herb typically blooms between May and November (CNPS 2001). It is found in coastal lowlands in valley grassland vegetation types (Munz 1974). It prefers seasonally moist, saline grasslands from sea level to approximately 660 feet above msl (Hickman 1993). This species is also found in vernal pools and around the margins of marshes and swamps; it is known from Los Angeles, Orange, Santa Barbara, San Diego, and Ventura counties, and from Baja California (CNPS 2001). This species occurs in a number of highly fragmented populations from Santa Barbara County to Baja California. In Orange County it is known from a number of scattered populations occurring at the Wintersburg channel (Bolsa Chica area), Fairview park area, Upper Newport Bay, San Joaquin Marsh, UCI campus, and localities along Peters Canyon channel in Mission Viejo and at the Corner of Laguna Canyon and Laguna Canyon Road. In southern Orange County, this species has been recorded for the Cañada Chiquita region. Along the southern Foothill Transportation Corridor some 18 localities have been identified. Southern tarplant has the potential to occur on the project site but was not observed during previous surveys.

### **San Diego Mountain Mahogany (*Cercocarpus minutiflorus*)**

San Diego mountain mahogany is not formally listed by the resource agencies or CNPS, but is considered a species of local concern. It typically blooms between March and May and is found on dry slopes in chaparral vegetation types (Munz 1974). It occurs from sea level to approximately 4,270 feet above msl (Hickman 1993). It is generally known from San Diego County and from Baja California (Hickman 1993). In San Diego County, this species is the principal mountain mahogany found at lower elevations. In contrast, the San Diego mountain mahogany has a very limited distribution in Orange County and has been located only from Niguel Hill in the Aliso Woods regional park. A single shrub has recently been recorded from the Donna O'Neill reserve. San Diego mountain mahogany is not expected to occur on the project site.

### **Orcutt's Pincushion (*Chaenactis glabriuscula* var. *orcuttiana*)**

Orcutt's pincushion is a CNPS List 1B species. This annual herb typically blooms between January and August (CNPS 2001). It occurs on coastal dunes in coastal strand vegetation types (Munz 1974). It is found from sea level to approximately 330 feet above msl (Hickman 1993). This species is known from Los Angeles, Orange, San Diego, and Ventura counties, and from Baja California; it is considered extirpated from Orange County (CNPS 2001). Orcutt's pincushion is not expected to occur on the project site.

### **Summer Holly (*Comarostaphylis diversifolia* ssp. *diversifolia*)**

Summer holly is a CNPS List 1B species. This evergreen shrub typically blooms between April and June (CNPS 2001). It occurs on dry coastal slopes at low elevations in chaparral vegetation types (Munz 1974). It is found from approximately 330 to 1,800 feet above msl (Hickman 1993). This species is known from Orange, Riverside, and San Diego counties, and from Baja California (CNPS 2001). It is known to occur in Laguna Niguel (CDFG 2001) in Orange County. Summer holly is not expected to occur on the project site.

### **Small-flowered Morning-glory (*Convolvulus simulans*)**

Small-flowered morning-glory is a CNPS List 4 species. This annual herb typically blooms between March and July (CNPS 2001). It is found in grassy and rocky places, in valley grassland and coastal sage scrub vegetation types (Munz 1974). It is associated with wet clay and serpentine ridges, and occurs from approximately 100 to 2,300 feet above msl (Hickman

1993). It is known from Contra Costa, Kern, Los Angeles, Orange, Riverside, Santa Barbara, San Benito, San Diego, San Joaquin, San Luis Obispo, and Stanislaus counties, and from the Channel Islands and Baja California (CNPS 2001). This species is not well known in Orange County and currently has only been located in Cristianitos Canyon, Aliso Canyon, Yorba Linda, Brea, Dana Point, Prima Deshecha, Bell Creek, and Cristianitos Canyon. Three localities of small-flowered morning glory were observed on the project site in 2003 (Bramlet 2004), two of which consisted only of a single plant. A third locality, found in the southwest portion of the project site in the 2005 survey, contained approximately 1,200 individuals of small-flowered morning glory (BonTerra Consulting 2006c).

**Paniculate Tarplant (*Deinandra [Hemizonia] paniculata*)**

Paniculate tarplant is a CNPS List 4 species. This annual herb typically blooms between April and November (CNPS 2001). It occurs on low elevation dry hills and mesas, in valley grassland vegetation types (Munz 1974). It is found from sea level to approximately 980 feet above msl (Hickman 1993). This species also occurs in coastal scrub and foothill grasslands, and is usually vernal mesic (CNPS 2001). It is known from Riverside, Orange, San Bernardino, and San Diego counties, and from Baja California (CNPS 2001). Surveys conducted in 2003 located approximately 6,000 plants in 9 locations within the eastern portion of the project site (Bramlet 2004). Paniculate tarplant has also been observed in grassland habitat on the northwest portion of the project site (Bramlet 2000).

**Western Dichondra (*Dichondra occidentalis*)**

Western dichondra is a CNPS List 4 species. This rhizomatous perennial herb typically blooms between March and July (CNPS 2001). It occurs on mostly dry sandy banks, in brush or under trees, in coastal sage scrub, chaparral, and southern oak woodland vegetation types (Munz 1974). It is found on slopes and headlands from approximately 160 to 1,640 feet above msl (Hickman 1993); it may also occur in valley and foothill grasslands (CNPS 2001). This species is known from Orange, Santa Barbara, San Diego, and Ventura counties, and from the Channel Islands and Baja California (CNPS 2001). In Orange County, this species is known to occur along the coast at Dana Point, San Joaquin Hills, Chiquita Ridge, and in Cristianitos Canyon (Bramlet 2004). Western dichondra has the potential to occur on the project site but was not observed during previous surveys.

**Blochman's Dudleya (*Dudleya blochmaniae* ssp. *blochmaniae*)**

Blochman's dudleya is a CNPS List 1B species. This perennial herb typically blooms between April and June (CNPS 2001). It occurs in dry stony places, often on serpentine substrates, in coastal sage scrub vegetation types located near the coast (Munz 1974). It is also associated with clay-dominated soils, and is found from sea level to approximately 1,480 feet above msl (Hickman 1993). This species is known from Los Angeles, Orange, Santa Barbara, San Diego, San Luis Obispo, and Ventura counties, and from Baja California (CNPS 2001). Blochman's dudleya has been reported in Orange County at the Dana Point Headlands and bluffs at San Clemente (CDFG 2004b). Blochman's dudleya is not expected to occur on the project site.

**Many-stemmed Dudleya (*Dudleya multicaulis*)**

Many-stemmed dudleya is a CNPS List 1B species. This perennial herb typically blooms between April and July (CNPS 2001). It is found in dry stony places in coastal sage scrub and chaparral vegetation types (Munz 1974). It prefers heavy, often clay soils on the coastal plain, and is found from sea level to approximately 1,970 feet above msl (Hickman 1993). This species also occurs in valley and foothill grasslands, and is known from Los Angeles, San Bernardino, Riverside, Orange, and San Diego counties (CNPS 2001). Known populations of

this species in Orange County include Cañada Chiquita, Christianitos Canyon, and Segunda Deshecha (Bramlet 2004). Many-stemmed dudleya has the potential to occur on the project site but was not observed during previous surveys.

### **Laguna Beach Dudleya (*Dudleya stolonifera*)**

Laguna Beach dudleya is a federally and state-listed Threatened species and a CNPS List 1B species. This stoloniferous perennial herb typically blooms between May and July (CNPS 2001). It occurs on cliffs in coastal sage scrub vegetation types in canyons near Laguna Beach (Munz 1974). It is found on north-facing cliffs and outcrops, from sea level to approximately 820 feet above msl (Hickman 1993). This species is known from approximately nine occurrences near Laguna Beach in Orange County (CNPS 2004). Laguna Beach dudleya is not expected to occur on the project site.

### **Sticky Dudleya (*Dudleya viscida*)**

Sticky dudleya is a CNPS List 1B species. This perennial herb typically blooms between May and June (CNPS 2001). It occurs in rocky cliffs in coastal sage scrub vegetation types. It is found from sea level to approximately 1,480 feet above msl (Hickman 1993). This species is known from Orange, Riverside, and San Diego counties (CNPS 2001). This species is known to occur in San Juan Canyon east of San Juan Hot Springs (CDFG 2004a). Sticky dudleya is not expected to occur on the project site.

### **Pendleton Button-celery (*Eryngium pendletonensis*)**

Pendleton button-celery is a CNPS List 1B species. This perennial herb typically blooms between April and June (CNPS 2001). It occurs in clay, vernal mesic coastal bluff scrub, valley and foothill grassland and vernal pools, and is found from approximately 50 to 360 feet above msl (CNPS 2001). This is a new species that was described in 1999 (Marsden and Simpson 1999). The Pendleton button-celery is a narrow endemic to San Diego County that occurs on exposed coastal bluffs and grasslands (Marsden and Simpson 1999). Pendleton button-celery is not expected to occur on the project site.

### **Cliff Spurge (*Euphorbia miseria*)**

Cliff spurge is a CNPS List 2 species. This shrub typically blooms between December and August (CNPS 2001). It occurs on sea bluffs in coastal sage scrub vegetation types (Munz 1974). It is found on rocky slopes from sea level to approximately 1,640 feet above msl (Hickman 1993). This species is known from Orange, Riverside, and San Diego counties, and from the Channel Islands and Baja California (CNPS 2001). A historic location was also recorded in Riverside County, but this location was heavily damaged by frost. This species is threatened by development. This species is known to occur in Dana Point, Laguna Beach, and Corona del Mar in Orange County. Cliff spurge is not expected to occur on the project site.

### **Palmer's Grapplinghook (*Harpagonella palmeri*)**

Palmer's grapplinghook is a CNPS List 4 species. This annual herb typically blooms between March and May (CNPS 2001). It occurs on dry slopes and mesas in chaparral vegetation types (Munz 1974). It is also found in coastal scrub and grassland from sea level to approximately 1,480 feet above msl (Hickman 1993). This species is associated with clay soils, and is known from Los Angeles, Orange, Riverside, and San Diego counties, and from Baja California (CNPS 2001). In Orange County, Palmer's grapplinghook has generally been found on clay soils in the southern part of the County. Populations have been located at Dana Point, Casper's Regional Park, Gabino Canyon, Cristianitos Canyon, and the ridgeline east of Cañada Chiquita (Bramlet

2004). Palmer's grapplinghook has the potential to occur on the project site but was not observed during previous surveys.

### **Vernal Barley (*Hordeum intercedens*)**

Vernal barley is a CNPS List 3 species. This annual herb typically blooms between March and June (CNPS 2001). It occurs in vernal pools; in dry, saline streambeds; and in alkaline flats from sea level to approximately 3,280 feet above msl (Hickman 1993). It is known from Kings, Los Angeles, Mono, Orange, Riverside, Santa Barbara, San Benito, San Diego, San Mateo, and Ventura counties, and from the Channel Islands and Baja California (CNPS 2001). In Orange County, this species is known to occur at Fairview Park, the UCI Ecological Reserve, Dana Point, and San Clemente State Beach. Vernal barley was documented in nine locations throughout the project site during focused surveys conducted in 2003 (Bramlet 2004).

### **Robinson's Peppergrass (*Lepidium virginicum* var. *robinsonii*)**

Robinson's peppergrass is a CNPS List 1B species. This annual herb typically blooms between January and July (CNPS 2001). It occurs in coastal sage scrub and chaparral vegetation types (Munz 1974). It is found on dry soils from sea level to approximately 1,640 feet above msl (Hickman 1993). This species is known from Los Angeles, Riverside, Orange, Santa Barbara (extirpated), San Bernardino, and San Diego counties, and from Baja California (CNPS 2001). Its distribution in Orange County is poorly understood. The only recent report in Orange County is from Modjeska Canyon in the Santa Ana Mountains (CDFG 2004b). It has not been reported in Rancho Mission Viejo, but suitable habitat is found throughout the South County area (Bramlet 2004). Robinson's peppergrass has the potential to occur on the project site but was not observed during previous surveys.

### **Small-flowered Microseris (*Microseris douglasii* var. *platycarpha*)**

Small-flowered microseris is a CNPS List 4 species. This annual herb typically blooms between March and May (CNPS 2001). It occurs in grassy places (Munz 1974). It is found on inland clay soils often near vernal pools or serpentine outcrops, from sea level to approximately 3,280 feet above msl (Hickman 1993). It is known from Los Angeles, Riverside, Orange, and San Diego counties, and from the Channel Islands and Baja California (CNPS 2001). In Orange County, this species has been found in Chino Hills, Irvine Ranch area, Fremont Canyon, Blind Canyon, near Quail Hill, UCI Ecological Reserve, Fairview Park, and Saddleback meadow (Bramlet 2004). Surveys for the Foothill Transportation Corridor (FTC) have located the small-flowered microseris in 19 localities within the project site (Bramlet 2004). Small-flowered microseris has the potential to occur on the project but was not observed during previous surveys.

### **Prostrate Navarretia (*Navarretia prostrata*)**

Prostrate navarretia is a CNPS List 1B species. This annual herb typically blooms between April and July (CNPS 2001). It occurs in vernal pools and moist places (Munz 1974). It is also found in alkaline floodplains, and grows from sea level to approximately 2,300 feet above msl (Hickman 1993). This species is known from Alameda (extirpated), Merced, Monterey, Los Angeles, Orange, Riverside, San Bernardino (possibly extirpated), and San Diego counties (CNPS 2001). Prostrate navarretia is not expected to occur on the project site.

### **Chaparral Nolina (*Nolina cismontana*)**

Chaparral nolina is a CNPS List 1B species. This evergreen shrub typically blooms from May to July (CNPS 2001). It is generally associated with sandstone or gabbro soils in chaparral and coastal scrub vegetation types, and is found from approximately 460 to 4,180 feet above msl

(CNPS 2001). This species is known from Los Angeles, Orange, San Diego, and Ventura counties (CNPS 2001). Chaparral nolina is not expected to occur on the project site.

### **Golden-rayed Pentachaeta (*Pentachaeta aurea*)**

Golden-rayed pentachaeta is a CNPS List 4 species. This annual herb typically blooms between March and July (CNPS 2001). It occurs in dry open places in valley grassland, coastal sage scrub, and yellow pine forest vegetation types (Munz 1974). It is found in grassy areas, from sea level to approximately 6,070 feet above msl (Hickman 1993). This species is known from Los Angeles, Orange, Riverside, San Bernardino, and San Diego counties, and from Baja California (CNPS 2001). Golden-rayed pentachaeta has the potential to occur in the project site but was not observed during previous surveys.

### **Nuttall's Scrub Oak (*Quercus dumosa*)**

Nuttall's scrub oak is a CNPS List 1B species. This evergreen shrub typically blooms between February and April (CNPS 2001). It occurs on dry slopes in chaparral and foothill woodland vegetation types (Munz 1974). It is found on generally sandy soils and sandstone substrates near the coast, from sea level to approximately 660 feet above msl (Hickman 1993). This species is known from Santa Barbara, Orange, and San Diego counties, and from Baja California (CNPS 2001). In Orange County, it is found in Aliso Woods Regional Park, Laguna Niguel, and Dana Point (CDFG 2004a). Nuttall's scrub oak is not expected to occur on the project site.

### **Coulter's Matilija Poppy (*Romneya coulteri*)**

Coulter's matilija poppy is a CNPS List 4 species. This rhizomatous perennial shrub typically blooms between March and July (CNPS 2001). It occurs in dry washes and canyons in chaparral and coastal sage scrub vegetation types, away from the immediate coast (Munz 1974). It has the largest flowers of any plant native to California, and is found from sea level to approximately 3,940 feet above msl (Hickman 1993). It is known from Los Angeles, Riverside, Orange, and San Diego counties (CNPS 2001). This species occurs in scattered localities throughout Orange County, including Caspers Regional Park (Bramlet 2004). Coulter's matilija poppy has the potential to occur project site, but was not observed during previous surveys.

### **San Miguel Savory (*Satureja chandleri*)**

San Miguel savory is a CNPS List 1B species. This perennial herb typically blooms between March and July (CNPS 2001). It occurs in rocky canyons in chaparral vegetation types (Munz 1974). It is found from approximately 1,700 to 2,260 feet above msl (Hickman 1993). This species is generally associated with rocky, gabbroic, or metavolcanic soils in chaparral, cismontane woodland, coastal scrub, riparian woodland, and valley and foothill grassland vegetation types (CNPS 2001). It is known from Orange, Riverside, and San Diego counties, and from Baja California (CNPS 2001). This species occurs near San Juan Hot Springs (CDFG 2001). San Miguel savory is not expected to occur on the project site.

### **Rayless Ragwort (*Senecio aphanactis*)**

Rayless ragwort is a CNPS List 2 species. This annual herb typically blooms between January and April (CNPS 2001). It occurs in dry open places in coastal sage scrub and chaparral vegetation types located near the coast (Munz 1974). It is also found in drying alkaline flats, and grows from sea level to approximately 1,310 feet above msl (Hickman 1993). This species is known from Alameda, Contra Costa, Fresno, Los Angeles, Merced, Orange, Riverside, Santa Barbara, Santa Clara, San Diego, San Luis Obispo, Solano, and Ventura counties, and from

Baja California (CNPS 2001). In Orange County, this species is known from Dana Point Headlands and the UC Irvine Ecological Reserve (CDFG 2004b). Rayless ragwort has potential to occur on the project site but was not observed during previous surveys.

### **Salt Spring Checkerbloom (*Sidalcea neomexicana*)**

Salt Spring checkerbloom is a CNPS List 2 species. This perennial herb typically blooms between March and June (CNPS 2001). It is found in alkaline springs and marshes, from sea level to approximately 4,920 feet above msl (Hickman 1993). It also occurs on mesic sites in coastal scrub, chaparral, lower montane coniferous forest, Mojavean desert scrub, and playas (CNPS 2001). This species is known from Los Angeles (extirpated), Ventura, Orange, Santa Barbara, San Bernardino, and Riverside counties, and from Baja California (CNPS 2001). In Orange County, this species has been recorded in Los Alamitos and east of Cañada Chiquita. Salt Spring checkerbloom has the potential to occur on the project site but was not observed during previous surveys.

### **Parry's Tetracoccus (*Tetracoccus dioicus*)**

Parry's tetracoccus is a CNPS List 1B species. This deciduous shrub typically blooms between April and May (CNPS 2001). It occurs on dry stony slopes in chaparral vegetation types (Munz 1974). It is found from sea level to approximately 3,280 feet above msl (Hickman 1993). This species also occurs in coastal scrub, and is known from Orange, Riverside, and San Diego counties, and from Baja California (CNPS 2001). In Orange County, this species is known to occur at the San Juan Campground, which is near the headwaters of San Juan Creek in the Cleveland National Forest. Parry's tetracoccus is not expected to occur on the project site.

### **Crownbeard (*Verbesina dissita*)**

Crownbeard is a federally and state-listed Threatened species and a CNPS List 1B species. This perennial herb typically blooms between April and July (CNPS 2001). It occurs on shrubby coastal slopes, from sea level to approximately 330 feet above msl (Hickman 1993). It grows in maritime chaparral and coastal scrub vegetation types (CNPS 2001). It is known in California from only two occurrences near southern Laguna Beach in Orange County; it also is found in Baja California (CNPS 2001). This species is known to occur in Aliso Canyon (CDFG 2001). The majority of populations of this species occur in southern maritime chaparral, with about ten percent occurring in coastal sage scrub. Crownbeard is not expected to occur on the project site.

### **Special Status Wildlife Species**

Table 5.5-3 below presents 44 special status wildlife species that potentially occur on the project site.

### **Invertebrates**

#### **San Diego Fairy Shrimp (*Branchinecta sandiegonensis*)**

San Diego fairy shrimp is a federally Endangered species. This species typically occupies depressional topography in pools with a depth of 3 to 12 inches in San Diego and Orange counties. In the vicinity of the study area, this species is known from Cañada Chiquita and San Onofre Bluff (CDFG 2001). The abandoned cattle pond in the eastern portion of the project site provides potentially suitable habitat for this species. Therefore, there is potential for the San Diego fairy shrimp to occur on the project site.

**TABLE 5.5-3  
SPECIAL STATUS WILDLIFE SPECIES POTENTIALLY OCCURRING ON THE  
PROJECT SITE**

Species	USFWS	CDFG	Potential for Occurrence
<b>Invertebrates</b>			
San Diego fairy shrimp <i>Branchinecta sandiegonensis</i>	FE	CSC	Potential to occur on site. The cattle pond in eastern portion of project site provides potentially suitable habitat for this species.
Riverside fairy shrimp <i>Streptocephalus woottoni</i>	FE	CSC	Potential to occur on site. The cattle pond in eastern portion of project site provides potentially suitable habitat for this species.
<b>Amphibians</b>			
western spadefoot toad <i>Spea [Scaphiopus] hammondi</i>	—	CSC	Observed on site. Grasslands and other sparsely vegetated habitats provide suitable habitat for this species. Ponds, including vernal pools and cattle ponds, are required for breeding.
arroyo toad <i>Bufo californicus</i>	FE	CSC	Not expected to occur on site. No suitable habitat, as the species requires rivers with shallow, gravelly pools adjacent to sandy terraces.
<b>Reptiles</b>			
southwestern pond turtle <i>Emys [Clemmys] marmorata pallida</i>	—	CSC	Not expected to occur on site. No suitable habitat as the species requires wetlands with more substantial ponds than are present on the project site. Also, surveys have not detected this species.
coast horned lizard [blainvillei population] <i>Phrynosoma cornatum</i>	—	CSC	Potential to occur on site. Generally requires dry sandy openings within coastal sage scrub and grassland habitats. Potentially suitable habitat exists on the project site.
Coronado skink <i>Eumeces skiltonianus interparietalis</i>	—	CSC	Observed on site (subspecies undetermined). Generally frequents grassland, open chaparral, and sage scrub habitats.
Belding's orange-throated whiptail <i>Aspidoscelis [Cnemidophorus] hyperythra beldingi</i>	—	CSC	Potential to occur on site. Generally occurs in openings within coastal sage scrub and chaparral habitats. Potentially suitable habitat exists on the project site.
silvery legless lizard <i>Anniella pulchra pulchra</i>	—	CSC	Potential to occur on site. Inhabits moist sandy soil within woodlands, riparian, and scrub habitats. Potentially suitable habitat exists on the project site.
coast patch-nosed snake <i>Salvadora hexalepis virgultea</i>	—	CSC	Potential to occur on site. Occurs in a variety of habitats, including coastal sage scrub and chaparral. Potentially suitable habitat exists on the project site.
northern red-diamond rattlesnake <i>Crotalus [Salvadora] ruber ruber</i>	—	CSC	Observed on site. Generally found in coastal sage scrub and grassland habitats.
<b>Birds</b>			
Cooper's Hawk <i>Accipiter cooperii</i>	—	CSC	Observed on site. Requires woodlands for nesting. Present every breeding season since 2000, but nesting not confirmed.
sharp shinned hawk <i>Accipiter striatus</i>	—	CSC	Observed on site. Only a winter resident to Orange County.
golden eagle <i>Aquila chrysaetos</i>	—	CSC	Observed on site. The project site provides suitable foraging habitat for this species as indicated by several observations of different individuals since 2000.
ferruginous hawk <i>Buteo regalis</i>	—	CSC	Potential to occur on site. Rare but regular winter visitor to open habitats, such as grasslands and agricultural fields. The project site provides suitable foraging habitat for this raptor.
Swainson's hawk <i>Buteo swainsoni</i>	—	ST	Observed on site. A very rare migrant in Orange County. This raptor is typically observed over open habitats such as grasslands and agricultural fields. A spring migrant was observed flying over the project site during 1992 spring surveys (April 10) and another individual was observed at the project site on December 9, 2002.



**TABLE 5.5-3 (Continued)**  
**SPECIAL STATUS WILDLIFE SPECIES POTENTIALLY OCCURRING ON THE**  
**PROJECT SITE**

Species	USFWS	CDFG	Potential for Occurrence
northern harrier <i>Circus cyaneus</i>	—	CSC	Observed on site. Uncommon winter visitor in Orange County, with a few pairs remaining through summer. Forages over open habitats such as grasslands, marshlands, or agricultural areas. One breeding pair has been present during recent surveys (2000–2005), with nesting occurring in coastal sage scrub habitat just west of the project site.
white-tailed kite <i>Elanus leucurus</i>	—	FP	Observed on site. Uncommon-to-fairly common local winter resident and rare-to-uncommon summer resident in Orange County. This raptor prefers broken woodland with extensive grasslands for breeding. Suitable habitat for nesting is found in the sycamore-lined portions of Prima Deshecha Cañada stream channel.
prairie falcon <i>Falco mexicanus</i>	—	CSC	Observed on site. Rare but regular winter resident to Orange County. This raptor formerly nested in the County. Requires open habitats, such as grasslands, agricultural fields, and marshes for foraging. Suitable foraging habitat exists on site.
American peregrine falcon <i>Falco peregrinus anatum</i>	—	SE/FP	Potential to occur on site. Currently, an uncommon winter resident and rare summer breeding resident in Orange County. Prefers coastal habitats including bays, lagoons, marshes and beaches, wherever birds congregate. The project site provides suitable foraging habitat for this falcon, but no nesting habitat.
long-eared owl <i>Asio otus</i>	—	CSC	Potential to occur on site. Currently, a rare breeding resident in Orange County. This species requires grasslands and scrub habitats for foraging and dense woodlands for nesting. The project site provides suitable foraging, but marginal nesting habitat.
burrowing owl <i>Athene cunicularia</i>	—	CSC	Observed on site. Rare and local summer and winter resident in Orange County. Requires open fields in relatively level terrain, generally with the presence of ground squirrel burrows for roosting and nesting. One individual observed in November 2004 and April 2005.
southwestern willow flycatcher <i>Empidonas traillii extimus</i>	FE	SE	Only migrants observed on site. A very rare, local summer resident in southern California that requires well-developed riparian woodland. Very few recent breeding records for Orange County. The species (subspecies other than <i>extimus</i> ) is an uncommon migrant throughout Orange and other southern California counties. No nesting or territorial birds were observed on site during surveys.
loggerhead shrike <i>Lanius ludovicianus</i>	—	CSC	Observed on site. Fairly common winter visitor and an uncommon summer resident in Orange County. Requires open-to-partially-open habitats. Suitable habitat occurs throughout the site. One breeding pair has been present on the project site during recent surveys (2000–2004).
least Bell's vireo <i>Vireo bellii pusillus</i>	FE	SE	Observed on site. A rare, local summer resident in southern California, and typically prefers well-developed riparian woodland for breeding habitat. Directed surveys have been conducted in 1998 (4 pairs), 2000 (4 pairs), 2001 (9 pairs), 2002 (5 pairs), 2003 (4 pairs), 2004 (6 pairs), and 2005 (mid-season results indicate 10 territories and most with pairs).

**TABLE 5.5-3 (Continued)**  
**SPECIAL STATUS WILDLIFE SPECIES POTENTIALLY OCCURRING ON THE**  
**PROJECT SITE**

Species	USFWS	CDFG	Potential for Occurrence
California horned lark <i>Eremophila alpestris actia</i>	—	CSC	Observed on site. Rare-to-uncommon breeding resident in Orange County. Essentially requires bare ground to short grass habitats in relatively level terrain. This species is most common around the active landfill portion of the project site.
San Diego cactus wren <i>Campylorhynchus brunneicapillus sandiegensis</i>	—	CSC	Observed on site. Uncommon, year-round resident in Orange County. Requires coastal cholla and prickly pear cactus patches within coastal sage scrub habitat. Six pairs of cactus wrens were located on the project site during 1992 field surveys, but none were detected during the 1998, 2003, 2004, and 2005 surveys.
coastal California gnatcatcher <i>Polioptila californica californica</i>	FT	CSC	Observed on site. Uncommon, year-round resident in Orange County. Requires coastal sage scrub habitat, generally in more coastal or lower elevation areas. Directed surveys covering the whole project site have been conducted in 1992 (10 pairs), 1998 (6 pairs), 2003 (4 to 5 pairs), 2004 (2 pairs), 2005 (2 pairs), and 2006 (7 pairs and 1 individual). The survey results indicate a natural cycle in the species population on the project site as well as within the region.
yellow warbler <i>Dendroica petechia brewsteri</i>	—	CSC	Observed on site. Uncommon breeder in Orange County. Requires riparian habitat for breeding, but widespread in all habitats during migration. Several pairs have nested in Prima Deshecha Cañada during recent surveys (2000–2005).
yellow-breasted chat <i>Icteria virens</i>	—	CSC	Observed on site. Locally, rare-to-uncommon summer resident in Orange County. Requires riparian habitats with dense brushy vegetation with or without an overstory of trees. Several pairs have nested in Prima Deshecha Cañada during recent surveys (2000–2005).
southern California rufous-crowned sparrow <i>Aimophia ruficeps canescens</i>	—	CSC	Observed on site. Uncommon-to-fairly common year-round resident in Orange County. Favors steep and sometimes rocky slopes in sparsely vegetated, often grassy, habitats. This sparrow is present at several locations on the project site, with as many as 12 to 15 total pairs estimated to be present during previous surveys (1992–1998).
Bell's sage sparrow <i>Amphispiza belli belli</i>	—	CSC	Limited potential to occur on site. Rare year-round resident in Orange County. Found in coastal sage scrub or sparse chaparral habitats. Known from only a few areas in the County.
tricolored blackbird <i>Agelaius tricolor</i>	—	CSC	Observed on site. Uncommon year-round resident in Orange County. Primary breeding habitat consists of bodies of water with dense reed beds and adjacent grasslands. The project site provides suitable foraging habitat and potentially suitable nesting habitat. A flock of 125 was observed foraging at the active landfill portion of the project site on November 14, 2002.
<b>Mammals</b>			
pallid bat <i>Antrozous pallidus</i>	—	CSC	Potential to occur on site. Occurs most often in mixed oak and grassland habitats. Roosting habitat consists of rock crevices.
pale big-eared bat <i>Corynorhinus townsendii pallescens</i>	—	CSC	Potential to occur on site. Occurs in a variety of habitats. Roosting habitat consists of mines, caves, and buildings.
Yuma myotis <i>Myotis yumanensis</i>	—	CSC	Potential to occur on site. Shows strong affinity for wooded canyon bottoms and water (i.e., ponds, lakes). Preferred roosting habitat consists of caves and old buildings.

**TABLE 5.5-3 (Continued)**  
**SPECIAL STATUS WILDLIFE SPECIES POTENTIALLY OCCURRING ON THE PROJECT SITE**

Species	USFWS	CDFG	Potential for Occurrence
western mastiff bat <i>Eumops perotis</i>	—	CSC	Limited potential to occur on site. This is a rare resident in Orange County. These are large bats with specific roosting requirements: vertical cliffs with deep crevices about 15 or 20 feet above the ground.
pocketed free-tailed bat <i>Nyctinomops ferrosaccus</i>	—	CSC	Potential to occur on site. Occurs in a variety of habitats. Roosting habitat consists of rock crevices, caverns, and buildings.
Big free-tailed bat <i>Nyctinomops macrotis</i>	—	CSC	Limited potential to occur on site. Forages over water habitats and roosts in rocky crevices on high cliffs.
San Diego black-tailed jackrabbit <i>Lepus californicus bennettii</i>	—	CSC	Not expected to occur on site. Rare-to-locally-uncommon resident in Orange County. Prefers open habitats of relatively level terrain, such as alluvial scrub and agricultural fields.
northwestern San Diego pocket mouse <i>Chaetodipus fallax fallax</i>	—	CSC	Potential to occur on site. The population status of this species is poorly known, although it probably occurs uncommonly in south Orange County. It inhabits mixed chaparral and coastal sage scrub, especially in sandy or rocky areas.
Pacific pocket mouse <i>Perognathus longimembris paxificus</i>	FE	CSC	Not expected to occur on site. Rare and local year-round resident in Orange County. This species prefers coastal grassland and sage scrub associations in areas of relatively loose soils. There is limited data on this species, but it has been recorded recently as close as Cristianitos Road and I-5 (known as the San Mateo population). Project site is outside the known range for the species.
San Diego desert woodrat <i>Neotoma lepida intermedia</i>	—	CSC	Potential to occur on site. Occupies sparse habitats such as coastal sage scrub. They build distinctive stick home in understory of vegetation.
southern grasshopper mouse <i>Onychomys torridus Ramona</i>	—	CSC	Potential to occur on site. Occupies grassland and sparse scrub habitats with sandy soils.
<b>Federal Designations:</b> FC = Federal Candidate Species (formerly Category 1 candidates) FE = Federally listed Endangered FT = Federally listed Threatened FPT = Proposed for listing as Federally Threatened  <b>State Designations:</b> CSC = California Special Concern Species FP = California Department of Fish and Game Fully Protected Species SE = State-listed Endangered ST = State-listed Threatened SA = Special Animal			

On October 23, 2000, the USFWS published a final critical habitat for the San Diego fairy shrimp. A total of 4,025 acres in Orange and San Diego counties were designated as critical habitat for the San Diego fairy shrimp. The project site is not located in any areas designated as San Diego fairy shrimp critical habitat.

Riverside Fairy Shrimp (*Streptocephalus woottoni*)

Riverside fairy shrimp is a federally listed Endangered species. Riverside fairy shrimp are restricted to deep, seasonal vernal pools, ephemeral ponds, and stock ponds (i.e., pools with a depth of 12 to 18 inches or more). This species prefers warm-water pools that have low-to-moderate dissolved solids and that remain filled for extended periods of time. All known habitat for the species lies within annual grasslands, which may be interspersed throughout chaparral or coastal sage scrub vegetation (Dudek & Associates 2000). This species ranges from

southern California to northern Baja California (USFWS 2000). In the vicinity of the project site, this species is known from Cañada Gobernadora and Cristianitos Creek (CDFG 2001). The abandoned cattle pond in the eastern portion of the project site provides potentially suitable habitat for this species. Therefore, there is the potential for the Riverside fairy shrimp to occur on the project site.

On September 21, 2000, the USFWS published a proposed critical habitat for the Riverside fairy shrimp designating 12,060 acres of land in Los Angeles, Orange, Riverside, San Diego, and Ventura counties, California. The project site is outside the critical habitat area designated for this species.

## Amphibians

### Western Spadefoot Toad (*Spea [Scaphiopus] hammondi*)

Western spadefoot toad is a California Species of Special Concern and an NCCP/HCP Planning Species. From the Santa Clara River Valley in Los Angeles and Ventura counties southward, an estimated 80 percent of habitat for this species has been lost (Stebbins 2003). This species inhabits grassland, coastal sage scrub, and other habitats with open, sandy, gravelly soils. The western spadefoot breeds in quiet streams, vernal pools, and temporary ponds and is rarely seen outside the breeding season. For reproduction and successful metamorphosis, western spadefoot require rain-filled pools that hold standing water for more than three weeks (Feaver 1971; Brown 1966, 1967). The species is known to occur from the project site vicinity (such as San Juan Creek near Antonio Parkway Bridge) to the confluence with Verdugo Canyon. The abandoned cattle pond and surrounding grasslands in the eastern portion of the project site provide suitable habitat for this species. The western spadefoot was observed on the project site when an estimated several hundred tadpoles were identified in this pond on May 3, 2005.

### Arroyo Toad (*Bufo californicus*)

Arroyo toad is a federal Endangered species, a California Species of Special Concern, and a CDFG protected species. This species is restricted to rivers with shallow, gravelly pools adjacent to sandy terraces. It forages on sandy terraces with complete canopy coverage by cottonwoods or willows. Adults excavate shallow burrows on terraces where they shelter during the day and during the dry season. This species historically occurred from San Luis Obispo to San Diego counties along most major rivers. Most of the remaining populations occur in the National Forests. In the project region, this species is known to occur in San Juan Creek, San Mateo Creek, Cristianitos Creek, Talega Canyon, Gabino Canyon, and on Camp Pendleton (CDFG 2001). The project site does not provide suitable habitat for this species. Therefore, the arroyo toad is not expected to occur on the project site.

On February 7, 2001, the USFWS published the final designation of 182,360 acres of land as critical habitat for the Endangered arroyo toad. These lands encompass portions of Monterey, Santa Barbara, Ventura, Los Angeles, San Bernardino, Orange, Riverside, and San Diego counties in California. The project site is outside the critical habitat area designated for this species.

## Reptiles

### Southwestern Pond Turtle (*Emys [Clemmys] marmorata pallida*)

Southwestern pond turtle is a California Species of Special Concern and an NCCP/HCP Planning Species. This subspecies occurs from approximately the San Francisco Bay area south through the Coast Ranges to northern Baja California, Mexico (Stebbins 2003). The

southwestern pond turtle is estimated to be in decline throughout 75 to 80 percent of its range (Stebbins 2003). The current range is similar to the historic range, but populations have become fragmented by agriculture and urban development. The southwestern pond turtle occurs primarily in freshwater rivers, streams, lakes, ponds, vernal pools, and seasonal wetlands and require water depths in excess of six feet and basking sites such as logs, banks, or other suitable areas above water level. The species is known from the project site vicinity such as in San Juan Creek. The project site does not provide suitable habitat for this species. Therefore, the southwestern pond turtle is not expected to occur on the project site.

Coast Horned Lizard [blainvillei population] (*Phrynosoma coronatum*)

Coast horned lizard (blainvillei population) is a California Species of Special Concern and an NCCP/HCP Planning Species. The two former subspecies of the coast horned lizard, (*P. c. blainvillei* and *P. c. frontale*) have recently been eliminated in current scientific literature, such as Stebbins (2003), based on current scientific studies on this species. The coast horned lizard occurs throughout much of California, west of the desert and Cascade-Sierra highlands south to Baja California, Mexico (Stebbins 2003). However, many of the populations in lowland areas have been reduced or eliminated due to urbanization and agricultural expansion (Stebbins 2003). It is a small, spiny, somewhat rounded lizard that prefers open areas for basking and loose, friable soil for burrowing (Stebbins 2003). Three factors have contributed to its decline: loss of habitat, over collecting, and the introduction of exotic ants. In some places, especially adjacent to urban areas, the introduced ants have displaced the native species upon which the lizard feeds (Hix 1990). The species is known from the project site vicinity such as in upper Cristianitos Canyon. The project site provides potentially suitable habitat for this species. Therefore, there is the potential for the coast horned lizard (blainvillei population) to occur on the project site.

Coronado Skink (*Eumeces skiltonianus interparietalis*)

Coronado skink is a California Species of Special Concern. It is one of four subspecies of the western skink and inhabits open, rocky habitats within scrub, chaparral, and grassland vegetation types. There are differing accounts for the range of this subspecies. Stebbins (1985) includes lower southern California, approximately from Orange County south along the coast into northern Baja California, Mexico, in this subspecies range. Tanner (1988) states that the Coronado Island skink is restricted to the mountains of extreme southern San Diego County and northern Baja California, Mexico, with small populations on Coronado Island and Todos Santos Island. However, Tanner's range map for the species includes Orange County within the area of intergradation between the Coronado Island skink and Skilton skink (*Eumeces skiltonianus skiltonianus*). Stebbins (2003) shows that the Coronado Island skink has been combined with Skilton's skink. Although the subspecies that occurs on the project site is undetermined, the western skink has been observed on the project site.

Belding's Orange-Throated Whiptail (*Aspidoscelis [Cnemidophorus] hyperythra beldingi*)

Belding's orange-throated whiptail is a California Species of Special Concern and an NCCP/HCP Planning Species. The two former subspecies of the orange-throated whiptail, (*C. c. hyperythrus* and *C. c. beldingi*) have recently been eliminated in current scientific literature, such as Stebbins (2003), based on current scientific studies on this species. This species occurs below 2,000 feet above msl in the western Peninsular Ranges from Orange and San Bernardino counties south to Baja California, Mexico (Stebbins 2003). Approximately 75 percent of the former range has been lost to development and the remaining populations are highly fragmented (Stebbins 2003). The orange-throated whiptail occurs in washes and in open areas of sage scrub and chaparral with gravelly soils, often with rocks. The orange-throated whiptail prefers the well-drained friable soil on slopes with a southern exposure that are barren or only

sparsely covered with vegetation. The project site provides potentially suitable habitat for this species. Therefore, there is the potential for the Belding's orange-throated whiptail to occur on the project site.

Silvery Legless Lizard (*Anniella pulchra pulchra*)

The silvery legless lizard is a federal Species of Concern and a California Species of Special Concern. It is a small, secretive lizard that spends most of its life beneath the soil, under stones, logs, debris, or within leaf litter. The silvery legless lizard inhabits areas with moist sandy soil, including dry washes, woodlands, riparian, and scrub communities at elevations ranging from sea level to about 5,000 feet above msl (Stebbins 1985). The project site provides potentially suitable habitat for this species. Therefore, there is the potential for the silvery legless lizard to occur on the project site.

Coast Patch-Nosed Snake (*Salvadora hexalepis virgultea*)

Coast patch-nosed snake is a California Species of Special Concern. It inhabits open sandy areas with rocky outcrops in scrub, grassland, and woodland vegetation types. This species, one of five subspecies of the patch-nosed snake, is a moderately sized, active snake. The coast patch-nosed snake ranges along the coast of California from San Luis Obispo County south into Baja California, Mexico. It occurs from sea level to about 7,000 feet above msl (Stebbins 1985). Threats to this species' continued survival include development, grazing, and fire control (Jennings and Hayes 1994). The project site provides potentially suitable habitat for this species. Therefore, there is the potential for the coast patch-nosed snake to occur on the project site.

Northern Red-Diamond Rattlesnake (*Crotalus [Salvadora] ruber ruber*)

Northern red-diamond rattlesnake is a California Species of Special Concern. It inhabits open scrub, chaparral, and grassland vegetation types. This species ranges from southern San Bernardino County, south into Baja California, Mexico at elevations from sea level to about 5,000 feet above msl (Stebbins 1985). This species is threatened by development and human disturbance (Jennings and Hayes 1994). The project site provides suitable habitat for this species. The northern red-diamond rattlesnake has been observed on the project site.

**Birds**

Cooper's Hawk (*Accipiter cooperii*)

The Cooper's hawk is a California Species of Special Concern. Both resident and migratory populations exist in Orange County. Wintering Cooper's hawks are often seen in wooded urban areas and native woodland vegetation types. Preferred nesting habitats are oak and riparian woodlands dominated by sycamores and willows. Cooper's hawks in the region prey on small birds and rodents that live in woodland and occasionally scrub and chaparral vegetation types. The project site provides suitable foraging and nesting habitat for this species. The Cooper's hawk has been observed on the project site every breeding season since 2000, although nesting has not been confirmed.

Sharp-Shinned Hawk (*Accipiter striatus*)

The sharp-shinned hawk is a California Species of Special Concern. It is a relatively uncommon species that breeds to the north of the region and only occurs in Orange County during the winter season and migration. This raptor prefers woodland vegetation types, but can also be found in virtually any habitat as it passes through an area during migration. Oak and riparian

areas are preferred habitats. Some individuals probably winter in the county, while others continue to northern South America. The project site provides suitable foraging habitat, but not nesting habitat for this species. The sharp-shinned hawk has been observed on the project site.

#### Golden Eagle (*Aquila chrysaetos*)

The golden eagle is a California Fully Protected species, a California Species of Special Concern, and is also protected by the federal Bald Eagle Act. Habitat for this species generally consists of grasslands, deserts, savannahs, and early successional stages of forest and shrub habitats. Broad expanses of open country are required for foraging while nesting is primarily restricted to rugged mountainous areas in large trees or on cliffs (Johnsgard 1990). The golden eagle is an uncommon resident throughout southern California, except in the Colorado Desert and Colorado River where it is a casual winter visitor (Garret and Dunn 1981). The golden eagle is known to nest at Starr Ranch (CDFG 2001). The project site provides suitable foraging habitat and potentially suitable, but limited nesting habitat for this species. There have been several observations of different individuals of this species foraging on the project site since 2000.

#### Ferruginous Hawk (*Buteo regalis*)

Ferruginous hawk is a California Species of Special Concern. This raptor breeds north of the region but occurs regularly every winter season in small numbers. Ferruginous hawks occur in Orange County from mid-fall through early spring, and forage over agricultural areas, grasslands, and the ecotone between coastal sage scrub and grasslands. The distribution of the ferruginous hawk in Orange County has been greatly reduced as a result of the loss of wintering grounds. This species is also threatened by shooting (Ehrlich et al. 1988). The project site provides potentially suitable foraging habitat, but not nesting habitat for this species. Therefore, there is the potential for the ferruginous hawk to occur on the project site.

#### Swainson's Hawk (*Buteo swainsoni*)

Swainson's hawk is a state-listed Threatened species. This species formerly nested in Orange County, but has since been extirpated as a breeding species. Although rare, there is the potential for the Swainson's hawk to forage in the county as it migrates to and from South America. This species is threatened by loss of habitat, habitat deterioration on the South American wintering grounds, human disturbance at nest sites, shooting, and possibly pesticides (Remsen 1978). The project site provides potentially suitable foraging habitat, but is not expected to provide nesting habitat for this species. A spring migrant was observed flying over the project site during the 1992 surveys (April 10) and another individual was observed foraging on the project site on December 9, 2002.

#### Northern Harrier (*Circus cyaneus*)

Northern harrier is a California Species of Special Concern. It is a regular winter migrant in marshes and fields throughout southern California, but is very scarce as a local breeder (Garrett and Dunn 1981). Breeding habitat includes prairie, savannah, slough, wet meadow, and marsh vegetation types. Northern harrier can be expected at any month of the year and can be seen foraging in grassland, scrub, and riparian vegetation types. While once a relatively common species during fall, winter, and spring in undeveloped areas of Orange County, the northern harrier population is now greatly reduced and localized in distribution. This species is threatened by loss of habitat, pesticides (Ehrlich et al. 1988), and loss of suitable breeding habitat (Grinnell and Miller 1944). The project site provides suitable foraging and nesting habitat for this species. The northern harrier has been observed annually on the project site since 2000, including a breeding pair. Nesting by this pair has been confirmed, although no nest has yet been located on the project site.

White-Tailed Kite (*Elanus leucurus*)

White-tailed kite is a California Fully Protected species. This species is an uncommon-to-locally-fairly-common resident in coastal southern California, and a rare visitor and local nester on the western edge of the deserts (Garrett and Dunn 1981). White-tailed kites, while readily observable in undeveloped portions of Orange County, have begun to decline sharply in the region in the last decade. Reasons for this decline have been identified as loss of foraging habitat, roost sites, and nesting habitat (Bloom 1996). Kites typically nest in oaks, willows, and sycamores, and forage in grassland and scrub vegetation types. White-tailed kites show strong site fidelity to nest groves and trees. The project site provides suitable foraging and nesting habitat for this species. The white-tailed kite has been observed foraging on the project site.

Prairie Falcon (*Falco mexicanus*)

Prairie falcon is a California Species of Special Concern. Because of winter and nesting habitat loss, few areas remain in Orange County where prairie falcons can be consistently observed; no nest sites have been documented in the county in over 50 years. Preferred foraging habitat in Orange County includes grasslands, scrub vegetation types, estuaries, and typically dry environments where there are cliffs and bluffs for nests. This species is threatened by human disturbance at nest sites, shooting, and pesticides (Remsen 1978). The project site provides suitable foraging, but marginal nesting habitat for this species. The prairie falcon has been observed foraging on the project site during the winter season on a few occasions since 2000.

American Peregrine Falcon (*Falco peregrinus anatum*)

American peregrine falcon is a state-listed Endangered species and a CDFG fully protected species that, due to recent population gains, has been recently delisted from the USFWS's Endangered list. No such delisting has been proposed by the state. Peregrine falcons prey almost exclusively on birds and use a variety of habitats, particularly in wetlands and coastal areas. This species prefers to nest in cliffs or high structures. The project site provides suitable foraging, but no nesting habitat for this species. Therefore, there is the potential for the American peregrine falcon to occur on the project site for foraging, but is not expected to occur for nesting.

Long-Eared Owl (*Asio otus*)

Long-eared owl is a California Species of Special Concern. This species is a rare resident of Orange County with only 20 extant breeding territories. In Orange County this species nests in oak and willow woodlands and forages in scrub and grassland vegetation types. Long-eared owls have declined throughout California, but the most pronounced reductions have occurred in the southwestern part of the state where a minimum 55 percent decline has been documented (Bloom 1996). This species is known to occur in Bell and Wagon Wheel canyons (CDFG 2001). The project site provides suitable foraging, but marginally suitable nesting habitat for this species. Therefore, there is the potential for an individual long-eared owl (i.e., dispersing young) to occur for foraging on the project site, but this owl is not expected to nest on the project site.

Burrowing Owl (*Athene cunicularia*)

Burrowing owl is a California Species of Special Concern. In Orange County, burrowing owls breed and forage in grasslands and prefer flat-to-low-rolling hills in treeless terrain. They are small owls that nest in burrows, typically in open habitats most often along banks and roadsides. The burrowing owl is a widespread species throughout the western United States, but has declined in many other areas due to habitat modification, poisoning of its prey items, shooting, and human disturbance (Remsen 1978). Burrowing owls have undergone a severe decline in



Orange County (Bloom 1996). In 1999, the breeding population in Orange County was estimated to be four pairs (Bloom 1999). This species is known to occur in Newport Back Bay, UCI, and at the Seal Beach Naval Weapons Station (CDFG 2002a). The project site provides suitable foraging and nesting habitat for this species. The burrowing owl was observed on the project site during November 2004 and April 2005.

Southwestern Willow Flycatcher (*Empidonax traillii extimus*)

Southwestern willow flycatcher is a federally and state-listed Endangered species. This subspecies was once considered a common breeder in coastal southern California. However, this subspecies has declined drastically due to a loss of breeding habitat and nest parasitism by the brown-headed cowbird (*Molothrus ater*). This subspecies breeds in southern California, southern Nevada, southern Utah, Arizona, New Mexico, and western Texas (USFWS 1995). This species occurs in riparian habitats along rivers, streams, or other wetlands where dense growths of willows, arrowweed (*Pluchea* sp.), tamarisk (*Tamarix* sp.), or other plants are present, often with a scattered overstory of cottonwood (*Populus* sp.) (USFWS 1995). The project site provides potentially suitable nesting habitat for this species. Although migrants have been observed on the project site, no nesting or territorial willow flycatchers have been observed on the project site.

On July 22, 1997, the USFWS published a final critical habitat for this species. Approximately 160.7 river km (99.8 river miles) in Kern, Riverside, San Bernardino, and San Diego counties were designated for the southwestern willow flycatcher. The study area is not located in the designated critical habitat area for this species.

Loggerhead Shrike (*Lanius ludovicianus*)

Loggerhead shrike is a California Species of Special Concern. This species is a fairly common resident of lowlands and foothills in southern California. Shrikes inhabit grasslands and other dry, open habitats. They can often be found perched on fences and posts from which prey items (large insects, small mammals, lizards) can be seen. This species is threatened by habitat loss and pesticides (Ehrlich et al. 1988). This species was observed on UCI in 1995 (UCI Office of Campus and Environmental Planning 1995). The project site provides suitable foraging and nesting habitat for this species. The loggerhead shrike has been observed on the project site with one breeding pair present since 2000.

Least Bell's Vireo (*Vireo bellii pusillus*)

Least Bell's vireo is a federally and state-listed Endangered species. This vireo was formerly considered to be a common breeder in riparian habitats throughout the Central Valley and other low-elevation river systems in California and Baja California, Mexico (Franzreb 1989). It is now considered to be a rare and local summer resident (Garrett and Dunn 1981), although there have been some regional population increases (Hamilton and Willick 1996). The least Bell's vireo breeds primarily in riparian habitats dominated by willows with dense understory vegetation (USFWS 1986). A dense shrub layer two-to-ten feet above ground is the most important habitat characteristic for this species (Goldwasser 1981; Franzreb 1989). The least Bell's vireo was first detected on the project site in 1998 (four pairs) and has been present during BonTerra Consulting surveys conducted in 2000 (four pairs), 2001 (nine pairs), 2002 (five pairs), 2003 (four pairs), 2004 (six pairs), and 2005 (mid-season results indicate ten territories and most with pairs).

On February 2, 1994, the USFWS published a final critical habitat for the least Bell's vireo, designating approximately 15,200 hectares (37,560 acres) of land in Santa Barbara, Ventura,

Los Angeles, San Bernardino, Riverside, and San Diego counties, California (USFWS 1994). The study area is located in the designated critical habitat area for this species.

California Horned Lark (*Eremophila alpestris actia*)

California horned lark is a California Species of Special Concern. The California horned lark is found along the coast of northern California, in the San Joaquin Valley, in the coast ranges south of San Francisco Bay, and in southern California west of the deserts. In southern California, this subspecies is a fairly common breeding resident in grasslands and other dry, open habitats. During the winter season, other subspecies occur in southern California and the horned lark, including all subspecies, can be locally common in the region. This species is threatened by loss of habitat due to agriculture and development. California horned lark has been observed on the project site.

San Diego Cactus Wren (*Campylorhynchus brunneicapillus sandiegensis*)

San Diego cactus wren is a California Species of Special Concern. This subspecies was proposed by Rea and Weaver (1990) and apparently has a coastal range that extends through San Diego County to southern Orange County. Some authorities consider the taxonomic status of cactus wrens in the southwestern U.S. to be uncertain (Proudfoot et al. 2000). Coastal populations of the cactus wren are found in southern California from San Diego County north to Ventura County (Garrett and Dunn 1981) and are declining due to loss of habitat. Except for the Banning Pass area west of Palm Springs, the coastal populations of cactus wren appear to be isolated from interior populations. On the coastal slope of southern California, cactus wrens inhabit coastal sage scrub and alluvial sage scrub habitats that have sufficient amounts of prickly pear cactus and/or cholla. The project site provides suitable habitat for this species. Although six pairs were identified during the 1992 surveys, this species were not observed during 1998, 2000, 2002, 2003, 2004, and 2005 surveys.

Coastal California Gnatcatcher (*Polioptila californica californica*)

Coastal California gnatcatcher is a federally listed Threatened species and a California Species of Special Concern. This species occurs in most of Baja California, Mexico's arid regions, but is extremely localized in the United States where it predominantly occurs in coastal regions of highly urbanized Los Angeles, Orange, Riverside, and San Diego counties (Atwood 1992). In California, this species is an obligate resident of several distinct subassociations of the coastal sage scrub vegetation type. Brood parasitism by brown-headed cowbirds and loss of habitat to urban development have been cited as causes of the coastal California gnatcatcher's population decline (Unitt 1984; Atwood 1990). The coastal California gnatcatcher has been observed on the project site during previous focused surveys in 1992 (ten pairs) and 1998 (six pairs) and during BonTerra Consulting surveys in 2003 (four to five pairs), 2004 (two pairs), 2005 (two pairs), and 2006 (7 pairs and 1 individual). The survey results indicate a natural cycle in the species population on the project site and within the region.

On April 24, 2003, the USFWS published a proposed rule to designate 495,795 acres of land as critical habitat for the coastal California gnatcatcher. Until the final rule is published, the previous critical habitat designation (USFWS 2000) is in effect. These lands encompass portions of Ventura, Los Angeles, San Bernardino, Orange, Riverside, and San Diego counties in California. The study area is located within areas designated as critical habitat of both the 2000 critical habitat and the 2003 proposed critical habitat, although the 2003 proposed critical habitat covers a reduced area.

Yellow Warbler (*Dendroica petechia brewsteri*)

Yellow warbler is a California Species of Special Concern. The yellow warbler is one of the most widespread and abundant warblers in North America, but populations in the west have been affected by overgrazing of riparian habitats (Lowther et al. 1999). The breeding range of the yellow warbler is along the coast from northwestern Washington south to western Baja California (Dunn and Garrett 1997). Breeding habitat for this subspecies consists of riparian woodlands dominated by willows (Dunn and Garrett 1997). The breeding population in California has declined due to loss of habitat and brood parasitism by the brown-headed cowbird (Remsen 1978). The project site provides suitable nesting habitat for this species. Several pairs have nested on the project site during recent surveys (2000 to 2004).

Yellow-Breasted Chat (*Icteria virens*)

Yellow-breasted chat is a California Species of Special Concern. This species occurs as an uncommon and local summer resident in southern California along the coast and in the deserts (Garret and Dunn 1981). This large warbler was once a fairly common summer resident in riparian woodlands throughout California, but is now much reduced in numbers, especially in southern California (Remsen 1978). For nesting, this species requires dense, brushy tangles near water and riparian woodlands supporting a thick understory. This species is threatened by loss of habitat and possibly nest parasitism by the brown-headed cowbird (Remsen 1978). The project site provides suitable nesting habitat for this species. Several pairs have nested on the project site during recent surveys (2000 to 2004).

Southern California Rufous-Crowned Sparrow (*Aimophila ruficeps canescens*)

Southern California rufous-crowned sparrow is a California Species of Special Concern. This sparrow is a year-round resident on the coastal slopes of the Transverse and Peninsular Mountain Ranges from northwestern Los Angeles County south to northwestern Baja California (Collins 1999). Garrett and Dunn (1981) considered this sparrow to be fairly common in suitable habitat. The southern California rufous-crowned sparrow prefers slopes, often steep and rocky, with sparse brush, especially coastal sage scrub species, intermixed with grasses (Garrett and Dunn 1981). It is a difficult bird to observe due to its shy, secretive habits and the habitat it occupies (Collins 1999). The project site provides suitable habitat for this species. The southern California rufous-crowned sparrow has been observed in small numbers on the project site during recent surveys (2000 to 2004). Approximately 12 to 15 pairs were estimated to be present on the project site during previous surveys (1992 to 1998).

Bell's Sage Sparrow (*Amphispiza belli belli*)

Bell's sage sparrow is a California Species of Special Concern. This coastal subspecies *A. b. bellii* is an uncommon-to-fairly-common local resident in the interior foothills of coastal southern California. The Bell's sage sparrow breeds in low, dense chamise chaparral and in dry scrub vegetation types, often with stands of cactus (Garrett and Dunn 1981). This species is threatened by loss of habitat due to development and likely nest parasitism by the brown-headed cowbird (Ehrlich et al. 1988). This species has not been observed on the project site during surveys where its detection is considered likely. The project site provides potentially suitable habitat for this species. Therefore, there is the potential for the Bell's sage sparrow to occur on the project site, but it is considered limited due to the lack of detection during surveys.

Tricolored Blackbird (*Agelaius tricolor*)

Tricolored blackbird is a California Species of Special Concern. Primarily a California species, the tricolored blackbird is highly gregarious and nests in dense colonies that have been

estimated to be more than 200,000 birds (Beedy and Hamilton 1999). Typical breeding colonies have been located in freshwater marshes dominated by cattails or bulrushes, although breeding habitat can also include diverse upland habitats and agricultural areas (Beedy and Hamilton 1999). Recent breeding colonies have been located in a variety of vegetation types including Himalayan blackberries (*Rubus discolor*), giant cane (*Arundo donax*), safflower (*Carthamus tinctorius*), black mustard (*Brassica nigra*), stinging nettles (*Urtica dioica*), tamarisk (*Tamarix* spp.), grainfields, riparian scrublands, and various forests (Beedy and Hamilton 1999). This is an increasingly rare and local breeder in Orange County. The project site provides suitable foraging and potentially suitable nesting habitat for this species. The tricolored blackbird was observed during surveys, including a flock of 125 that were observed foraging at the active landfill portion of the project site on November 14, 2002.

## Mammals

### Pallid Bat (*Antrozous pallidus*)

Pallid bat is a California Species of Special Concern that most commonly occurs in mixed oak and grassland habitats. This large bat roosts in rock crevices. The pallid bat is very sensitive to disturbance at its roosting sites (CDFG 2001). This species is known to occur near Cañada Gobernadora and San Juan Creek (CDFG 2001). The project site provides suitable foraging habitat but a very limited amount of potentially suitable roosting habitat for this species. Therefore, there is the potential for the pallid bat to forage on the project site, but it is not expected to roost on the project site.

### Pale Big-Eared Bat (*Corynorhinus townsendii pallescens*)

Pale big-eared bat occurs throughout California and is a federal and California Species of Special Concern. In the southern portion of the state, the subspecies *C. t. pallescens* occupies a variety of vegetation types, including oak woodlands, arid deserts, grasslands, and high-elevation forests and meadows (Hall 1981). Known roosting sites in California include mines, caves, and buildings. The project site provides suitable foraging habitat but a limited amount of potentially suitable roosting habitat for this species. Therefore, there is the potential for the pale big-eared bat to forage on the project site, but it is not expected to roost on the project site.

### Yuma Myotis (*Myotis yumanensis*)

Yuma myotis is a federal Species of Concern and a California Species of Special Concern. This relatively small bat occurs statewide and is closely associated with water and wooded canyon bottoms throughout its range. Caves and old buildings are preferred roosting habitats, with roosts numbering up to 2,000 individuals. The project site provides suitable foraging habitat, but a limited amount of potentially suitable roosting habitat for this species. Therefore, there is the potential for the Yuma myotis to forage on the project site, but it is not expected to roost on the project site.

### Western Mastiff Bat (*Eumops perotis*)

Western mastiff bat is a California Species of Special Concern. The subspecies that occurs in southern California is California mastiff bat (*Eumops perotis californicus*). Western mastiff bat is a very wide ranging and high flying insectivore that typically forages in open areas with high cliffs. This species roosts in small colonies in crevices on cliff faces. It occurs in the southeastern San Joaquin Valley and Coastal Ranges from Monterey County southward through southern California, and from the coast eastward to the Colorado Desert (Zeiner et al. 1990). Western mastiff bat is found in many open semi-arid to arid habitats including conifer and deciduous woodlands, coastal scrub, grasslands, palm oases, chaparral, desert scrub, and

urban (Zeiner et al. 1990). Threats to this species include loss of habitat due to development, drainage of marshes, and conversion of land to agriculture (Williams 1986). The project site provides potentially suitable foraging habitat, but no suitable roosting habitat for this species. Therefore, there is the potential for the western mastiff bat to forage on the project site, but it is considered limited due to the scarcity of suitable roosting habitat in the region.

Pocketed Free-Tailed Bat (*Nyctinomops fermorosaccus*)

Pocketed free-tailed bat is a California Species of Special Concern. This species is known to occur in areas with ponds, streams, or arid deserts that provide suitable foraging habitats for this species. This species roosts in rock crevices, caverns, or buildings. This species occurs primarily in pinyon-juniper woodlands, desert scrub, desert succulent scrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, and palm oases. The project site provides suitable foraging habitat, but a limited amount of potentially suitable roosting habitat for this species. Therefore, there is the potential for the pocketed free-tailed bat to forage on the project site, but it is not expected to roost on the project site.

Big Free-Tailed Bat (*Nyctinomops macrotis*)

Big free-tailed bat is a California Species of Special Concern. This species feeds primarily on moths caught while flying over water sources in suitable habitat in the southwestern United States. This species prefers rugged, rocky terrain, but wanders widely during autumn, and roosts in small colonies in rocky crevices of high cliffs. Suitable foraging habitat for this species is present in the study area. The project site provides potentially suitable foraging habitat, but no suitable roosting habitat for this species. Therefore, there is the potential for the big free-tailed bat to occur on the project site, but it is considered limited due to the limited amount of potentially suitable roosting habitat in the region.

San Diego Black-Tailed Jackrabbit (*Lepus californicus bennettii*)

San Diego black-tailed jackrabbit is a California Species of Special Concern. The San Diego black-tailed jackrabbit is restricted to the coastal slopes of southern California from Santa Barbara County to northwestern Baja California, Mexico (Hall and Kelson 1959). This species prefers relatively open areas with sparse shrub cover. Although this species is considered widespread and common, the subspecies has declined due to loss of habitat. This species is diurnal but generally more active at dawn and dusk or under low-light conditions (e.g., cloudy) (Whitaker 1980, Zeiner et al. 1990). The project site provides potentially suitable habitat for this species. Therefore, there is the potential for the San Diego black-tailed jackrabbit to occur on the project site, but it is considered limited due to the lack of detection during surveys.

Northwestern San Diego Pocket Mouse (*Chaetodipus fallax fallax*)

Northwestern San Diego pocket mouse is a California Species of Special Concern. This species is a common resident of sandy herbaceous areas, usually in association with rocks or coarse gravel. It occurs mainly in arid coastal and desert border areas in San Diego, Riverside, and San Bernardino counties in coastal scrub, chamise-redshank chaparral, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon-juniper, and annual grassland (Zeiner et al. 1990). The project site provides potentially suitable habitat for this species. Therefore, there is the potential for the Northwestern San Diego pocket mouse to occur on the project site.

Pacific Pocket Mouse (*Perognathus longimembris*)

Pacific pocket mouse is a federally listed Endangered species and a California Species of Special Concern. This species was historically known to inhabit the narrow coastal plains from the Mexican border north to El Segundo, Los Angeles County (CDFG 2003). This species seems to prefer soils of fine alluvial sands near the ocean (CDFG 2003). In the project region, this species is known to occur at the Dana Point Headlands and at two populations near San Mateo Creek on Camp Pendleton (CDFG 2001). All historic locations of this species are known to occur within 2.5 miles of the coast. The project site is outside the known range for the species, and therefore the Pacific pocket mouse is not expected to occur on the project site.

San Diego Desert Woodrat (*Neotoma lepida intermedia*)

San Diego desert woodrat is a California Species of Special Concern. This subspecies occurs along the coastal slopes of southern California from San Luis Obispo County to northwestern Baja California (Hall and Kelson 1959). This species occupies areas with sparse vegetation, especially areas comprised of cactus and other thorny plants. They build and occupy stick homes that are situated over a burrow, rock crevice, or base of tree or bush (Zeiner et al. 1990). These distinctive homes provide protection and food storage (Whitaker 1980). The project site provides suitable habitat for this species. Therefore, there is the potential for the San Diego desert woodrat to occur on the project site.

Southern Grasshopper Mouse (*Onychomys torridus ramona*)

Southern grasshopper mouse is a federal Species of Concern and a state Species of Special Concern. It is a territorial, predatory rodent of grassland and sparse scrub vegetation types that prefers sandy soils and has been found to occur from Los Angeles County to northwestern Baja California. The project site provides potentially suitable habitat for this species. Therefore, there is the potential for the southern grasshopper mouse to occur on the project site.

**5.5.2 SIGNIFICANCE CRITERIA**

The potential significance of environmental impacts on biological resources has been assessed using impact significance criteria that mirror the policy contained in CEQA, Section 21001(c) of the California *Public Resources Code*. Accordingly, the State Legislature has established it to be the policy of the state to:

*Prevent the elimination of fish or wildlife species due to man's activities, ensure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities...*

Determining whether a project may have a significant effect or impact plays a critical role in the CEQA process. According to CEQA Section 15064.7, Thresholds of Significance, each public agency is encouraged to develop and adopt (by ordinance, resolution, rule, or regulation) thresholds of significance that the agency uses in the determination of the significance of environmental effects. A Significance Threshold is a quantitative, qualitative, or performance level of a particular environmental effect that would normally be determined to be significant by the agency if the threshold is exceeded.

Appendix G of the CEQA Guidelines is specific in addressing biological resources and encompasses a broader range of resources to be considered, including: candidate, sensitive, or special status species; riparian habitat or other sensitive natural communities; federally protected wetlands; fish and wildlife movement corridors; local policies or ordinances protecting

biological resources; and adopted habitat conservation plans. These factors are considered through the checklist of questions answered during the Initial Study process that is used to determine the appropriate type of environmental documentation for a project (Negative Declaration, Mitigated Negative Declaration, or EIR). Because these questions are derived from standards in other laws, regulations, and other commonly used thresholds, these standards have been used as the basis for defining significance thresholds in this SEIR.

For the purpose of this analysis, impacts on biological resources are considered significant (before consideration of offsetting mitigation measures) if one or more of the following conditions would result from implementation of the proposed project:

- If the project has a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS (CEQA Guidelines, Appendix G, IV[a]),
- If the project has a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFG or USFWS (CEQA Guidelines, Appendix G, IV[b]),
- If the project has a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means (CEQA Guidelines, Appendix G, IV[c]),
- If the project interferes substantially with the movement of any native or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impedes the use of native wildlife nursery sites (CEQA Guidelines, Appendix G, IV[d]),
- If the project conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (CEQA Guidelines, Appendix G, IV[e]),
- If the project conflicts with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan (CEQA Guidelines, Appendix G, IV[f]).

An evaluation of whether an impact on biological resources would result in a “substantial adverse effect” must consider both the resource itself and how that resource fits into a regional context. For the proposed project, the regional setting of the project includes the following United States Geological Survey (USGS) quads that cover the San Diego Creek Watershed and that were queried in the records search: Cañada Gobernadora and San Clemente.

### 5.5.3 POTENTIAL IMPACTS

#### Potential Impacts

This section will assess project impacts based on the proposed limits of disturbance associated with the ultimate buildout of the Prima Deshecha Landfill above and beyond those limits identified in EIR 575 to vegetation, special status plant and wildlife species, and state and federal jurisdictional resources (i.e., wetlands and waters) and compliance with the NCCP/HCP and SAMP programs.

Refuse disposal activities are currently underway in Zone 1 and will continue until approximately year 2019 at which time these activities will shift to Zone 4 and continue until landfill closure in approximately year 2067. It should be noted that site preparation including landslide remediation/stabilization necessary for refuse disposal within Zone 4 will begin prior to 2019. In addition, the project will be implemented in phases within each zone. Therefore, impacts to biological and jurisdictional resources will likely occur throughout the life of the landfill over an approximate 60-year period.

### **Vegetation Types Direct Impacts**

Table 5.5-4 below identifies the acres of impact in the 2001 GDP. Based upon the limits of disturbance associated with the ultimate buildout of the landfill that are intended to better represent the actual effects of landslide remediation and stabilization and ongoing operation and management of the landfill, the proposed project will result in increases in impacts to grasslands, coastal sage scrub, chaparral, riparian, wet meadows and marshes, and other areas.

Table 5.5-5 provides a comparison of impacts by vegetation type between the 2001 Prima Deshecha GDP (as shown in EIR No. 575) and the Proposed Project for Zones 1 and 4.

Impacts to vegetation resources by zone, phase, and scheduled implementation by fiscal year are depicted in Table 5.5-45. The most significant vegetation resources removals will occur within Zone 4 during Phases A through D as part of the initial landslide remediation and stabilization activities necessary for refuse disposal and operation and management of the landfill.

### ***Grasslands***

Grasslands including annual grassland, needlegrass grassland, and ruderal grassland will be impacted by implementation of the Proposed Project as shown in Table 5.5-4. Impacts on needlegrass grassland are considered significant due to the relative scarcity of this vegetation type in southern California. This impact would be mitigated to a level considered less than significant by implementation of previously adopted MM 4.5-1.

Impacts on annual grassland and needlegrass grassland would be considered adverse and significant. However, impacts to needlegrass grassland will be mitigated to a less-than-significant level through the implementation of the proposed Pre-mitigation Plan.

### ***Coastal Sage Scrub***

Any impact on coastal sage scrub including coyote brush, sagebrush scrub, black sage scrub, sagebrush-grassland, buckwheat-grassland, and mixed sage scrub grassland (as shown in Table 5.5-4) would be considered significant because these vegetation types are considered to be special status due to their decline in the region and their potential to support special status plant and wildlife species, such as the coastal California gnatcatcher. The project could also involve temporary impacts to created coastal sage scrub resulting from landslide stabilization and subsequent remediation and/or installation of landfill-related facilities. In these cases, the disturbed portion of the site will be hydroseeded with the appropriate native plant species and will be maintained for a period not to exceed three years in accordance with the Coastal Sage Scrub (CSS) and Native Grassland (NG) Mitigation Plan (CSS/NG Mitigation Plan) approved June 17, 2002, by the USFWS and CDFG (BonTerra Consulting 2002a). In addition, a Pre-mitigation Plan has been prepared to address impacts to CSS, native grassland, and riparian resources associated with the ultimate buildout of Prima. Implementation of the Pre-mitigation



**TABLE 5.5-4  
VEGETATION IMPACTS BY PHASE FOR THE PROPOSED PROJECT  
(AS OF 2004)<sup>a</sup>**

Code	Vegetative Types	FY Phase	ZONE 1								ZONE 4								Total		
			03/04	05/06	05/06	06/07	08/10	10/13	18/19	07/10	15/19	20/25	27/37	39/44	45/47	46/52	55/57	58/60			
			A2	B1	C2	C3	D1	D2	WMU1	SH	A	B	C	D	E	F	G	H			
12.1	Open Water										0.22										0.22
15.3	Non-Urban Commercial/Industrial/Institutional		1.45	0.55			1.22	4.14	4.21		5.66			0.32		0.08					17.63
15.5	Parks and Ornamental Plantings							0.73	1.71		0.16										2.60
15.5/7.2	Parks and Ornamental Plantings/Southern Willow Scrub								0.21												0.21
16.1	Cleared or Graded		0.30	2.03	1.16	4.25	6.10	5.91	237.91		20.91	2.43	3.74	0.91	1.40	1.10	0.51	1.18			289.84
16.2	Other Developed Areas (Erosion-Control Plantings)							0.02	5.75												5.77
2.3.10	Mixed Sage Scrub								0.54		4.72	4.25		6.30		6.87	0.01				22.69
2.3.10-R	Mixed Sage Scrub (Revegetation)								<29.34>												<29.34>
2.3.12	Sagebrush-Coyote Brush							0.63			1.36		0.28								2.27
2.3.2	California Sagebrush-Orange Bush Monkeyflower Scrub								0.59			0.08	18.65								19.32
2.3.4	Black Sage Scrub										1.61	1.06				2.43					5.10
2.3.6	Sagebrush Scrub								0.21			3.91		0.20							4.32
2.3.7-R	Buckwheat Scrub (Revegetation)										3.53										3.53
2.3.9	Coyote Brush						0.25	0.66	1.71		1.07	3.60	7.59	2.16	0.06						17.10
2.3.9/7.3	Coyote Brush/Mule Fat Scrub												2.87								2.87
2.8.1	Sagebrush-Grassland																			0.11	0.11
2.8.2	Buckwheat-Grassland								0.67												0.67
2.8.5	Mixed Sage Scrub-Grassland		0.13				0.33	2.60	1.53		4.02	7.16	12.79	4.67	0.15	0.30					33.68
3.12	Toyon-Sumac Chaparral							0.31			31.82	2.56	0.35	0.46		9.57					45.07
4.1	Annual Grassland		2.67			9.23	12.01	22.21	36.80		65.51	60.34	107.74	61.65	56.69	23.76	21.38	15.76			495.75
4.2	Elymus Grassland											4.28	0.85								5.13
4.3	Southern Coastal Needlegrass Grassland								0.05	0.24		0.37	0.54	0.81	11.76	1.21	0.75	0.65	0.15		16.53
4.3/8.4	Southern Coastal Needlegrass Grassland/Mexican Elderberry Woodland														1.52						1.52
4.6	Ruderal		0.09			0.20		4.47	5.20		6.65		0.81		0.09						17.51
4.7	Mixed Perennial Grassland												0.72	1.37							2.09
4.9	Castor Bean/Fennel							0.57			1.74										2.31
6.3/7.2-R	Riparian Herb/Southern Willow Scrub (Revegetation)								<3.90>												<3.90>
7.1	Riparian Herb							0.05	0.56		2.49	0.24		0.04							3.38
7.12	Mexican Elderberry Riparian Scrub												1.05								1.05
7.1-R	Riparian Herb (Revegetation)							<0.01>	<1.82>												<1.83>
7.2	Southern Willow Scrub							0.08	0.11		0.27	0.44									0.90
7.2/2.3.9	Southern Willow Scrub/Coyote Brush								0.50			0.10									0.60
7.2-R	Southern Willow Scrub (Revegetation)								<7.23>												<7.23>
7.3	Mule Fat Scrub								0.07		0.82										0.89
7.3/2.3.9	Mule Fat Scrub/Coyote Brush										0.13		0.76								0.89
7.3/2.3.9-R	Mule Fat Scrub/Coyote Brush (Revegetation)								<0.09>												<0.09>
7.4	Southern Sycamore Riparian Woodland										3.31	0.78									4.09
8.4	Mexican Elderberry Woodland										0.18		0.09	0.09				0.29	0.65		1.30
<b>Total</b>			<b>3.19</b>	<b>3.48</b>	<b>1.71</b>	<b>13.68</b>	<b>19.91</b>	<b>42.43</b>	<b>298.74</b>		<b>156.33</b>	<b>91.77</b>	<b>158.38</b>	<b>88.96</b>	<b>62.72</b>	<b>44.87</b>	<b>22.92</b>	<b>17.85</b>			<b>1,026.94</b>

During the 2005 vegetation surveys, areas that were identified as "Revegetation" or "R" included slopes hydroseeded with CSS species for erosion-control purposes only. These revegetated areas were not installed as habitat restoration to offset impacts associated with any landfill-related impacts. Therefore, loss of these revegetated areas will not be counted in the CSS impact analysis contained in this document.

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<sup>1</sup> Based on preliminary, conceptual phasing limits subject to change with more detailed design.

**TABLE 5.5-5  
VEGETATION IMPACT DIFFERENCES**

Vegetation Type	2001 GDP EIR 575	Amendment No. 2 2001 GDP SEIR 597	Difference
California Sagebrush-Orange Bush Monkeyflower Scrub (2.3.2)	0.00	19.32	19.32
Black Sage Scrub (2.3.4)	22.47	5.10	-17.37
Sagebrush Scrub (2.3.6)	23.23	4.32	-18.91
Buckwheat Scrub (2.3.7-R)	0.00	3.53	3.53
Coyote Bush Scrub (2.3.9)	10.57	17.10	6.53
Coyote Bush /Mule Fat Scrub (2.3.9/7.3)	0.00	2.87	2.87
Mixed Sage Scrub (2.3.10)	0.00	22.69	22.69
Mixed Sage Scrub (2.3.10-R)	0.00	<29.34>	0.00
Sage Scrub-Coyote Bush (2.3.12)	0.00	2.27	2.27
Sagebrush-Grassland (2.8.1)	0.00	0.11	0.11
Buckwheat-Grassland (2.8.2)	2.55	0.67	-1.88
Mixed Sage Scrub-Grassland (2.8.5)	24.23	33.68	9.45
<b>Coastal Sage Scrub Subtotal</b>	<b>83.05</b>	<b>111.66</b>	<b>28.61</b>
Toyon Sumac Chaparral (3.12)	34.95	45.07	10.12
<b>Chaparral Subtotal</b>	<b>34.95</b>	<b>45.07</b>	<b>10.12</b>
Annual Grasslands (4.1)	400.73	495.75	95.02
Elymus Grassland (4.2)	0.00	5.13	5.13
Southern Needlegrass Grasslands (4.3)	5.61	16.53	10.92
Southern Needlegrass Grasslands/Mexican Elderberry (4.3/8.4)	0.00	1.52	1.52
Ruderal Grasslands (4.6)	45.48	17.51	-27.97
Mixed Perennial Grassland (4.7)	0.00	2.09	2.09
Caster bean/Fennel (4.9)	0.00	2.31	2.31
<b>Grasslands Subtotal</b>	<b>451.82</b>	<b>540.84</b>	<b>89.02</b>
Alkali Meadows (5.2)	0.00	0.00	0.00
<b>Seasonal Wetlands Subtotal</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Freshwater and Alkali Marsh (6.3/6.4)	0.41	0.00	-0.41
Riparian Herb/Southern Willow Scrub Revegetation (6.3/7.2-R)	0.00	<3.90>	0.00
<b>Marsh Subtotal</b>	<b>0.41</b>	<b>0.00</b>	<b>-0.41</b>
Herbaceous Riparian (7.1)	2.06	3.38	1.32
Riparian Herb (Revegetation) (7.1-R)	0.00	<1.83>	0.00
Mexican Elderberry Riparian Scrub (7.12)	0.00	1.05	1.05
Southern Willow Scrub (7.2)	3.15	0.90	-2.25
Southern Willow Scrub/Coyote Bush (7.2/2.3.9)	0.00	0.60	0.60
Southern Willow Scrub/Coyote Bush (Revegetation) (7.2/2.3.9)	0.00	<0.09>	0.00
Southern Willow Scrub (Revegetation) (7.2-R)	0.00	<7.23>	0.00
Mule Fat Scrub (7.3)	5.22	0.89	-4.33
Mule Fat Scrub/Coyote Bush (7.3/2.3.9)	0.00	0.89	0.89
Southern Sycamore Riparian Woodland (7.4)	0.00	4.09	4.09
<b>Riparian Subtotal</b>	<b>10.43</b>	<b>11.80</b>	<b>1.37</b>
Mexican Elderberry Woodland (8.4)	0.47	1.30	0.83
<b>Woodland Subtotal</b>	<b>0.47</b>	<b>1.30</b>	<b>0.83</b>
Open Water (12.1)	0.00	0.22	0.22
Non-Urban Institutional (15.3)	5.11	17.63	12.52
Ornamental Plantings (15.5)	4.94	2.81	-2.13
Graded (16.1)	199.86	289.84	89.98
Cleared (16.2)	0.00	5.77	5.77
<b>Disturbed/Urban Subtotal</b>	<b>209.91</b>	<b>316.27</b>	<b>106.36</b>
<b>TOTAL IMPACTS</b>	<b>791.04</b>	<b>1,026.94</b>	<b>235.90</b>

Vegetation types identified as "Revegetation" or "R" that are located in Zone 1 were created as part of the landslide remediation project and will not be impacted by this project. Other areas designated as "Revegetation" or "R" (such as mixed sage scrub) within Zone 4 were created as part of erosion control measures and will not be counted as loss of CSS.

### ***Chaparral and Woodland***

Toyon-sumac chaparral and Mexican elderberry woodland will be impacted by project implementation as shown in Table 5.5-4. Impacts on these vegetation types would be considered adverse but not significant because they are abundant and considered to have a low biological value.

### ***Riparian and Wet Meadows and Marshes***

Impacts on riparian vegetation types and wet meadows and marshes (including riparian herb, southern willow scrub, mule fat scrub, sycamore riparian woodland, Mexican elderberry riparian scrub, and alkali meadow) are shown in Table 5.5-4. Any grading or filling of these areas may require authorization from the USACE and the CDFG. A Jurisdictional Delineation was conducted for the Proposed Project and is included as Appendix F. The delineation states that the Proposed Project would permanently impact approximately 3.42 acres of USACE jurisdictional areas. A total of 9.81 acres of CDFG jurisdictional areas would be impacted. These impacts would be considered significant. Implementation of previously adopted MM 4.5-3 would reduce the impacts to less-than-significant levels.

### ***Other Areas***

Other areas (including parks and ornamental plantings, non-urban commercial/industrial/institutional, and cleared or graded areas) will be impacted by project implementation as shown in Table 5.5-4. Impacts on these areas would be not be considered adverse due to their low biological value.

### **Wildlife Direct Impacts**

To assess impacts on wildlife, the total impact on vegetation types that provide habitat for wildlife was evaluated. Exhibit 5.5-1 illustrates the vegetation types (i.e., wildlife habitat) that would be impacted as a result of project buildout. The following discussion of wildlife impacts focuses on the common species occurring on the project site.

### ***General Habitat Loss, Wildlife Loss, and Wildlife Displacement***

Implementation of the proposed project would result in the loss of native and non-native habitats that provide nesting, roosting, foraging, and denning opportunities for a variety of wildlife species. Removing or altering habitats within the project site would result in the loss of small mammals, reptiles, amphibians, and other wildlife of slow mobility that live within the project's direct impact area. More mobile wildlife species now using the project site would be forced to move into remaining areas of open space, consequently increasing competition for available resources in those areas. This situation would result in losing individuals of the wildlife population that cannot successfully compete. These impacts on wildlife species as a result of habitat loss, direct wildlife loss, and wildlife displacement would be considered adverse, though less than significant, because they would not substantially reduce wildlife populations in the region.

### **Special Status Species Direct Impacts**

#### ***Special Status Plant Species***

Proposed landfill operations within undeveloped portions of Zones 1 and 4 will result in the removal/disturbance of areas within the landfill containing thread-leaved brodiaea, vernal barley, small-flowered morning glory, and paniculate tarplant. See Exhibit 5.5-1 for locations of special

status plant species. The Proposed Project Pre-mitigation Plan (Exhibit 4.3-7) contains proposed and potential restoration sites for these species within areas of appropriate future habitats. These areas will be located outside existing and future landfill operations, but within the PDL (project) boundary.

#### Thread-Leaved Brodiaea (*Brodiaea filifolia*)

Thread-leaved brodiaea is listed as federally and state-Endangered. A small population of this plant species is located in the north-central portion of Zone 1 immediately adjacent to and south of the most northerly landfill maintenance road and boundary of the landfill. Disturbance to this portion of the landfill and subsequent impacts to this species are required to stabilize landslide conditions and provide the appropriate drainage for refuse disposal and long-term landfill operation and management. Landslide remediation activities are scheduled to occur through Fiscal Year (FY) 2005–2006. Impacts to this species were addressed in EIR 575 and provisions for mitigation were included in MM 4.5-4a of that document and additional provisions in Mitigation Measure MM 3.5-1 of this document. In compliance with this mitigation measure, the IWMMD formally submitted a letter to the CDFG requesting authorization (in accordance with the provisions of Section 2081[b] and California *Fish and Game Code*) to collect seed and propagate this plant species and transplant plants and soils containing these plants to mitigation sites located outside any existing and/or future landfill operations area. The IWMMD has also transmitted a letter to the USFWS commenting on the critical habitat designation for this species and requesting that critical habitat designations be eliminated within the Prima Deshecha Landfill. In response, the USFWS removed the designation within the Prima Deshecha Landfill in the December 13, 2005, Thread-leaved Brodiaea Critical Habitat approved (Federal Register 70-FR7380).

#### Vernal Barley (*Hordeum intercedens*)

Vernal barley is a CNPS List 3 species and was found in 9 locations within the landfill totaling approximately 1,700 individual plants. Impacts to this species were addressed in EIR 575 and provisions for mitigation were identified in MM 4.5-4a of that document. In addition, SEIR 597 contains a Pre-mitigation Plan as a project component that will include provisions for on-site seed collection for incorporation into proposed restoration areas that are outside existing and future landfilling operation areas but that are within the PDL (project) boundary.

#### Small-Flowered Morning Glory (*Convolvulus simulans*)

Small-flowered morning glory is a CNPS List 4 species and was observed in 3 locations within the project site containing approximately 1,200 individual plants.

Impacts to this species were not addressed in EIR 575. SEIR 597 contains a Pre-mitigation Plan as a project component or Project Design Feature that will include provisions for seed collection or purchase of a seed mix containing this species for incorporation into proposed restoration areas that are outside existing and future landfilling operation areas but that are within the PDL (project) boundary.

#### Paniculate Tarplant (*Deinandra paniculata*)

Paniculate tarplant is a CNPS List 4 plant species and was observed in 6 locations on the project site, primarily in the eastern portions of Zone 4, containing approximately 6,000 individual plants. Impacts to this species were addressed in EIR 575 and mitigation is identified in MM 4.5-9a. Seeds of these plant species will either be collected on site and/or purchased as part of a seed mix to be incorporated into the restoration and enhancement program located in areas that are outside existing and future landfilling operations but that are

within the PDL (project) boundary in accordance with the provisions of the Pre-mitigation Plan that was approved by the USFWS and the CDFG.

### ***Special Status Wildlife Species***

#### Invertebrates

San Diego fairy shrimp and Riverside fairy shrimp potentially occur in the abandoned cattle pond located in the northeastern portion of the project site. Although the occurrence of either species is considered unlikely, the required focused surveys would determine their absence or presence. If either fairy shrimp species is present, then landfill activities in this part of the project site may result in impacts that would be considered significant. These potentially significant impacts would be reduced to less-than-significant levels with implementation of additional Mitigation Measure MM 5.5-2.

#### Amphibians

Arroyo southwestern toad is not expected to occur on the project site due to lack of suitable habitat. Therefore, the proposed project would not impact this species, and no mitigation would be required.

The western spadefoot toad occurs in the abandoned cattle pond located in the northeastern portion of the project site within Zone 4. Proposed landfill activities in this part of the project site may result in the loss of this pond. Without appropriate breeding ponds, the western spadefoot would not be able to persist within the Prima Deshecha Cañada watershed. Although the western spadefoot toad is not listed as Endangered or Threatened, these potential impacts would meet the significance criteria in Section 15380 of CEQA. Potential impacts to the western spadefoot toad would be reduced to less-than-significant levels with implementation of additional Mitigation Measure MM 5.5-3.

#### Reptiles

Southwestern pond turtle is not expected to occur on the project site due to lack of suitable habitat. Therefore, the proposed project would not impact this species, and no mitigation would be required.

Coast horned lizard, Coronado skink, Belding's orange-throated whiptail, silvery legless lizard, coast patch-nosed snake, and northern red-diamond rattlesnake occur or potentially occur on the project site. These species primarily use the coastal sage scrub and riparian habitats on the site. As the Proposed Project impacts a small area of habitat relative to the availability of habitat in the region, impacts on these species would be considered adverse but not significant, and no mitigation would be required.

#### Birds

Swainson's hawk, American peregrine falcon, and southwestern willow flycatcher are Threatened and/or Endangered species that occur or potentially occur at the project site. Swainson's hawk has been observed twice on the project site. Since this hawk only occurs as a rare migrant in the region, the loss of potentially suitable foraging habitat is considered adverse but not significant, and no mitigation is required. American peregrine falcon has the potential to occur on the project site for foraging only, as the project site does not support suitable nesting habitat. The landfill activities attract lots of birds including gulls to the trash and, as a result, may occasionally attract this falcon to the project site as it preys on other birds. Therefore, the proposed project is not expected to adversely affect the American peregrine falcon and no

mitigation is required. No nesting or territorial southwestern willow flycatchers have been detected during focused surveys for this species on the project site, although migrant willow flycatchers (subspecies undetermined) have been observed. Habitat supporting migrant willow flycatchers will not be impacted by the Proposed Project. Accordingly, the Proposed Project is not expected to adversely affect either migrant willow flycatcher or southwestern willow flycatcher and no mitigation is required.

A variety of other special status passerine bird species not listed as Threatened or Endangered by state or federal resources agencies have been observed or potentially occur on the project site. Potential impacts on these species would primarily consist of habitat loss. The impacts on Cooper's hawk, sharp-shinned hawk, golden eagle, ferruginous hawk, northern harrier, white-tailed kite, prairie falcon, long-eared owl, burrowing owl, loggerhead shrike, California horned lark, San Diego cactus wren, yellow warbler, yellow-breasted chat, southern California rufous-crowned sparrow, Bell's sage sparrow, and tricolored blackbird would be adverse but not substantial enough to be considered significant. Therefore, no mitigation would be required.

Least Bell's vireo is a summer breeding resident in the Prima Deshecha Cañada stream channel on the project site. Focused surveys have found four pairs in 1998, four pairs in 2000, nine pairs in 2001, five pairs in 2002, four pairs in 2003, six pairs in 2004, and mid-season survey results for 2005 indicate ten territories with most containing pairs. The landslide remediation project was permitted and riparian habitat was cleared on March 4–6, 2002, in preparation of construction. The channel has since been realigned and riparian revegetation replanted. In addition, the Basin B mitigation site was created to support riparian and marsh habitats. Future landfill activities within Zones 1 and 4 have the potential to impact up to four least Bell's vireo territories. These impacts would be considered significant, but would be reduced to a less-than-significant level by implementation of MM 4.5-3a through 3e, MM 4.5-5a, MM 4.5-8a through 8e, and MM 4.5-10a.

Coastal California gnatcatcher is a year-round resident of coastal sage scrub habitats on the project site. The survey results from 1992 to 2006 show that this species is showing natural fluctuation in population on the project site similar to the region. Implementation of the project has the potential to directly impact coastal California gnatcatcher territories through the loss of habitat. These impacts would be considered significant, but would be reduced to less-than-significant levels with implementation of MM 4.5-2a through 2c, MM 4.5-5a, MM 4.5-7a through 7c, and MM 4.5-10a through 10b.

Several special status and common raptor species have the potential to use the project site for foraging. The loss of approximately 540 acres of native and non-native vegetation on the project site would cumulatively contribute to the ongoing regional and local loss of foraging habitat for these species. This is considered an adverse, though not significant, impact. In addition, the white-tailed kite, northern harrier, and burrowing owl, as well as common raptor species (i.e., red-tailed hawk) have the potential to nest on the project site. Any impacts on an active raptor nest or burrow would be considered significant due to the highly sensitive nature of these species with the resource agencies and public. In addition, the loss of an active raptor nest would also be considered a violation of the California *Fish and Game Code*, Sections 3503, 3503.5, and 3513. This impact will be mitigated to a level considered less than significant by implementation of MMs 4.5-5b and 4.5-10a through 10b.

### Mammals

Pacific pocket mouse and San Diego black-tailed jackrabbit are not expected to occur on the project site. The Pacific pocket mouse is not expected to occur because the project site is outside the known range for this species. San Diego black-tailed jackrabbit is not expected to

occur because it has not been observed during any surveys. Therefore, there would be no impacts on these two species as a result of the proposed project and no mitigation would be required.

Special status mammal species potentially present in the study area include pallid bat, pale big-eared bat, Yuma myotis, western mastiff bat, pocketed free-tailed bat, big free-tailed bat, northwestern San Diego pocket mouse, San Diego desert woodrat, and southern grasshopper mouse. The proposed project would result in the loss of potential habitat for these species. This impact would be adverse, but not substantial enough to be considered significant. Therefore, no mitigation would be required.

### **Wildlife Movement**

Implementation of the proposed project would further fragment existing wildlife habitat and wildlife travel routes on the project site and the surrounding open space areas. This would result in reduced opportunities for genetic exchange between wildlife populations, especially those of limited mobility such as amphibians, reptiles, and small mammals. Most birds and larger mammal species that are more capable of crossing larger areas of habitat would be affected to a lesser extent. These impacts on wildlife due to habitat fragmentation would be considered adverse, though less than significant because they would not substantially reduce wildlife populations in the region.

The project site provides an important habitat linkage between the Talega Nature Preserve to the east and the open spaces of Forster Ranch to the west. Implementation of the proposed project has the potential to adversely affect movement to and from the native habitats located in these nearby open space areas. However, the open spaces set aside in Zone 3 of the project site will serve to facilitate continued wildlife movement on the south side of the project site. As a result, open spaces to the west of the project site would still be connected to open spaces to the east and south of the project site via this preserved habitat. Therefore, the long-term impacts to regional and local wildlife movement would be adverse, but not considered significant.

### ***San Juan Creek/Western San Mateo Creek Special Area Management Plan (SAMP)***

As previously noted, the project site is not located within the boundaries of the San Juan Creek/Western San Mateo Creek SAMP and will not have a direct impact on the implementation of that planning effort once approved. However, the IWMD is proposing mitigation solutions within the San Juan Creek portion of Ronald W. Caspers Wilderness Park to address impacts to the least Bell's vireo within the PDL. As such, proposals to perform habitat restoration (Avando [giant reed] eradication) within San Juan Creek would constitute a furtherance of the SAMP program.

### ***Southern Subregion NCCP Guidelines***

As previously noted, the project is located within the Southern Subregion NCCP/HCP study area. However, the guidelines are designed almost exclusively to address the physical features and biological resources found within the Rancho Mission Viejo properties. The IWMD intends to participate in the NCCP/HCP through the designation "Supplemental Open Space." The remainder of the site will be proposed to be designated "Development" (Exhibit 5.5-2).

## 5.5.4 MITIGATION MEASURES

### Mitigation Measures

#### *Previously Adopted Mitigation*

The following mitigation measures are currently in place associated with the landfill component of the 2001 GDP, identified in EIR 575 (numerical designations are from EIR 575). All mitigation commitments contained within FEIR 575 and the 2001 GDP will apply to the Proposed Project.

***Impact 4.5-1: Removal of needlegrass grassland will result from site clearing prior to construction of landfill improvements on the Prima Deshecha site.***

MM 4.5-1: The restoration of needlegrass grasslands will be incorporated into the Conceptual Coastal Sage Scrub Mitigation Plan (described below in MM 4.5-2a through 2c), the IWMD will replace impacted needlegrass grassland at a 1:1 ratio.

***Impact 4.5-2: Removal of coastal sage scrub will result from site clearing prior to construction of landfill improvements on the Prima Deshecha site.***

MM 4.5-2a: Prior to the removal of coastal sage scrub habitat resources including clearing, grubbing, mowing, discing, trenching, grading, fuel modification, or other construction related activities, the Director, IWMD or his designee shall prepare and submit, in consultation with the Planning and Development Services Department (PDSD) Director of Planning or his designee, an Interim Habitat Loss Mitigation Plan (IHLMP) to the USFWS for review and approval in compliance with the Natural Communities Conservation Plan (NCCP) and Interim Coastal Sage Scrub (CSS) Habitat Loss Process. The County remains committed to the NCCP process and intends to operate by the same procedure outlined in the Federal Endangered Species Act Section 4(d) Special Rule for Incidental Take of the coastal California gnatcatcher or other agreement as determined to be appropriate by the resource agencies.

MM 4.5-2b: The GDP shall be amended to include all applicable provisions of the approved Southern Subregion NCCP on its adoption by the County of Orange Board of Supervisors. The NCCP implementation programs may include, but are not limited to, requirements for the removal and mitigation replacement of lost coastal sage scrub habitat, operations restrictions, instructional signs, fencing, etc.

MM 4.5-2c: In accordance with an approved Conceptual Coastal Sage Scrub Mitigation Plan, the IWMD shall replace impacted coastal sage scrub at a minimum 1:1 (or as otherwise stated by USFWS) replacement ratio of in-kind habitat for onsite and offsite habitat preservation, replacement, or enhancement.

The IWMD shall prepare a Conceptual Coastal Sage Scrub Mitigation Plan in cooperation with the affected resource agencies (CDFG, USFWS). Guidelines for the Mitigation Plan shall be as follows:

- The mitigation areas/sites shall have been evaluated and selected on the basis of their suitability for use as coastal sage scrub revegetation areas. The parameters evaluated shall include but not be limited to soil condition, slope



aspect, proximity to adjacent coastal sage scrub, level of difficulty of site preparation, and ownership status.

- The mitigation plan shall provide procedures to prepare the soils in the mitigation area, provide detailed seeding/planting mixtures; provide seeding/planting methods; and provide any other procedures, such as supplemental irrigation, mycorrhizal inoculation, etc., that will be used for successful revegetation.
- Maintenance and monitoring goals shall be established. The components and implementation of the maintenance and monitoring procedures shall be consistent with the components and implementation of mitigation measure 4.5-7a.

In accordance with the approved Conceptual Coastal Sage Scrub Mitigation Plan, the IWMD shall develop a maintenance and monitoring program to ensure success of the revegetation effort. Maintenance shall include regular inspection of the site for excessive weed growth, erosion problems, failure of irrigation system, and/or unhealthy or dying plants. Invasion of the site by weeds in the area, especially pampas grass, artichoke thistle, castor bean, fountain grass, mustard, clover, cocklebur, and tree tobacco could be a potential maintenance problem. Maintenance crews shall be able to recognize the difference between native plant and weed seedlings. A qualified biologist will be required to instruct the maintenance crew in the identification of native plant seedlings. The maintenance program shall include procedures for regular maintenance and repair of the irrigation system.

A system shall be developed for reporting by the maintenance crew of any unhealthy or dying plantings or failure in any of the seeded areas. This would assist the monitoring crew in the development of immediate remedial measures, such replacing plant material, to correct the problem.

To document the success of revegetation programs, the IWMD shall ensure that the progress of the revegetated area is monitored by a qualified biologist. The maintenance and monitoring plan will address unique aspects of mitigation areas. An agreement shall be developed between the County and the USFWS and CDFG on criteria that will be used to determine successful plant establishment on a mitigation site. Success criteria will include plant cover, species diversity, habitat structure, and density, and will be based on measurements made in reference habitats near the mitigation site.

***Impact 4.5-3: The removal of riparian resources will occur as a result of the construction of landfill improvements on the Prima Deshecha site.***

MM 4.5-3a: Prior to grading for the landfilling activities affecting riparian resources, the IWMD, as appropriate, shall ensure that all sycamore and willow trees of four or more inches in diameter at breast height (DBH), defined as 4.5 feet from mean ground level, within the grading or construction limits of the landfilling activities, whichever is greater, and within 100 feet of grading and construction operations, shall be tagged and numbered with permanent tags under the supervision of a qualified biologist. The tag numbers of the trees to be protected and those to be removed shall be noted. Those trees adjacent to the construction areas that can be avoided will be tagged for protection. Trees that cannot be avoided during

construction shall be tagged for removal and fenced off with red-orange flexible mesh fencing during grading and construction activities. Records of these numbers shall be kept by the Director, IWMD or his designee for use in mitigation, replacement, and monitoring of tree resources before, during, and after grading and construction activities. In addition, prior to grading and site preparation, the IWMD shall ensure that all trees subject to removal are marked with a red "X" on the trunk. Trees to be preserved shall be marked with yellow flagging visible from all directions and fenced-off with red-orange flexible mesh fencing during grading and construction activities.

MM 4.5-3b: During the process of obtaining the required 404 Permit Application and 1601 Streambed Alteration Agreement (1601/404) for encroachment into streambed areas and prior to site preparation, the IWMD shall prepare a Conceptual Riparian Mitigation Plan in cooperation with the affected resource agencies (CDFG, USFWS, and the USACE). Guidelines for the Mitigation Plan shall be as follows:

- The mitigation sites will be evaluated and selected on the basis of their suitability for use as riparian revegetation. The parameters evaluated shall include but not be limited to soil condition, hydrology, geology, and drainage considerations, level of difficulty of site preparation, access, contiguousness with existing habitat, and ownership status.
- The mitigation plan shall include the procedures for soil preparation, provide seeding/planting mixtures; include seeding/planting methods; and include any other procedures, such as supplemental irrigation, mycorrhizal inoculation, etc., that will be used.
- Maintenance and monitoring goals shall be established. The components and implementation of the maintenance and monitoring assignments shall be consistent with the components and implementation of mitigation measure 4.5-3d.

MM 4.5-3c: In accordance with an approved Conceptual Riparian Mitigation Plan, the IWMD shall replace impacted riparian areas at a minimum 2:1 or higher ratio of in-kind or higher quality habitat. The required replacement acreage will be approved by the resource agencies having jurisdiction over the impacted resources (i.e., CDFG, USACE, and/or USFWS), for all the GDP uses, based on jurisdictional delineations and vegetation mapping and the current 2001 GDP grading plan.

MM 4.5-3d: During the process of obtaining the 404 Permit and 1601 Streambed Alteration Agreement, and, in accordance with the approved Conceptual Riparian Mitigation Plan, the IWMD shall develop a maintenance and monitoring program to ensure success of any revegetation effort. Maintenance shall include regular inspection of the site for excessive weed growth, erosion problems, failure of irrigation system, and/or unhealthy or dying plants. Invasion of the site by weeds in the area, especially pampas grass, artichoke thistle, mustard, clover, castor bean, fountain grass, cocklebur, and tree tobacco could be a potential maintenance problem. Maintenance crews shall be able to recognize the difference between native plant and weed seedlings. A qualified biologist will be required to instruct the maintenance crew in the identification of native plant seedlings. The

maintenance program shall include procedures for regular maintenance and repair of the irrigation system.

A system shall be developed for reporting by the maintenance crew of any unhealthy or dying plantings or failure in any of the seeded areas. This would assist the monitoring crew in the development of immediate remedial measures, such as increasing the irrigation rate or replacing plant material, to correct the problem.

To document the success of revegetation programs, the IWMD shall ensure that the progress of the revegetated area is monitored by a qualified biologist. An agreement shall be developed between the County and the USACE, USFWS, or CDFG on criteria that will be used to determine successful plant establishment on a mitigation site. These criteria will include plant cover, and density, and will be based on measurements made in reference habitats near the mitigation site.

The qualified biologist shall monitor the site for five years or until the site complies with required performance standards. If the biologist determines that the mitigation site meets the conditions of the performance criteria prior to the five-year period, documentation shall be submitted to the responsible agency for approval.

MM 4.5-3e: Prior to grading and site preparation adjacent to riparian areas outside the limits of construction, the IWMD shall incorporate instructions in the construction documents ensuring that, in conjunction with construction activities:

- Graded material spoils shall not be placed or stored near riparian areas outside the limits of construction.
- The removal of streamside or bank vegetation shall be avoided wherever feasible.
- The amount of habitat removed shall be limited to the minimum amount required for construction.
- Riparian areas in the vicinity of grading or heavy recreation use, such as in Zone 1, shall be designated as Environmentally Sensitive Areas onsite preparation, grading, and construction plans, and fenced off as appropriate for protection before any of these activities begin.
- Excess fill shall not be dumped in streams outside the limits of construction.
- Vehicles and equipment shall not be parked in washes or other drainages outside the limits of construction.

***Impact 4.5-4: Special status habitats and special status species could exist within the construction limits of the landfilling improvements and could be adversely affected by the proposed landfill improvements.***

MM 4.5-4a: Prior to site preparation and during final design for each phase of landfill development (i.e., Phases A–D in Zone 1 and Phases A–I in Zone 4), the Director IWMD shall ensure that focused surveys are conducted by qualified biologists for the thread-leaved brodiaea, Coulter's saltbush, many-stemmed dudleya, southern tarplant, vernal barley, paniculate tarplant, and any other plant

species that may warrant focused surveys in the future as determined by a qualified botanist. In addition, the Director, IWMD shall ensure that focused surveys are conducted by qualified biologists for the western spadefoot toad, southwestern willow flycatcher, and other wildlife species that may warrant focused surveys in the future as determined by a qualified biologist. The results of the surveys shall be incorporated into environmental documentation for future proposed projects within the Prima Deshecha site. Identified special status species and habitats located within 300 feet of the affected area(s) shall be mapped on grading plans for each phase of development. In addition, the Director IWMD shall implement procedures approved by the appropriate resource agencies to mitigate the potential impacts to those species. In the event that landfill activities within a phase must occur prior to the completion of spring surveys, habitat for the special status plant species shall be salvaged, stored and used in an appropriate manner as determined by a qualified biologist. The appropriate agencies will be notified prior to disturbance. All future proposed projects within the Prima Deshecha Landfill shall provide vegetation mapping on topographic maps at a scale of 1 inch equals 200 feet.

**Impact 4.5-4b:** The IWMD shall ensure that, for the periods covering all site preparation, disturbance or grading of native areas, the Director, IWMD or his designee shall monitor wildlife habitat preservation. The purpose of this monitoring is to ensure that the Environmentally Sensitive Areas and Environmentally Restrictive Areas (i.e., areas outside the grading limits) will not be adversely impacted during site preparation, grading, and construction of the landfilling activities.

For the landfilling activities, this inspection program shall be coordinated with the Site Manager at the weekly meetings held at the Landfill to review the planned grading program for the landfilling activities. These meetings shall commence at the start of each new phase, when native ground is schedule for disturbance (e.g., grading or stockpiling, etc.). The Director, IWMD or his designee will attend these meetings and provide a status and progress report to the Operations Manager. These meetings will be held throughout the site preparation, grading and construction periods for all the landfilling activities and the monitoring reports shall continue to be prepared and submitted by the Director, IWMD or his designee until the disturbance is completed.

The monitor shall be onsite before, during, and after the completion of site preparation, grading, and construction for all the landfilling activities.

***Impact 4.5-5: Potential vegetation removal and habitat disturbance impacts of the landfilling uses could affect nesting sites for listed bird species and raptors, and dens for coyotes, bobcats, and mountain lions.***

**MM 4.5-5:** During site preparation and grading for the landfill, the IWMD shall phase these operations outside significant habitat areas during the nesting and breeding season for the coastal California gnatcatcher. This measure shall be overseen and conducted by a qualified biologist.

During site preparation and grading for the landfill, the IWMD shall phase these operations outside significant habitat areas during the nesting and breeding season for the least Bell's vireo. This measure shall be overseen and conducted by a qualified biologist. Prior to activities that may impact potential vireo habitat, updated vireo surveys will be conducted by a qualified biologist.

The IWMD shall ensure that grading and construction operations for the landfilling are redirected temporarily around nesting sites for a distance of 500 feet for candidate and listed species of birds and a distance of 1,000 feet for raptors during nesting and breeding seasons between February 15 and July 15, or a distance and time period agreed upon by the USFWS. In the event that a coyote, bobcat, or mountain lion den is located, then grading and construction operations shall be redirected temporarily around the den for a distance of 1,000 feet. The nesting sites and dens should be resurveyed toward the end of the breeding seasons of these species to verify completion of the breeding cycle. Nests and dens that will be removed due to the grading and/or construction operations shall be removed only during the non-breeding season.

***Impact 4.5-6: Potential indirect noise, air quality, and lighting disturbance impacts on biological resources could be associated with the landfilling activities.***

MM 4.5-6: The IWMD shall ensure that during final design, the landfill operation continues to incorporate regulatory agency guidelines to reduce indirect impacts associated with noise, dust, night lighting, and blowing debris. Noise shall be controlled through the proper maintenance of the construction equipment, including trucks, bulldozers, and other mobile and fixed construction equipment. Dust shall be controlled at its source with standard wetting techniques consistent with applicable Southern California Air Quality Management District (SCAQMD) requirements. Low lighting alternatives and shielded lighting shall be employed to reduce indirect impacts on surrounding habitats.

**Additional Mitigation Measures**

***Mitigation Measure MM 5.5-1 – Additional Provisions for Thread-Leaved Brodiaea***

Prior to the Initiation of construction within Phase C3, OCIWMD will obtain authorization to take the thread-leaved brodiaea may be obtained from CDFG through the provisions of Section 2081(b) of the California Fish and Game Code if no federal nexus is present such as a USACE Section 404.

If a USACE Section 404 Permit is being pursued, IWMD would request consultation with the USFWS under Section 7 of the FESA. Consultation is required between the USFWS and a federal agency (such as the USACE) whenever a federal action is likely to adversely affect species listed as Threatened or Endangered, such as thread-leaved brodiaea. The anticipated federal action is the issuance/amendment of a 404 permit that will affect the thread-leaved brodiaea.

At the conclusion of the consultation, the USFWS will prepare a Biological Opinion based upon its review of the information provided herein. The final Biological Opinion may include an incidental take statement.

As part of the consultation process under Section 7 of the FESA, the California Department of Fish and Game (CDFG) will be consulted pursuant to Section 2080.1 of the California *Fish and Game Code*. Because the Project will affect a state-listed species, the thread-leaved brodiaea, CDFG concurrence with the Project conservation measures is required. The mitigation for the thread-leaved brodiaea will include the following requirements:

- A pre-construction survey during the peak flowering period, approximately March through June, will be conducted by a qualified biologist. The limits of each brodiaea

location within the impact area will be clearly delineated with lath and brightly colored flagging.

- The loss of thread-leaved brodiaea will be mitigated by seed and bulb collection, and revegetation into suitable mitigation site(s). A qualified biologist shall prepare a mitigation plan for review/approval by the United States Fish and Wildlife Service and oversee its implementation. The detailed mitigation plan shall include the following requirements:
  - The known populations of thread-leaved brodiaea on the project site shall be determined and mapped as the “collection area.” The collection area shall include only areas within the impact footprint.
  - The existing locations of thread-leaved brodiaea shall be monitored every two weeks by a qualified biologist to determine when the seeds are ready for collection. A qualified seed collector shall collect all of the seeds from the plants within the collection area when the seeds are ripe. The seeds will be cleaned and stored by a qualified nursery or institution with appropriate storage facilities.
  - Following the seed collection, the bulbs shall be removed by an approved method (e.g., bulb collection or block transplantation). The bulbs shall either be transplanted directly or stored by a qualified nursery or institution with appropriate storage facilities. If the bulbs are collected and the block transplantation method is not used, then the top 12 inches of topsoil from the thread-leaved brodiaea locations shall be scraped, stockpiled, and used at the selected mitigation site.
  - The mitigation site(s) shall be located in open space. The site(s) shall not attempt to enhance existing populations and shall be located so as not to be impacted by any pesticides or herbicides used on adjacent properties.
  - The thread-leaved brodiaea mitigation site(s) will be prepared for seeding as described in a conceptual restoration plan.
  - The topsoil shall be re-spread in the selected location as approved by the project biologist. Approximately 60 percent of the seeds and bulbs collected shall be spread/placed in the fall following soil preparation. Forty percent of the seed and bulbs shall be kept in storage for subsequent seeding, if necessary.
  - A detailed maintenance and monitoring plan shall be developed by a qualified biologist. The plan shall include detailed descriptions of maintenance appropriate for the site, monitoring requirements, and annual report requirements, and shall have the full authority to suspend any operation in the study area which is, in the qualified biologist’s opinion, not consistent with the restoration plan. Any disputes regarding the consistency of an action with the restoration plan will be resolved by the appropriate Project Applicant and the biologist.
  - The performance criteria shall be developed in the maintenance and monitoring plan and approved by a qualified biologist. The performance criteria shall also include percent cover, density, and seed production requirements. These criteria shall be developed by a qualified biologist following habitat analysis of an existing high-quality thread-leaved brodiaea population. This information will be recorded by a qualified biologist.

- If the germination goal is not achieved following the first season, remediation measures shall be implemented prior to seeding with the remaining 40 percent of seed and bulbs. Remedial measures shall include at a minimum: soils testing, control of invasive species, soil amendments, and physical disturbance (to provide scarification of the seed) of the planted areas by raking or similar actions. Additional mitigation measures may be suggested as determined appropriate by the project biologist.
- Potential seed sources from additional donor sites shall also be identified in case it becomes necessary to collect additional seed for use on the site following performance of remedial measures.

IWMD is currently pursuing authorization to collect seed and propagate the brodiaea as well as transplantation of the plants and soils containing plants from CDFG under Section 2081(b).

#### ***Mitigation Measure MM 5.5-2 – Fairy Shrimp Surveys***

Prior to the initiation of construction activities that involve the removal of any pond within Zone 4, the IWMD shall have focused surveys conducted for the San Diego fairy shrimp and Riverside fairy shrimp by a biologist possessing the necessary resource agency permits. The surveys will be performed during the winter season prior to any construction activities on the site that may impact appropriate habitat for the fairy shrimp (i.e., ponds). The surveys will follow the protocol developed by the USFWS for these species. If it is determined that either or both fairy shrimp species are not present, then no further mitigation is necessary. However, if one or both fairy shrimp species are present, then consultation with the USFWS will be necessary in order to obtain a take authorization prior to any construction activities that may impact the species. The permitting process would require the preparation of a Biological Assessment which would include a mitigation plan to avoid or minimize impacts on this species.

#### ***Mitigation Measure MM 5.5-3 – Western Spadefoot Toad Surveys***

Prior to the initiation of construction activities that involve the removal of habitat that is known and/or has the potential to support the western spadefoot toad, the IWMD shall have a focused survey conducted, where appropriate, on the project site prior to any potential impacts and during the breeding season for this species (February through May). The survey results will be submitted within 30 days after completion of the last survey to the CDFG for concurrence. Based on the May 3, 2005 survey results, a relocation program will be developed for western spadefoot on the project site. The relocation program will include a detailed methodology for locating, capturing, and relocating individuals prior to construction. The program will identify a suitable location for relocation of the western spadefoot prior to capture. The relocation program will require a biologist with the necessary permits for handling the western spadefoot. Prior to implementation of the relocation program, the program and the biologist(s) implementing the program will be subject to approval of the CDFG.

#### ***Mitigation Measure MM 5.5-4 – Existing Mitigation and Future Pre-Mitigation:***

Any disturbance to existing or future mitigation areas, including those created by the Pre-Mitigation Plan or the Regional Environmental Enhancement Plan contained herein shall be restored by the IWMD at the completion of the landfilling activity during the next growing season using a hydroseed mix consistent with the appropriate approved mitigation plan. All restored areas will be maintained to remove non-native invasive plant species for a maximum of three years. Implementation of this mitigation measure shall constitute full compliance with the

provisions of SEIR 597 and the approved CSS/NG Mitigation Plan. No further mitigation will be assessed against IWMD by the resource agencies.

### **5.5.5 LEVEL OF SIGNIFICANCE AFTER MITIGATION**

The Proposed Project will affect approximately 255.02 additional acres of biological resources to address potential landslide remediation activities necessary to stabilize the existing landslide complexes within Zones 1 and 4. Of this amount, approximately 55.24 acres contain sensitive habitats. With the implementation of the Pre-mitigation Plan requiring the installation and establishment of CSS and southern needlegrass grassland prior to any impacts to these habitat types, the long-term net habitat values associated with these habitat types within the region will be sustained through project buildout with no cumulative loss. Therefore, impacts associated with the removal of this additional habitat will be reduced to less-than-significant level through the implementation of this plan.

In addition, SEIR 597 identifies potential impacts to the increased least Bell's vireo numbers as well as the identification of potential impacts to San Diego fairy shrimp, Riverside fairy shrimp, and western spadefoot toad, which were not previously addressed in EIR 575. Implementation of mitigation measures included in the SEIR will reduce the affects of this project to less-than-significant levels.

## **5.6 UTILITIES AND SERVICE SYSTEMS**

### **5.6.1 EXISTING CONDITIONS**

#### **Electricity**

Electrical service in the area and to the landfill site is provided by the San Diego Gas and Electric Company (SDG&E). Twelve-thousand-volt distribution lines are located underground in Camino de los Mares to the southwest of the site and overhead along La Pata Avenue to the north. The primary power source is the Capistrano Substation located in San Juan Capistrano.

Two parallel easements (Exhibit 5.6-1) with elevated transmission lines held by SDG&E and Southern California Edison (SCE) traverse the site along the Orange County/San Juan Capistrano border. The SDG&E pole and pipeline easement is 150-foot-wide and contains two 138-kilovolt (kV) lines on one set of towers and one 69-kV line on double wood poles. The SCE power line easement, which contains two 230-kV power lines, is 200 feet wide and is parallel and adjacent to the SDG&E easement. Also, a 12-foot-wide SDG&E easement at the southwestern portion of the site serves the leachate pump station.

#### **Natural Gas**

Natural gas service is provided to the site by the Southern California Gas Company (SCGC). According to SCGC facility maps, two 8-inch gas lines contained within two separate 12-foot easements, are located in the area: one in Camino de los Mares to the southwest and one in Ortega Highway to the north.

#### **Potable Water**

Potable water to the PDL is provided by the Capistrano Valley Water District (CVWD) via a water supply line located along La Pata Avenue. This source is used as the primary source of potable water to the site, but is also used as a secondary source for non-potable uses as necessary. Prior to construction of this water line, potable water was provided by the City of San Clemente Water Department (SCWD) through a fire hydrant located at the end of Camino de los



Mares at the south end of the PDL site. At this time, this hydrant is only used on a short-term basis when the primary source of water from the CVWD is temporarily unavailable or when water is required for a specific activity in an area inaccessible to the CVWD water supply line.

### **Non-Potable Water**

The only existing non-potable water source to the PDL is provided by the Santa Margarita Water District (SMWD), and is used for purposes such as on-site dust control. According to the SMWD main office, this non-potable water is chlorinated effluent (reclaimed water) from the Chiquita Treatment Plant on Ortega Highway, in unincorporated Orange County.

### **Sanitation Facilities**

Currently, the site is served by portable toilets and a septic tank system. No sewage lines currently serve the site. Sanitary sewer facilities in the area are owned and operated by the cities of San Juan Capistrano and San Clemente. According to the San Clemente Public Works Department (SCPWD), the only existing sewer line in the area is a line located in Camino de los Mares which is an eight-inch diameter line immediately south of the site boundary, expanding to an 18-inch diameter line further south in Camino de los Mares. This line currently terminates within 200 feet of the southwest boundary of the site.

### **Storm Drains**

Section 5.3.1 (Hydrology, Existing Conditions) provides a general description of the M01 drainage system used to evacuate storm flows from the project site. This system is essentially a reinforced concrete box (RCB) storm drain which was designed to accommodate a 25-year storm. To the north of the site, storm water flows through natural channels flowing into San Juan Creek.

### **Telephone Service**

Telephone service in the area is provided by Pacific Bell of California, Inc. (PacBell). According to its Tustin office, existing telephone service to the site is provided by an overhead line along La Pata Avenue to the site boundary. From that point, the line is underground for approximately 785 feet, where it connects to a pedestal or junction box at the fee station at the landfill entrance. Other PacBell facilities are in underground conduits to the southwest of the site in Camino de los Mares.

In 1972 a 15-foot telephone line easement was granted to the Southern California Telephone Company on the northeastern part of the site. This easement was later assumed by PacBell, and subsequently quit-claimed.

### **Schools**

The site is in the Capistrano Unified School District. Recent state legislation (specifically Assembly Bills 2926, 1600 and 181 and Senate Bill 1287) provides guidelines, procedures and restrictions related to the levy of development fees for school facilities, especially with regard to commercial and industrial development. The structures associated with recreation uses that generate employment, such as the clubhouses associated with the golf courses, may impact the Capistrano Unified School District. Fees may be assessed upon the implementation of these types of recreational facilities.

## **Santa Fe Pacific Pipelines Partners Inc. Pipelines**

A ten-foot-wide easement was issued to the San Diego Pipeline Company in 1966 on the northeastern portion of the PDL property. Although this is still an active easement, there is no evidence indicating that a gasoline or natural gas pipeline was ever actually installed on the Prima property (Arnau 2005).

### **5.6.2 SIGNIFICANCE CRITERIA**

A project will normally have a significant effect on the environment related to public utilities if it will "...substantially degrade water quality...contaminate a public water supply...[or] extend a sewer trunk line with capacity to serve new development..." For purposes of this SEIR, public utility impacts were considered to be significant if they met these defined criteria or if they resulted in significant increased need for equipment, facilities, or staff in any of the jurisdictions affected by the GDP.

### **5.6.3 POTENTIAL IMPACTS**

#### **Electricity**

Exhibit 5.6-1 illustrates the relative locations of utility easements on the PDL property and the proposed limits of disturbance. Implementation of landslide stabilization measures in the vicinity of the Zones 1-4-5 overlap will impact the SCE and SDG&E easements traversing the center of the PDL property. Existing transmission lines will have to be temporarily relocated or re-routed in order to avoid service disruption during construction. Once construction is complete, transmission lines through the site will be replaced. The IWMD will coordinate closely with SCE and SDG&E in the development of a plan to provide for uninterrupted electrical transmission during construction.

The Proposed Project will not require the use of supplemental lighting or operating equipment beyond that already accommodated at the site. Electrical demand for the Proposed Project elements is anticipated to be minimal and temporary in nature while landslide remediation activities are underway.

#### **Natural Gas**

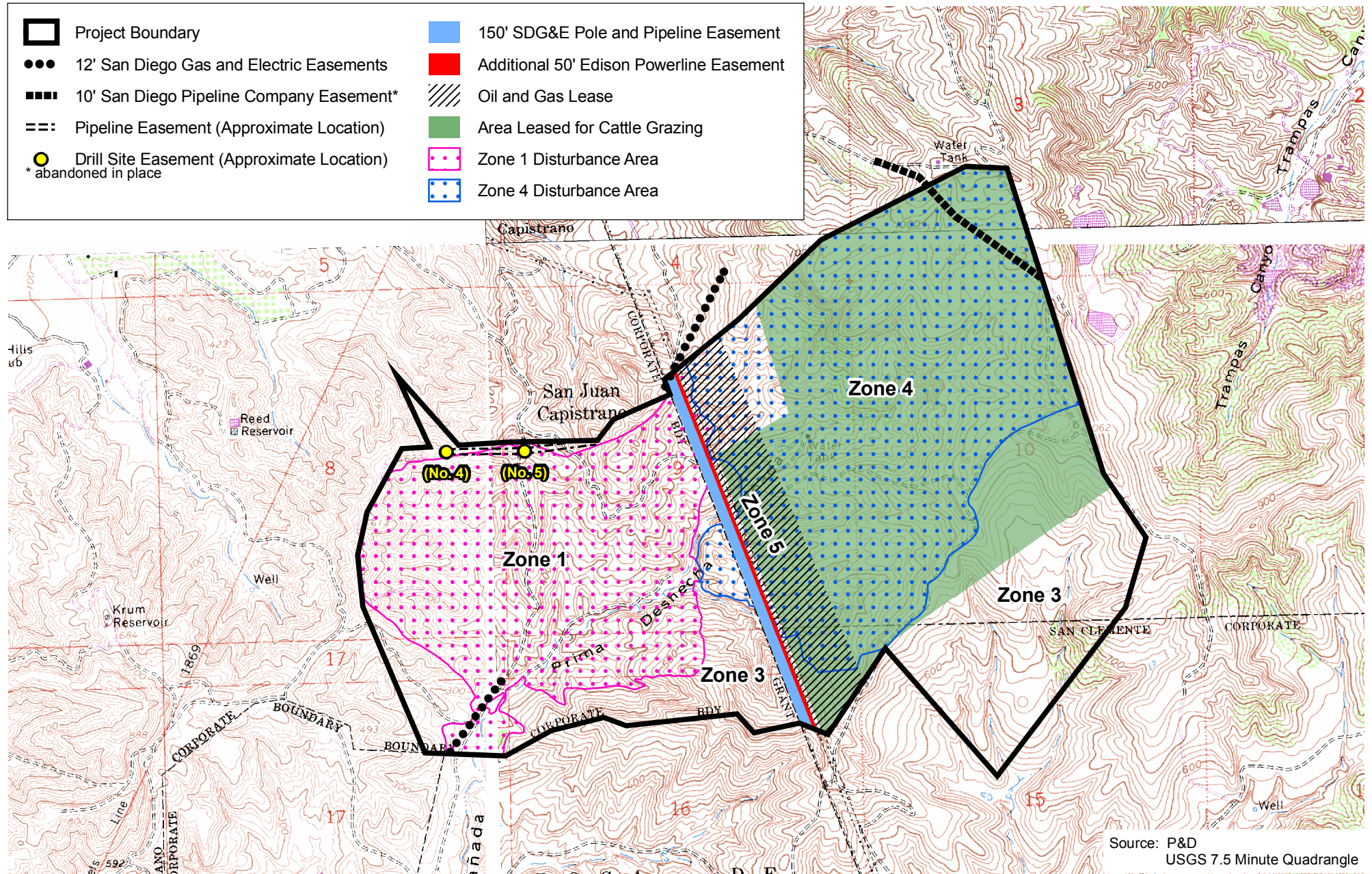
Proposed Project elements are not anticipated to affect SCGC facilities. In addition, the landslide remediation work and Zone 4 desilting system construction will not require natural gas and would not result in a substantial increase in the demand or require substantial new or expanded natural gas facilities on the site.

#### **Water**

Potable water at the site will continue to be supplied through the water delivery line along La Pata Avenue. Proposed project elements will not result in an increase in potable water demand on site.

The demand for non-potable water at the PDL is not expected to be affected by the Proposed Project. Water required to sustain the biomitigation areas is proposed to be derived from the project desilting system, which mimics existing hydrologic conditions by capturing local storm flows and releasing them at a controlled rate into the Prima Deshecha Canada stream channel. Upland biomitigation areas are not anticipated to require a long-term supplemental water source.

-  Project Boundary
-  12' San Diego Gas and Electric Easements
-  10' San Diego Pipeline Company Easement\*
-  Pipeline Easement (Approximate Location)
-  Drill Site Easement (Approximate Location)  
\* abandoned in place
-  150' SDG&E Pole and Pipeline Easement
-  Additional 50' Edison Powerline Easement
-  Oil and Gas Lease
-  Area Leased for Cattle Grazing
-  Zone 1 Disturbance Area
-  Zone 4 Disturbance Area



## Easements and Leases

Prima deshecha Landfill, Supplemental Environmental Impact Report 597



## Exhibit 5.6-1

Accordingly, no impacts are anticipated to water utilities as a result of the Proposed Project.

### **Sanitation**

The Proposed Project will not affect the number of permanent employees located at the PDL, and there are no plans by the IWMD to extend pipelines to any of the existing sewer trunk systems in the vicinity of the site. All existing GDP landfill sanitary facilities will be maintained as is, and will be unaffected by the Proposed Project. Therefore, no impacts to sanitation facilities are anticipated as a result of the Proposed Project.

### **Storm Drains**

As indicated above in Section 5.3, on-site flows and drainage areas will be redirected per the redesigned Zone 4 desilting system. These basins will serve to reduce suspended sediment and floating debris before the water is discharged to the watercourse, and will handle the 100-year runoff from the project site. Accordingly, there will be no impact on local area storm drains.

### **Telephone Service**

The Proposed Project elements will not affect the existing PacBell facilities on the northern side of the site in the vicinity of the site entrance and the fee station area. There are no planned permanent improvements as part of the Proposed Project that would require a change in telephone service at the site. Therefore, the Proposed Project will not have an impact on telephone services.

### **Schools**

As no residential uses are proposed under the Proposed Project and there will be no increase in permanent employees on staff at the PDL, the Proposed Project will not have an impact on school facilities in the Capistrano Unified School District.

## **5.6.4 MITIGATION MEASURES**

### **Previously Adopted Mitigation Measures**

The following mitigation measures are currently in place for impacts associated with the landfill component of the 2001 GDP, as identified in EIR 575 (numerical designations are from EIR 575). All mitigation commitments contained within FEIR 575 and the 2001 GDP will apply to the Proposed Project.

#### ***Electricity***

***Impact 4.16-1: Potential disruption of existing Southern California Edison (SCE) and San Diego Gas and Electric (SDG&E) facilities during construction of the GDP landfilling uses.***

MM 4.16-1: Prior to approval of construction and grading plans, the IWMD will include, as part of the construction documents, requirements that the construction contractors coordinate with SCE and SDG&E to ensure that their facilities on the site are protected to prevent significant disruption to utility services during construction. The contractor will be required to provide written documentation of this coordination to the IWMD.

**Santa Fe Pipeline Company**

**Impact 4.16-2:** *The Santa Fe Pacific Pipeline Partners Inc., oil pipelines on the east side of the site could be impacted during construction of the landfilling uses.*

MM 4.16-2: The IWMD will coordinate with Santa Fe Pacific Pipeline Partners Inc., during final design of the landfilling uses in Zone 4 regarding the precise location and depth of the existing pipelines on the site. The IWMD shall coordinate the landfill construction schedules with Santa Fe Pacific Pipeline Partners Inc., to allow the company to relocate its pipelines, if needed, prior to IWMD initiating construction of landfilling improvements in Zone 4 that would otherwise impact these pipeline facilities.

**Natural Gas, Potable Water, Non-Potable Water, Sanitary Facilities, Storm Drains, Telephone Service and Schools**

No impacts on natural gas, potable water, non-potable water, storm drains, telephone service and schools are expected under the 2001 GDP landfilling activities and therefore no mitigation is required.

**Sanitary Facilities**

**Impact 4.16-3:** *No wastewater facilities are available to the site in the Santa Margarita Water District service area; therefore, all GDP landfill operations sanitary facilities would be septic tank systems, similar to the current operations at the landfill.*

MM 4.16-3a: Prior to the commencement of any landfilling operations, a soils report and plans for all sewage disposal systems shall be submitted to the County's Plumbing/Mechanical Plan Checking Section for review and approval.

MM 4.16-3b: Results of percolation tests and a log of soil borings, performed and reported by a Registered Environmental Health Specialist, Registered Civil Engineer or Registered Geologist, in accordance with Environmental Health's "On-Site Sewage Disposal System Guidelines" shall be submitted to the County's Plumbing/Mechanical Plan Checking Section for review and approval. The Land Use Unit of Environmental Health shall be notified at least 48 hours prior to soil testing in order to be present during testing, if deemed necessary.

MM 4.16-3c: Each proposed individual sewage disposal system shall be designed in accordance with Environmental Health's "On-Site Disposal System Guidelines."

MM 4.16-3d: An additional soil percolation system, equal to a maximum of 100 percent of the original design capacity or as deemed necessary by the Manager, Environmental Health, shall be constructed and connected.

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**Mitigation for Impacts Associated with Amendment No. 2 to the 2001 GDP**

PDF 5.6-1: SCE and SDG&E electrical transmission facilities will be relocated or re-routed, if necessary, in order to avoid service interruptions during construction of landslide remediation measures through the center of the site. IWMD will coordinate closely with SCE and SDG&E in the development of a plan to ensure cost-effective and efficient temporary facility relocation and post-construction re-establishment of transmission lines through the site.

**5.6.5 LEVEL OF SIGNIFICANCE AFTER MITIGATION**

Less than significant.

## **SECTION 6.0 ENVIRONMENTAL ISSUES NOT REQUIRING SUBSTANTIAL ADDITIONAL ANALYSIS**

### **6.1 INTRODUCTION**

As noted in Section 1.0, CEQA Guidelines, Section 15163(a)(2) indicates that an SEIR is only required to address the information “necessary to make the previous EIR adequate for the project as revised.” Accordingly, this section of SEIR 597 provides a brief summary of the environmental issues for which implementation of the proposed project have resulted in a determination of “no substantial change” over those impacts identified in EIR 575.

All mitigation commitments contained within FEIR 575 and the 2001 GDP will apply to the Proposed Project and are located in Section 2.2, Overview of the General Development Plan. These mitigation measures (contained within Table 2.2-4) are currently in place for impacts associated with the landfill component of the 2001 GDP, as identified in EIR 575 (numerical designations are from EIR 575).

### **6.2 SUMMARY OF ISSUES NOT REQUIRING ADDITIONAL ANALYSIS**

#### **6.2.1 LAND USE AND PLANNING**

The Proposed Project does not involve any changes to the existing land uses that are outlined in the 2001 GDP. The PDL will maintain its current primary use as a landfill, and will not change the daily maximum refuse being accepted or permitted at the site. Although there is additional grading considered in association with implementation of landslide stabilization measures, it is not considered significant as all refuse fill slopes will be constructed consistent with the 2001 GDP once these stabilization measures are in place.

The only element with a minor effect on land use is associated with the Pre-mitigation and Regional Enhancement plans. These plans identify mitigation and enhancement opportunities within Zone 4 that could potentially encourage a more passive recreational use of the area in the post-closure period. However, EIR 575 indicates that the future designated use for Zone 4 will be a regional park; design and features of this park are to be determined by a recreational needs analysis conducted in partnership with the surrounding communities in the post-closure timeframe. The IWMD will retain discretionary authority over the appropriate mix of long-term uses for the property.

Accordingly, the Proposed Project does not result in substantial change from the previous analyses contained within EIR 575 and the analyses and mitigation measures outlined in EIR 575 are adequate to support the Proposed Project. Therefore, no further analysis or additional mitigation is required.

#### **6.2.2 AGRICULTURE**

Subsequent to certification of EIR 575, the project site has not been subject to a new agricultural use (other than grazing) and the state Important Farmland designations have not changed. The Proposed Project elements will have no effect on agricultural uses other than potentially removing the possibility of grazing as an acceptable land use in Zone 4 over the post-closure time period once the Pre-mitigation and Regional Environmental Enhancement plans are approved. As implementation of the Proposed Project results in no substantial change in effect over that identified in the 2001 GDP, the analysis of agricultural resources provided in EIR 575 is adequate for SEIR 597. Therefore, no further analysis is warranted.

### **6.2.3 POPULATION AND HOUSING**

The Proposed Project has no elements to it that could be considered growth-inducing, and no significant incremental impacts are expected related to population and housing. As the Proposed Project will result in no substantial change over the effects identified in EIR 575, the analyses contained within EIR 575 are deemed adequate for SEIR 597.

### **6.2.4 TRANSPORTATION AND CIRCULATION**

The Proposed Project elements will not affect short- or long-range traffic conditions, as described in EIR 575, as daily refuse tonnages into the landfill, overall landfill capacity, and land uses on the project site have not changed. Construction of the elements of the Proposed Project will also occur entirely within the boundaries of the PDL, and therefore no change to the traffic patterns in the surrounding intersections is anticipated. It is anticipated that construction of the rainfall collection system basins and landslide remediation measures will not require the use of additional equipment considered in the 2001 GDP and that staging for this construction will also be on site. Material volumes generated from construction of the Proposed Project are not expected to be incrementally significant, and will be handled on site as well. Accordingly, the Proposed Project is expected to have no substantial change from the effects identified in the previous analysis.

### **6.2.5 NOISE**

Although there will be an incremental change to construction activities at the landfill as a result of proposed landslide stabilization measures, it is not expected to be greater than the noise levels associated with landslide stabilization construction previously covered in EIR 575 and is not expected to contribute significantly to noise levels because of ongoing disposal operations at the landfill. Further, much of this landslide remediation activity is to take place in and around Zone 4, which is farther from sensitive receptor sites than current operations within Zone 1. The Pre-mitigation and Regional Environmental Enhancement plans support the open space quality of the area and will reduce noise emissions from the project post-closure over potential post-closure uses contained within the 2001 GDP. Therefore, no further analysis is warranted.

### **6.2.6 AESTHETICS**

Pre-mitigation and Regional Enhancement Elements to the Proposed Project will add to the undeveloped and open space character of the property in the post-closure time period. Implementation of these elements will not create any negative aesthetic impact during establishment of the environmental habitats on site.

Although there will be an incremental change to the landscape as a result of proposed landslide stabilization measures, it will not significantly change final surface grading or fill slopes and is not expected to contribute significantly to the aesthetic impacts that were analyzed in EIR 575. It is anticipated that landslide remediation within the revised limits of disturbance and construction of the revised desilting system will occur below ridgelines and not pose an aesthetic impact.

### **6.2.7 CULTURAL AND SCIENTIFIC RESOURCES**

Due to the static nature of cultural resources in the landscape, the archaeological and paleontological conditions of the proposed project would be consistent with those identified in EIR 575. Increasing the limits of disturbance for the project may expose some unknown paleontological or archaeological resource to impacts from grading; however, implementation of the mitigation measures in EIR 575 will reduce this potential impact to below the threshold of



significance. There are no known historic resources located within the incremental area of disturbance associated with the Proposed Project. No additional analyses are therefore required.

### **6.2.8 RECREATION**

As the proposed project does not contain any elements that would be considered growth-inducing, no impact would be expected to local or regional recreational resources. The Proposed Project does not alter the 2001 GDP's commitment to incorporate several trails around the perimeter and through the PDL property, consistent with both County and City (San Juan Capistrano and San Clemente) trail plans and safety considerations associated with landfill operations. Subsequent to issuance of the 2001 GDP, the County approved a minor modification to the 'Proposed County Connector Trail,' shown on Exhibit 6.2-1. This connector trail alignment, approved in March 2004, replaced an existing trail alignment adjacent to the landfill property boundary that was too steep in grade for use. Other future routing modifications of on-site trails within Zones 3 and 4 may be required by the specific functional requirements of the newly restored habitat areas designated by the Pre-mitigation and Regional Environmental Enhancement Opportunity plans; however, it is anticipated that the site will still be able to accommodate these trails in aggregate.

Identification of the pre-mitigation plan and enhancement opportunities may affect the desired mix of recreational uses for Zone 4 in the post-closure period. The proposed Pre-mitigation and the Regional Environmental Enhancement Opportunity plans on the post-closure Zone 4 landfill is intended to occur within a mix of potential post-closure uses that may include appropriate recreational uses. Consistent with the approach contained within the 2001 GDP, these recreational uses are to be developed by a needs analysis as Zone 4 closure nears. The GDP notes that a future recreational needs analysis will likely consider proximity to environmental enhancement features, landfill-related regulatory and technical restrictions, and the demands and priorities of surrounding communities at that time in determining which post-closure uses are appropriate and desirable. As the implementation of environmental enhancement opportunities is discretionary and can be flexible in execution, it is anticipated that these mixed uses can be blended over time in a satisfactory manner.

### **6.2.9 MINERAL RESOURCES**

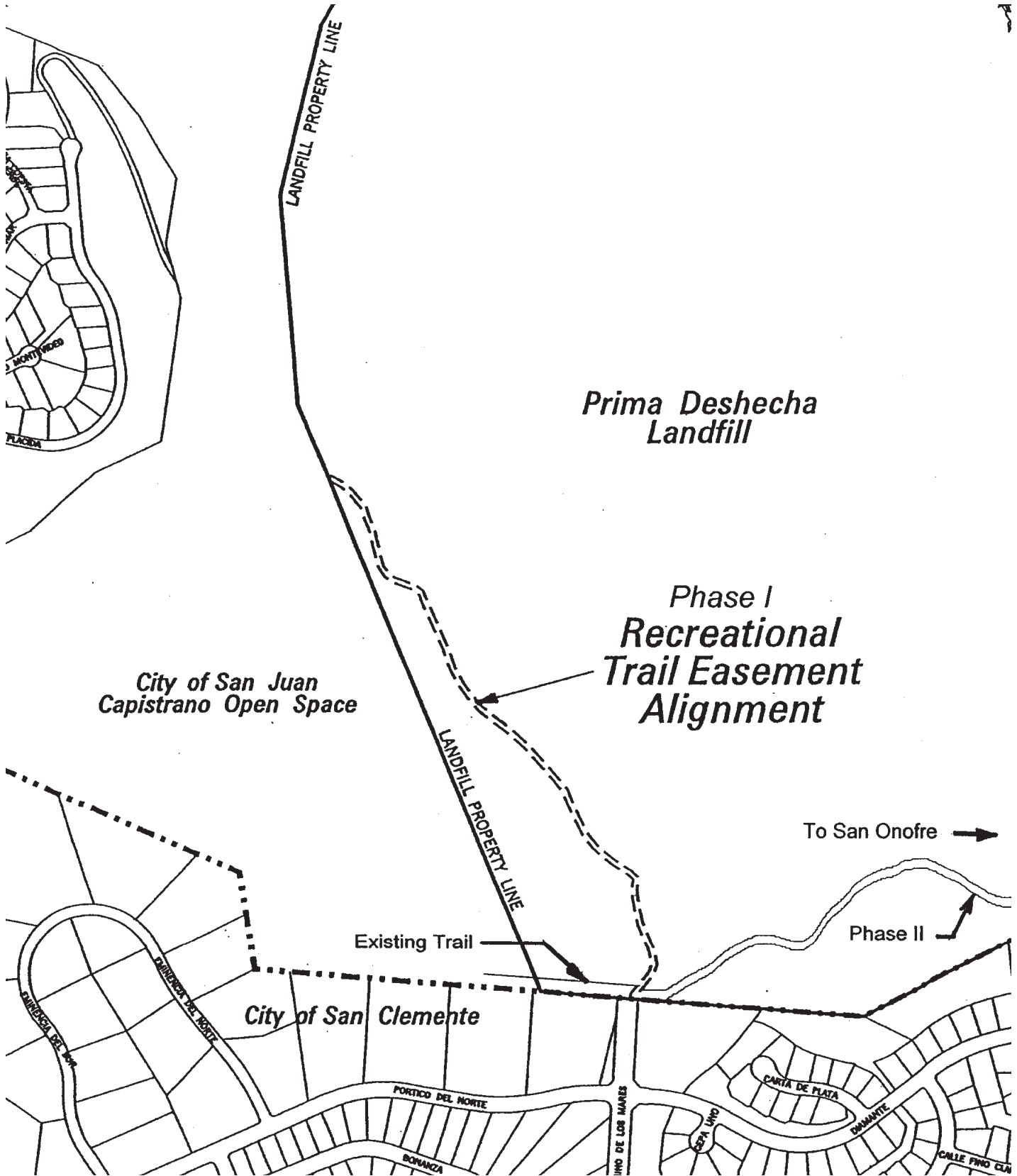
The Proposed Project for Amendment No. 2 does not contain any element that would affect or alter the findings of EIR 575 with respect to Energy and Mineral Resources. Therefore, no additional analyses are required.

### **6.2.10 HAZARDS**

The proposed project does not involve any changes to the GDP that would contribute to the creation of a public health hazard, the transport of disease, or increase on-site vectors. Although the revised desilting system does incorporate the addition of several perimeter basins, existing mitigation measures require that there is no incremental effect associated with water-related vector issues such as mosquitoes. In addition, the PDL will continue to operate in accordance with all existing regulations and permitting requirements, and will also continue to be monitored by all agencies having jurisdiction. Therefore, no further analysis is warranted.

### **6.2.11 PUBLIC SERVICES**

The proposed project does not include any elements that would contribute to any change in demand to public services. No further analysis is necessary.



**County Connector Trail**

**Exhibit 6.2-1**

*Prima Deshecha Landfill  
Supplemental Environmental Impact Report 597*



Map Not to Scale

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## SECTION 7.0 ALTERNATIVES TO THE PROPOSED PROJECT

### 7.1 OVERVIEW

Section 15126 of the CEQA Guidelines requires that an EIR evaluate alternatives to the Proposed Project which could feasibly attain the basic objectives of the project, but would avoid or substantially lessen any of the significant environmental effects of the project. The comparative merits of these alternatives must then be evaluated. A No Action Alternative must be included in this comparative evaluation.

As discussed in Section 3.0, the purpose and need for the Proposed Project is to: (1) provide for physical site stability within the PDL site to ensure continued operation of landfill activities; (2) accommodate future landfill-related features; (3) redesign the desilting system to reduce biological resource impacts; and (4) facilitate long-term stewardship of on-site biological resources.

Section 2.2.3 summarizes the previously reviewed alternatives within EIRs 548 and 575. These alternatives are presented as “considered but eliminated from further analysis,” or “analyzed in detail.” Following is a discussion of the alternatives to the Proposed Project for Amendment No. 2 to the GDP that were considered but eliminated from detailed analysis based upon feasibility issues. Lastly, Section 7.2 of this document presents the alternatives to the Proposed Project that address the project’s purpose and needs, and analyzes them in greater detail.

#### 7.1.1 ALTERNATIVES CONSIDERED BUT NOT EVALUATED IN SEIR 597

Several alternatives were considered for detailed analysis in SEIR 597 but were eliminated due to infeasibility. These alternatives are listed below.

**Reduce the Zone 4 Footprint and Deepen to Maintain Capacity.** This alternative sought to reduce the impact of Zone 4 on both the spring recharge area in the eastern portion of the zone and the least Bell’s vireo territories on the western perimeter of the zone. In accordance with the project objectives, maintenance of Zone 4 capacity under this alternative would require a significant deepening of the fill area. This alternative landfill design would require approval of landfill liner installation below historic groundwater levels. Significant uncertainties relative to the stability of existing subterranean landslide complexes and the potential impacts to local and regional groundwater resources would require extensive technical studies over an extended period of time in order to obtain the data needed for feasibility determination. This alternative was eliminated from further analysis due to likely significant impacts and feasibility issues.

**Shift the Zone 4 footprint over the ridge into Segunda Deshecha.** Moving the Zone 4 footprint south into Segunda Deshecha was considered as a project alternative for analysis. This would require impact to an area currently designated as open space for sensitive environmental resources; its value as an open space preserve and conflict between active landfilling uses and the permitted uses for the Supplemental Open Space proposed under the South Orange County NCCP (under development) resulted in the elimination of this alternative from further consideration. In addition, landfill operations within Segunda Deshecha violate established viewshed commitments with the cities of San Juan Capistrano and San Clemente and contribute to making this alternative infeasible.

**Shift the Zone 4 footprint north to or past the property boundary.** This alternative would shift the Zone 4 footprint outside the area of impact for the least Bell’s vireo territories and would reduce the impacts on the spring recharge area. Landfill capacity is maintained through extension of the landfill refuse footprint north of the property. Significant impacts accrue under this planning scenario to utility line rights-of-way through the project site; existing development to the north precludes impact to the property boundary. Accordingly, this alternative was eliminated from further consideration.

**7.2 ALTERNATIVES TO THE PROPOSED PROJECT FOR AMENDMENT NO. 2 TO THE GDP EVALUATED IN SEIR 597**

Table 7.2-1 provides a comparative analysis of potentially feasible alternatives to the Proposed Project.

**TABLE 7.2-1  
ALTERNATIVES MATRIX**

Alternative	Meets Purpose and Need	Maintains Landfill Capacity	Permits Project Through Build-Out	Reduces Bio Impacts from GDP	Reduces Impact to LBV	Cost Increase	Engineering Feasibility	Maintenance Channel Flows
<i>Proposed Project</i>	•	•	•	•	•		•	•
<i>No Action Alternative</i>		•					•	
<i>Alternative 1</i>	•	•	•				•	
<i>Alternative 2</i>	•	•	•				•	•
<i>Alternative 3</i>			•	•	•	•		
<i>Alternative 4</i>			•	•		•		

**7.2.1 NO ACTION ALTERNATIVE**

**Description of the No Action Alternative**

The No Action Alternative consists of the approved project in the 2001 GDP, as revised by Amendment No. 1, the MOU between the County of Orange and the cities of San Juan Capistrano and San Clemente, and agreements with the Rancho Mission Viejo Company, LLC (RMV) (Exhibit 2.1-1). These documents can be found in Appendices C and D. The project in the 2001 GDP (as amended) represents the most recently approved decision document guiding landfill, circulation, and recreation uses of the project site through the ultimate project buildout in the year 2067. An overview of the plan as contained in the 2001 GDP can be found in Section 2.0.

Under the No Action Alternative, neither the areal extent of landslide nor slope-stabilization measures that are required for the implementation of the Zone 4 portion of the project site were specifically presented in EIR 575 (Exhibit 2.1-1). Based upon the geotechnical characteristics of the area and the recent history of landslides at the site (May 1998), landslide-remediation measures that involve excavation buttress fill activities for Zones 1 and 4 will extend beyond the original zone boundaries. Without approval to implement these measures, it is unlikely that resource agency or landfill operations permits would be issued for initiation of landfill operations in Zone 4. Under this scenario, the reduction of capacity at the PDL caused by a reduction in the area available for stable landfill operations would require the County of Orange to identify feasible off-site disposal alternatives to offset this loss in capacity.

The No Action Alternative does not include development of the rainfall storage system/ subsurface reservoir. Even under a modified Zone 4 footprint to avoid unstable areas, impacts

to the spring recharge area within Zone 4 would occur requiring the implementation of mitigation measures similar to those being evaluated in the Proposed Project.

Without a Pre-mitigation Plan in place, project mitigation would have to be developed without the benefit of a regional view toward biological resource restoration and enhancement. The benefits to the environment from a regional planning approach would be much more limited without effective partnering in the South Orange County NCCP or SAMP programs.

As previously discussed, active landfilling operations are currently occurring in Zone 1. The analyses contained in this document are consequently focused on the environmental effects, permitting activities, and subsequent initiation of landfill operations within Zone 4 that are anticipated to begin in the year 2019. Accordingly, the No Action Alternative description and project alternatives analyses, as detailed below, apply primarily to upcoming operations specifically within Zone 4

## **Impacts of the No Action Alternative**

### ***Geotechnical Considerations***

Geotechnical considerations of the 2001 GDP are documented in EIR 575. Mitigation measures incorporated into EIR 575 would remain in place, but with no landslide stabilization measures occurring outside the existing limits of disturbance. Although EIR 575 geotechnical mitigation measures could be implemented within existing zone boundaries, landfill capacity would be significantly reduced in areas of significant geotechnical hazard.

### ***Hydrology and Water Quality***

The No Action Alternative would not alter the existing limits of disturbance around the PDL. However, the recharge area for the spring in Zone 4 would be impacted sooner since operations would move into the eastern portion of the site sooner if the IWMD cannot stabilize the landslide complex within the central and southwestern portions of Zone 4 under a modified Zone 4 footprint. This would cut off most of the flows into Prima Deshecha Cañada channel and would therefore result in impacts to riparian resources. The Proposed Project includes a rainfall storage system (that is intended to maintain consistent flows to downstream riparian resources that are dependent upon these flows) and/or the surface water augmentation options.

### ***Air Quality***

Under the No Action Alternative, air quality commitments from EIR 575 would continue to be maintained and would include updates to field operating permits, as required, to ensure compliance with air quality regulations. However, it should be noted that several applicable regulations have been amended since the certification of EIR 575. The recent updates are discussed in detail in Section 5.4. Where previous measures have been superseded, it is appropriate to implement more recent requirements. This applies to the No Action Scenario.

### ***Biological Resources***

Under implementation of an existing Zone 4 refuse footprint, biological resources within the PDL under the No Action Alternative would eventually be impacted by a reduction in the recharge area for the spring that feeds Prima Deshecha Cañada channel. This indirect impact would occur through a gradual decrease in the frequency and volume of flows within the channel itself. The eventual direct impact to the spring would reduce these flows to a much lower volume flow that would be provided by direct runoff into the stream channel itself. Once flows are significantly impacted within this channel habitat, a supplemental water source would be needed

to maintain the riparian corridor. Impacts from this supplemental water source will vary based upon the source and method of delivery.

The No Action Alternative does not provide for a Pre-mitigation Plan or Regional Environmental Enhancement Plan. Without these elements, regulatory permits for buildout of the PDL would likely occur on a phase-by-phase basis over the period of modified project buildout. Phase-by-phase regulatory permitting could impact the IWMD's ability to provide uninterrupted, long-term refuse disposal services. The Pre-mitigation Plan contained within the Proposed Project (in concert with the Regional Environmental Enhancement Opportunities Plan) assures continued seamless landfill operations while also ensuring that stewardship of on-site biological resources is maximized through a site-wide mitigation program and integration with regional environmental planning efforts. Implementation and establishment of a Pre-mitigation Program years in advance of project impacts will enhance the long-term biological resource conservation values and functions for coastal scrub, needlegrass, and riparian-dependent wildlife species well beyond that which would occur with incremental implementation of project mitigation over the build-out timeframe.

### ***Other***

If the No Action Alternative resulted in the loss of landfill capacity at the PDL, numerous significant impacts could occur from the need to transport refuse out of the region to a remote location. These impacts would accrue to traffic, air quality, hazards, and noise associated with the transporting of refuse out of the county or state via truck or train. Ultimate impacts could also accrue to population and housing (if refuse disposal becomes a significant regional development constraint).

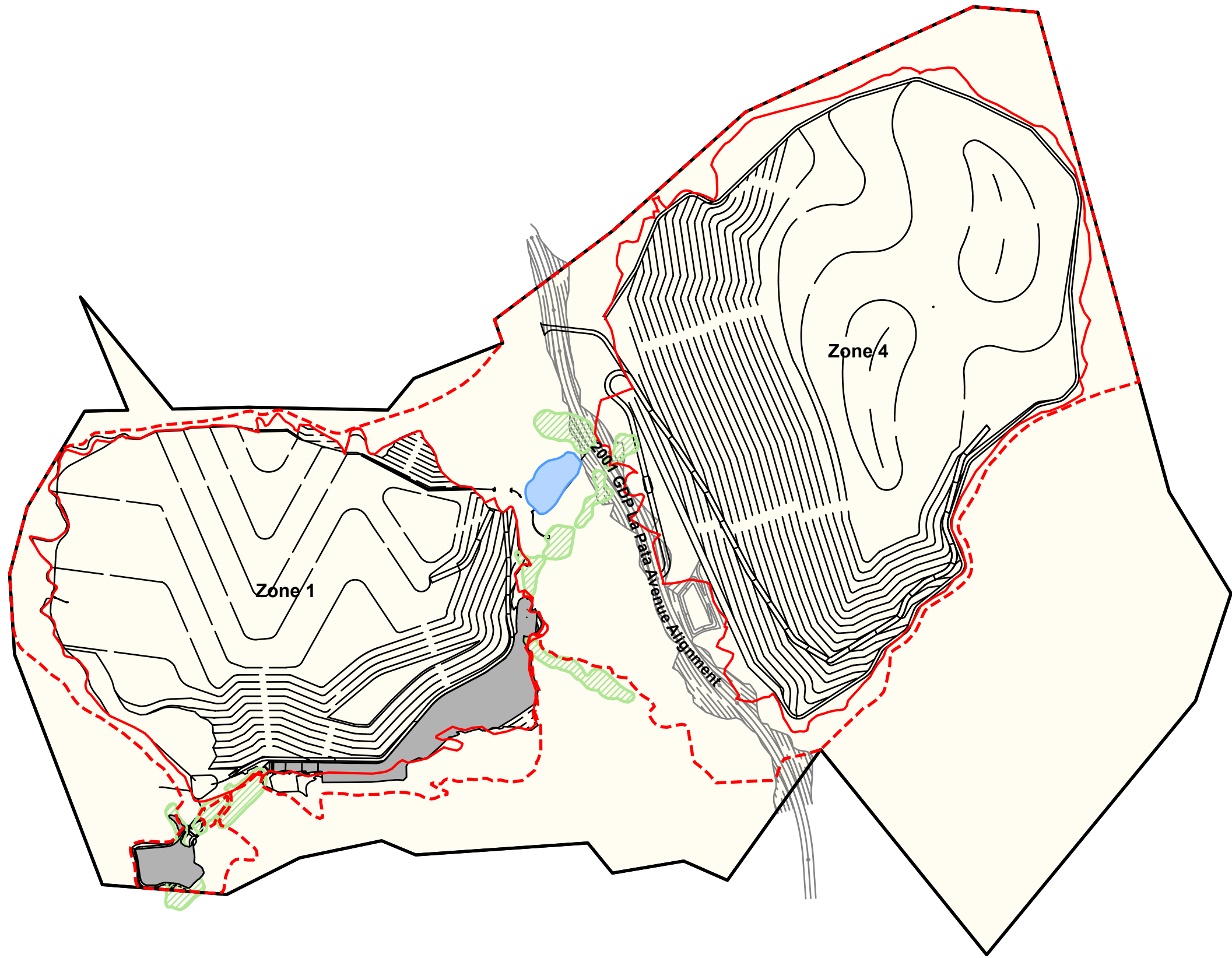
### **Summary of the No Action Alternative**

The No Action Alternative is based on landfill operations at the site continuing in accordance with the 2001 GDP. However, that landfill capacity (as estimated in the 2001 GDP) will not be achieved if the area required for landslide remediation is not available (or permitted for disturbance). If landfill capacity is reduced, the need for the County to look elsewhere for refuse disposal would be considered significant, as documented within EIR 575. If the County can continue operations in Zone 4 (either in whole or in part) then biological resources will be affected incrementally over time by both indirect and direct impacts to the spring that feeds Prima Deshecha Cañada. Once this impact occurs, a supplemental water source will need to be identified to maintain flows in the channel. Impacts associated with this water source will vary depending upon the source and method of delivery.

## **7.2.2 ALTERNATIVE 1: MAINTAIN 2001 GDP ZONE 4 FOOTPRINT AND DETENTION/DESILTING BASIN BETWEEN ZONES 1 AND 4**

### **Description of Alternative 1**

Alternative 1 (Exhibit 7.2-1) consists of the 2001 GDP design for Zone 4 including a detention/desilting basin located between Zones 1 and 4, but proposes that this basin be situated north of and outside the Prima Deshecha Cañada stream. Although the basin is proposed to be located outside the Prima Deshecha Cañada streambed, there would be temporary impacts to the streambed during construction associated with remediation requirements for a landslide complex underneath the area proposed for the basin. These impacts are discussed in more detail below. Therefore, Alternative 1 would involve an expansion of the disturbance limits from the Proposed Project in the central portion of the site between Zones 1 and 4.



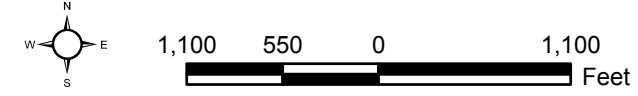
- Project Boundary
- Impact Boundary, Alternative 1
- Impact Boundary, EIR 575
- Desilting Basin
- Least Bell's Vireo Territories, 2005
- Existing Landslide Mitigation (27.09 acres)
- 2001 GDP La Pata Avenue Alignment
- Project Grading

Source: BAS, 2005

**Alternative 1 – Maintain Zone 4 With Basin North of Prima Deshecha Creek**

**Exhibit 7.2-1**

*Prima Deshecha Landfill  
Supplemental Environmental Impact Report 597*



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## **Impacts of Alternative 1**

### ***Geotechnical Considerations***

Preliminary geotechnical investigations indicate that the proposed basin location is in an area of a large landslide complex, which will require extensive earthwork removal and replacement to provide for a stable subgrade for basin construction.

### ***Biological Resources***

The landslide remediation will require removal and recompaction of substantial alluvial materials in and around the streambed which will result in impacts to five least Bell's vireo (LBV) territories. The impacts would be temporary until the streambed is restored. Additional mitigation approved by the USFWS and CDFG would have to be implemented to offset impacts associated with the temporary loss of riparian habitat.

Alternative 1 would have a permanent impact on one LBV territory and temporary impacts to four LBV territories.

### ***Other***

**Landfill Capacity.** Alternative 1 maintains a balanced landfill with the same capacity (59 million tons), as indicated within the 2001 GDP.

## **7.2.3 ALTERNATIVE 2: MAINTAIN 2001 GDP ZONE 4 FOOTPRINT AND DETENTION/DESILTING BASIN BETWEEN ZONES 1 AND 4 WITH SURFACE WATER AUGMENTATION**

### **Description of Alternative 2**

Alternative 2 (Exhibit 7.2-2) consists of the 2001 GDP design for Zone 4, including a detention/desilting basin located between Zones 1 and 4 north of the Prima Deshecha Cañada channel, with surface water augmentation of spring flows. The augmentation approach is proposed to be implemented when subdrain flows are not sufficient to sustain riparian habitat within the downstream portions of Prima Deshecha Cañada channel. Subdrain flows will be utilized to the extent possible to recharge the Prima Deshecha stream on the landfill property and will not be discharged off site except during significant storm events. During these events, storm water will be subject to NPDES monitoring requirements. Groundwater discharges may need to comply with the San Diego RWQCB, Order No. 2001-96, NPDES No. CAG909002, which contains specific requirements for groundwater extraction discharges to surface waters.

It should be noted that if future biological monitoring data indicates that surface water augmentation is required as part of the Proposed Project, one or more of the water augmentation options described below may be incorporated into the Proposed Project plan if the subsurface reservoir proves to be infeasible.

### ***Water Augmentation Options***

As discussed above for the project, when construction of the eastern portion of Zone 4 by Phases D and E commences (estimated to occur by 2045), the spring recharge area will diminish as the landfill liner system expands and prevents surface water infiltration. Therefore, another water source would be sought to supplement subdrain flows as a means of maintaining delivery of water to the downstream reaches of the stream.



### Off-Site Water Source

A potable water main is located along the ridgeline north and west of Zone 1. However, the supplier, Capistrano Valley Water District (CVWD), has in the recent past indicated that its current usage allocation would not meet the site's entire operations needs due to a shortage of water storage capacity in the service area.

Another water line has been constructed for the field offices and ancillary facilities at the entrance to the landfill, which is a source of non-potable water. This water is provided by an off-site well operated by the Santa Margarita Water District (SMWD). The existing non-potable water supply line at the landfill is capable of supplying twice the amount of flow currently used so that additional water could be provided with the existing supply line capacity for stream flow replenishment. A connection to the new non-potable water supply line would be needed to provide surface water augmentation to the stream. The feasibility of this alternative depends on the availability of the off-site well water for the site's use beyond 2045.

### On-Site Water Reservoir

Off-site water piped into the site can be stored in aboveground water reservoirs for gradual release into the Prima Deshecha Cañada channel. Siting of these aboveground storage facilities will need to consider stability factors, the bearing capacity of foundation soils, and compatibility with future operational areas.

Another opportunity for providing on-site storage capacity for Alternative 2 is from storm water flows by diverting storm water from the Zone 4 area into a storage facility underneath the proposed detention/desilting basin(s) (see Proposed Project design in Section 4.3). Landslide stabilization also needs to be considered for this alternative.

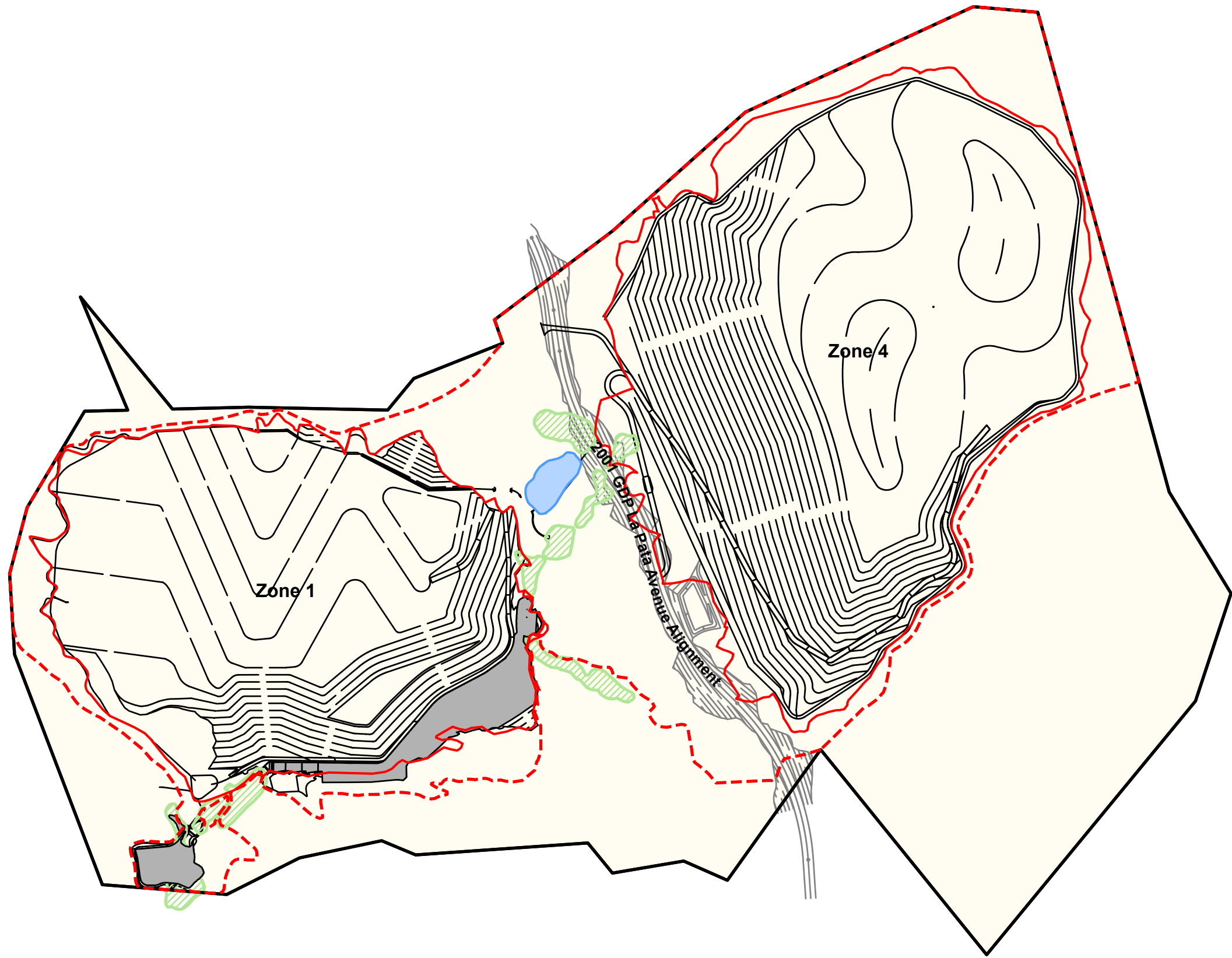
### Irrigation Water Source(s)

This alternative proposes the use of irrigation water from the post-closure regional park end use proposed for Zone 1. The timing for Zone 1 end-use development is projected to be about five to ten years after Zone 1 is closed (in 2019) to allow for sufficient settlement of the landfill in support of an active park use. An analysis of the specific park uses, funding sources, and anticipated settlement will be conducted closer to closure of Zone 1. To comply with landfill regulations, flows from the existing Zone 1 area are currently collected in a separate drainage channel from the natural Prima Deshecha Cañada bio-mitigation channel flows for testing prior to discharge. There is the potential to redirect Zone 1 post-closure surface water irrigation flows from the park end use from Zone 1 directly into the Prima Deshecha Cañada bio-mitigation channel. This would provide additional water flows through the bio-mitigation channel recharge area, thereby augmenting natural water flows. Direct discharge of the surface water flows from Zone 1 into the bio-mitigation channel would require approval from the Regional Water Quality Control Board (RWQCB).

Other opportunities for the use of irrigation water for stream flow augmentation could include embankment irrigation for the future La Pata Road and irrigation from the proposed park end use for Zone 4.

### On-Site/Off-Site Groundwater Extraction

Groundwater extraction options were evaluated from both on and off the site (piped to the site). Exhibit 5.3-3 illustrates the location of groundwater monitoring wells and gradients within the project area.



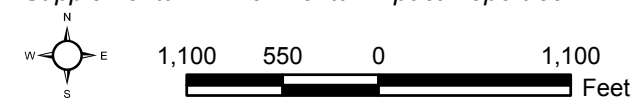
- Project Boundary
- Impact Boundary, Alternative 1
- Impact Boundary, EIR 575
- Desilting Basin
- Least Bell's Vireo Territories, 2005
- Existing Landslide Mitigation (27.09 acres)
- 2001 GDP La Pata Avenue Alignment
- Project Grading

Source: BAS, 2005

**Alternative 2 – Maintain Zone 4 With Surface Water Augmentation**

**Exhibit 7.2-2**

*Prima Deshecha Landfill  
Supplemental Environmental Impact Report 597*



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Water would be pumped from local groundwater wells and discharged into the stream channel to sustain biological riparian resources.

## **Impacts of Alternative 2**

### ***Geotechnical Considerations***

Geotechnical complexities within Zone 4 are discussed in Section 3.1 (Purpose and Need). Remediation measures would be implemented for the Zone 4 basin upon initiation of excavation within Zone 4.

### ***Hydrology and Water Quality***

Potential water quality impacts will likely vary based upon the option selected for surface water augmentation.

#### **Off-Site Water Source**

Off-site potable water sources are treated to drinking water standards and will be more than adequate, in terms of a consistent water supply and water quality, for sustaining biological resources along Prima Deshecha Cañada.

#### **On-Site Water Reservoir**

An on-site water reservoir, whether surface or subsurface in design, will utilize storm water runoff from the surrounding area. This runoff currently provides a portion of the stream channel flows to Prima Deshecha Cañada; accordingly, water quality from flows stored within an on-site reservoir are not anticipated to be substantively different from existing conditions.

#### **Irrigation Water Source(s)**

Runoff associated with irrigated water from Zone 1 post-closure will be treated with Best Management Practices (BMPs), as necessary, before it enters the Prima Deshecha stream channel. Consequently, water quality issues, if any, will be addressed prior to discharge.

#### **Groundwater**

Local well water quality data indicates a failure to meet EPA drinking water standards for certain constituents, but is not anticipated to have a negative effect relative to the primary purpose of sustaining existing biological resources along the riparian corridor (GLA 2002).

Gross initial estimates of between 3 and 5 gallons per minute (gpm) would draw down local well water levels, but this is not expected to have a significant impact on local or regional groundwater levels or gradients (GLA 2004). There is some potential for groundwater extraction from the deeper portion of the bedrock underneath Zone 4; however, that potential is dependent on the pumping characteristics of the bedrock and the groundwater availability. The quantity and potential flow rate of the bedrock cannot be determined at this time based on current available data.

To assess the potential availability of deeper groundwater resources, several wells would need to be drilled to depths of up to 1,000 feet below ground surface (bgs). Water availability would be assessed by conducting a series of pumping tests in strata identified as having water production potential. Data obtained from the pumping well and nearby observation wells would be used to determine the quantity of available water, the approximate geometry of the

groundwater resource (to determine if deep extraction would affect other users of this resource), the permeability of the water-bearing strata, and the extractability of the groundwater. This field information would then be used to develop a detailed hydrogeologic model to predict the sustainability of the resource based on pumping rates that would be required to provide sufficient water to support the habitat mitigation areas.

However, as flow rates from the existing spring are very modest in volume, it is anticipated that adequate quantities of groundwater would be available to replace these spring flows.

### ***Biological Resources***

Alternative 2 will have a permanent impact to five LBV territories and all the special status plant species identified by Alternative 1. This alternative also requires re-establishment of the Prima Deshecha Cañada spring after landslide stabilization measures are implemented, which may provide habitat suitable for LBV occupation.

Groundwater resources are likely to be subject to RWQCB Order No. 2001-96 requirements, and extraction capabilities from the site are not clearly understood without additional data collection efforts. Irrigation and other off-site water sources are not considered 'natural' flows and are not favored for environmental restoration or mitigation purposes. However, it should be noted that the existing natural hydrology is not considered adequate for existing habitat resources.

### ***Other***

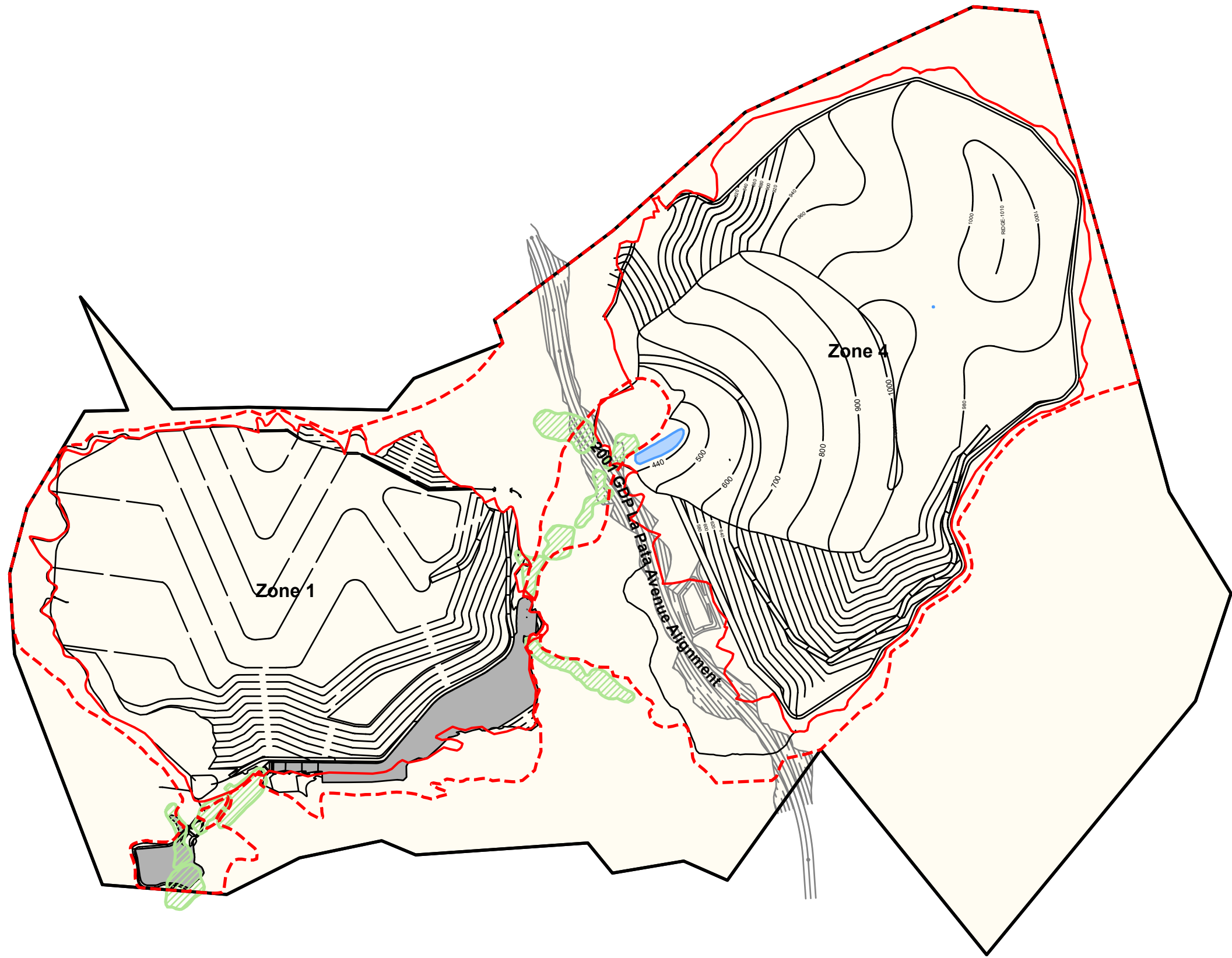
**Landfill Capacity.** There are no negative impacts to landfill capacity with this alternative.









**Cost Considerations.** Mitigation costs would be higher for Alternative 2 than those for the Proposed Project based upon greater impacts to the LBV, the Prima Deshecha Cañada channel, and the channel's associated biological resources. In addition, installation of groundwater wells, pipelines to convey irrigation water, reservoirs, and irrigation lines will raise project costs. Data collection for groundwater extraction efforts would also be costly.

## **7.2.4 ALTERNATIVE 3: MODIFY ZONE 4 FOOTPRINT TO AVOID PERMANENT IMPACT TO THREE LEAST BELL'S VIREO TERRITORIES**

### **Description of Alternative 3**

Alternative 3 proposes a design to shift the Zone 4 grading plan east in order to place the graded slopes outside portions of the Prima Deshecha Cañada stream channel. The Zones 1 and 4 desilting basin is also moved to an off-line location outside the existing streambed and riparian area. This alternative (Exhibit 7.2-3) is proposed to avoid direct impact to three occupied LBV territories located between Zones 1 and 4. It should be noted that the western territory (shown on Exhibit 7.2-3) will be temporarily impacted with the future development of Zone 1 and the associated landslide remediation measures. This temporary impact is anticipated to occur by approximately 2012. Alternative 3 significantly reduces landfill capacity by approximately 24 percent; accordingly, Zone 4 bottom grades are deeper to restore this lost capacity.



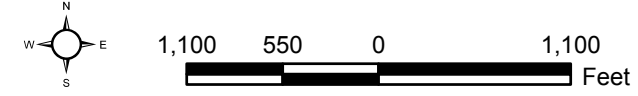
-  Project Boundary
-  Impact Boundary, Alternative 3
-  Impact Boundary, EIR 575
-  Desilting Basin
-  Least Bell's Vireo Territories, 2005
-  Existing Landslide Mitigation (27.09 acres)
-  2001 GDP La Pata Avenue Alignment
-  Project Grading

Source: BAS, 2005

**Alternative 3 – Modify Zone 4 Footprint to Avoid Three LBV Territories**

**Exhibit 7.2-3**

Prima Deshecha Landfill  
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## **Impacts of Alternative 3**

### ***Geotechnical Considerations***

The deeper landfill bottom required to reclaim capacity impacted by this alternative may require a larger shear key design in Zone 4 in order to stabilize the additional refuse mass over the existing landslide area. Significant uncertainties relative to stability of existing subterranean landslide complexes and potential impacts on local and regional groundwater resources would require extensive technical studies over an extended period of time to obtain the data needed for feasibility determination.

### ***Hydrology and Water Quality***

The deeper landfill bottom required to reclaim the capacity impacted by this alternative will require regulatory approval of a landfill liner system design below historic groundwater elevations. The landfill bottom grading proposed for the current Zone 4 landfill meets the 27 CCR requirements for separation of groundwater from the liner system. A deeper landfill will require a larger subdrain system to collect groundwater and regulatory approval for an alternative liner system. Additional construction costs would also be incurred for this alternative due to complications associated with the generation of additional groundwater during excavation.

### ***Biological Resources***

Alternative 3 will have a permanent impact to two LBV territories and a temporary impact during basin construction and landslide remediation on a portion of one territory. It should be noted that even though this alternative avoids a direct permanent impact to the three existing LBV territories, a portion of one of the three would still be indirectly impacted by changed sunlight exposure caused by modification of adjacent landfill slopes and progressive dewatering of the alluvium supporting the habitat associated with subdrain flows. Supplemental water would still be required to sustain the habitat that supports the remaining LBV territories.

### ***Other***

**Landfill Stockpile Operations.** There are no soil stockpile areas available on site that are large enough, provide a stable foundation area, or have not already been allocated for specific use to accommodate the sizable volume of soil that would be generated with this alternative (by going deeper) to offset the projected capacity loss. Transportation of this large volume of soil to currently undeveloped off-site disposal or stockpile locations would result in potentially significant adverse environmental effects to current and future traffic conditions; air quality associated with truck traffic; potential biological impacts on undeveloped, off-site areas; and economic effects.

**Landfill Capacity.** Alternative 3 will significantly decrease the refuse capacity of the landfill, resulting in a loss of an estimated 20.8 million cubic yards (mcy) of refuse capacity unless bottom grades are substantially deepened. With an average density of 1,333 pounds per cubic yard (cy), or 0.67 ton per cy, the loss is estimated to be approximately 14 million tons, or about 11 years of landfill capacity. This would be a 24 percent reduction in refuse capacity.

**Cost Considerations.** The economic impact from the refuse capacity reduction associated with this alternative is the additional cost to the rate payer for alternate means of refuse disposal. The cost in today's dollars due to the lost capacity at the Prima Deshecha Landfill could be the difference between the current cost for disposal (\$22/ton) and the cost for alternate disposal. It is assumed that the only alternate disposal option that would be available when the Prima

Deshecha Landfill reaches the reduced capacity limit associated with this alternative would be rail haul, which is estimated to cost \$75/ton in today's dollars (Stirrat 2006). Based on these assumptions, the additional cost that could be passed on to the rate payer would be approximately \$742 million.

An evaluation was also made of offsetting all the capacity loss with a deeper excavation. Based on a landfill design for Zone 4, which balances the air space capacity with the soil requirements for the landfill operation, a deeper excavation to offset capacity loss would result in approximately 15 to 20 mcy of excess soil to be managed on site or hauled off site. There are no areas available on the site that: (1) are large enough to provide a stable foundation and (2) have not already been allocated for specific use to accommodate the significant volume of excess soil generated by this alternative.

The estimated cost, in today's dollars, for transporting 15 to 20 mcy of stockpile material to an off-site location is approximately \$10/cy for a total of \$150 to \$200 million. This cost estimate does not consider additional costs associated with property acquisition, compaction, or site cleaning costs. These estimates include the costs of handling, loading, and trucking this material to a location within a 10-mile radius of the site, assuming that a suitable location can be found.

### **7.2.5 ALTERNATIVE 4: SHIFT ZONE 4 FOOTPRINT SOUTHWEST FOR RECHARGE PURPOSES**

Alternative 4 (Exhibit 7.2-4) was developed to reduce the impacts of the landfill on the eastern portion of Zone 4, which functions as the spring recharge area for the spring that feeds the Prima Deshecha Cañada stream.

#### **Description of Alternative 4**

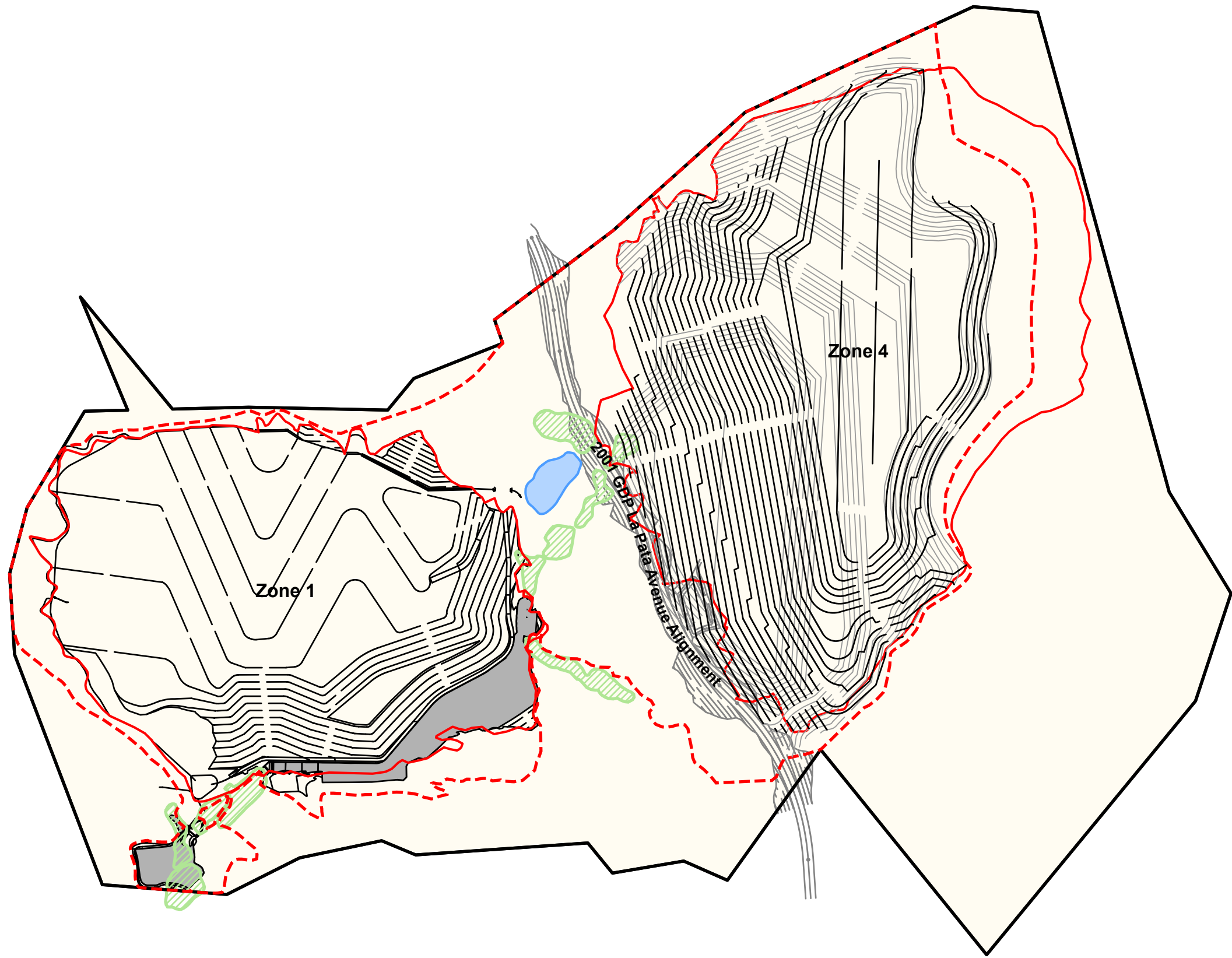
Alternative 4 proposes a design to shift the Zone 4 landfill footprint southwest approximately 300 feet. In order to maintain capacity, the revised design plan would entail excavating deeper, and filling higher along La Pata Avenue without exceeding the top elevation limit of 1,010 above mean sea level (msl). The depth of the landfill is determined by the amount of soil excavation required for landfill cover operations. Any soil in excess of what will be used during landfill operations needs to be stockpiled somewhere on the site, outside the limits of the landfill area. Areas available for stockpiling on site are limited and the cost and potential environmental impacts of transporting soil off site are high, as discussed in Alternative 3. The deck area for the landfill in Alternative 4 is smaller and narrower than the 2001 GDP Zone 4 design and may also impact landfill operations, viewshed, and end use potential.

#### **Impacts of Alternative 4**

##### ***Geotechnical Considerations***

**Shear Key Construction.** By shifting the landfill to the southwest, more mass is placed over the upper two thirds of a massive landside complex where a substantial shear key or buttress fill is currently proposed for the 2001 GDP Zone 4 design. A larger shear key or buttress may be required under this alternative in order to accommodate the additional refuse load and deeper excavation. An analysis of potential landslide remediation design requirements can be conducted if Alternative 4 is deemed the least environmentally damaging alternative (GLA 2004).

**Detention/Desilting Requirements.** The northeasterly edge of Zone 4 would be shifted approximately 1,000 feet southwest which would reduce direct impacts to the drainage area of



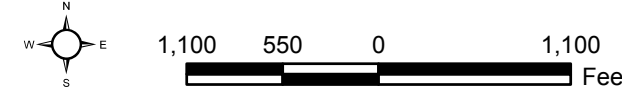
- Project Boundary
- Impact Boundary, Alternative 4
- Impact Boundary, EIR 575
- Desilting Basin
- Least Bell's Vireo Territories, 2005
- Existing Landslide Mitigation (27.09 acres)
- 2001 GDP La Pata Avenue Alignment
- Project Grading

Source: BAS, 2005

**Alternative 4 – Zone 4 Modified for Recharge Purposes**

**Exhibit 7.2-4**

*Prima Deshecha Landfill  
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the spring. An outlet channel would be constructed along the entire southern edge of the landfill, eventually turning north to connect with the Zone 4 desilting basin. Accordingly, the southwestern edge of the landfill (southwest) shifts 300 feet and the northwestern edge shifts (southwest) 1,000 feet. The channel would have to convey larger flows than the current Zone 4 2001 GDP design. With Alternative 4, more of the watershed in the northeastern portion of the site would remain in its natural state resulting in an increase in storm water flows to be conveyed around the southerly perimeter of the landfill. It is estimated that an additional 120 cubic feet per second (cfs) of surface flows would need to be managed in this area. Surface detention/desilting basins could be constructed outside the perimeter of the refuse footprint to better manage these flows. The basin(s) would need to be lined to prevent impacts on the landfill liner system.

Alternative 4 avoids direct impacts to approximately 120 acres of natural watershed to the east of the refuse area and could therefore continue to provide groundwater recharge. This area consists of six natural canyons that would remain undisturbed. However, drainage from the canyons would be blocked with the alternative landfill configuration. Since ponding of water behind the Zone 4 landfill liner containment system does not comply with landfill regulatory requirements, interceptor drains or other drainage improvements would need to be designed and constructed for the canyons to collect and remove ponded water from behind the landfill liner system in order to maintain the integrity of this system.

Accordingly, groundwater that accumulates within five feet of the refuse prism will need to be collected and transported in the subdrain system to the toe of the landfill. The estimated flow rate and quantity of recharge water available for transport through a subdrain system cannot be determined based on existing information. It is likely, however, that coupled with a collection of surface water flows, the additional subdrain flows from this portion of the drainage basin would approximate or exceed existing stream flows. Higher flows through the subdrain system would be problematic as discussed below.

**Design Requirements for the Sub-drain System.** The current design of the landfill subdrain system must address conveyance of groundwater underneath the landfill. A larger number of subdrains, more efficient drainage media, and design modifications to include cleanouts would be necessary to ensure that a free-draining condition is maintained over an extended period. The potential for leakage from the subdrain system is higher with this alternative than the current design which could negatively affect the shear key stabilization fill directly under the southwesterly end of the landfill. This could significantly increase system design complexity and reduce the factor of safety to below an acceptable level.

Significant subdrain enhancements will be required to maintain, over an indefinite period, a 5-foot separation between the groundwater and the refuse prism at the bottom of the proposed landfill, as required by 27 CCR. Normally, a subdrain system is designed to remove foreseeable, short-term groundwater flows in order to maintain a five-foot separation between groundwater and refuse. Typically, the amount of water conveyed in a subdrain system decreases over time as the expanding refuse footprint decreases the recharge area and groundwater elevations decrease. A subdrain system is not intended to be used as an aqueduct. Large water flows moving through a subdrain system on a continual basis have the potential to erode or damage system components, damage the overlying composite liner system, and compromise the stability of the landfill. Water conveyance for the purpose of habitat maintenance or other uses not involved in the protection of groundwater quality would entail less design complexity and technical risk if provided in aboveground channels where the system can be easily monitored and maintained.

## **Biological Resources**

Alternative 4 will have a permanent impact to 2 full LBV territories and a very small portion of 2 other LBV territories during the first few phases of the Zone 4 implementation. This alternative involves a shift in the Zone 4 footprint to the southwest to preserve the recharge area that provides hydrology to support the riparian habitats located downstream within Prima Deshecha Cañada channel. Although this alternative is intended to reduce potential impacts to the channel, the project will interrupt the natural stream flow and subsequently affect the hydrology within Prima Deshecha Cañada channel, which is known to support ten pairs of LBV. Therefore, supplemental water would likely be required to sustain the habitats located within the remaining natural and created riparian habitats located immediately downstream. Also, impact to special status species would be the same as Alternatives 1, 2, and 3.

## **Other**

**Landfill Capacity.** The Alternative 4 design plan results in a reduction of approximately 6 mcy of refuse capacity from the 2001 GDP Zone 4 landfill design, even with a deeper excavation (approximately 70 feet) and higher fill slopes along the westerly edge. Assuming an average density of 1,333 pounds per cy or 0.67 ton per cy, the refuse capacity loss is equivalent to approximately 4 million tons. This translates to 7 percent of the total refuse volume, or over 3 years of landfill capacity.

The economic impact from the refuse capacity reduction associated with this alternative would involve additional costs to county rate payers for alternate means of refuse disposal. The cost in today's dollars to the rate payers due to the lost capacity at the Prima Deshecha Landfill could be the difference between the current cost (\$22/ton) and the cost for alternate disposal. It is assumed that the only alternate disposal option that would be available when the Prima Deshecha Landfill reaches the reduced capacity associated with this alternative would be rail haul, which is estimated to cost \$75/ton in today's dollars (Stirrat 2006) reference Los Angeles County Sanitation Districts). Using these assumptions, the additional cost that would be passed on to the rate payer is approximately \$212 million. In addition to economic impacts of reduced refuse capacity at the site, there will be numerous environmental impacts associated with transport and disposal at an out-of-county facility. This loss of capacity is also inconsistent with one of the project's primary objectives.

**Cost Considerations.** Additional costs would be incurred through mitigation of temporary impacts associated with construction and would be significantly higher than the implementation of a Pre-mitigation Plan that would establish habitats which would be lost to landfill operations well in advance of the loss. Pre-mitigation would allow for mitigation at a 1:1 ratio as opposed to mitigation at higher costs and on a phase-by-phase basis at higher ratios. In addition, geotechnical investigations would be required to refine design elements. Also, costs would likely be higher to address the increased shear key or buttress fill requirements for slope stability. Costs would also be incurred for an engineered liner and more complex subdrain system.

## **7.3 ENVIRONMENTALLY SUPERIOR ALTERNATIVE/LEAST ENVIRONMENTALLY DAMAGING PRACTICABLE ALTERNATIVE**

Analysis of feasible alternatives to the Proposed Project indicates that the Proposed Project is the Environmentally Superior Alternative, as considered under CEQA, and is the Least Environmentally Damaging Alternative, as considered under Section 404 of the Clean Water Act. The project purpose and need reflects the objectives of reducing impacts to biological resources, enhancing site stabilization, and reducing potential future negative effects to landfill operations and on-site environmental resources. Formulation of the Proposed Project was guided by the desire to minimize environmental impacts of landfilling activities and to maximize

environmental enhancement and protection outputs at the project site. This analysis of the alternatives developed for the Proposed Project concludes that the alternatives provide reduced benefits to local and regional biological resources and/or impacts to other resource categories. As the Proposed Project has been expressly formulated to maximize environmental benefits through proactive pre-mitigation planning and to minimize impacts to on-site biological resources associated with landfill operations through re-design of project features, it has been identified as both the Environmentally Superior Alternative and the Least Environmentally Damaging Practicable Alternative.

## SECTION 8.0 CUMULATIVE IMPACTS

Section 15130 of the CEQA Guidelines requires that a project's cumulative impacts be discussed when the incremental effect is "cumulatively considerable." According to CEQA Guideline §15065(c), the term "cumulatively considerable" means "...that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects...". Specifically, CEQA Guidelines, Section 15355 defines cumulative impacts as "...two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts."

SEIR 597 is a supplement to EIR 575, which contained a thorough cumulative impact analysis for the 2001 GDP, as amended. As has been demonstrated throughout this SEIR, the impacts from Amendment No. 2 will not incrementally increase any environmental impacts that cannot be mitigated to a less-than-significant level, other than air quality (please refer to Section 5.4 for a detailed discussion on this resource). Impacts from implementation of Amendment No. 2 to the GDP are relatively minor, and will not induce any cumulative effects beyond those identified in EIR 575 for the 2001 GDP.

### **La Pata Avenue Gap Closure Project: Sensitivity Analysis**

This roadway project would construct an extension of La Pata Avenue from Ortega Highway to Calle Saluda in San Clemente. The County of Orange Resources Development and Management Department (RDMD) is in the process of preparing an EIR for this project. In April 2005, the County of Orange completed a Feasibility Study to evaluate two potential roadway alignments through the PDL property, herein designated as "western" and "eastern" alignments. The "western" alignment shown in the Feasibility Study has since been modified in response to technical and neighborhood constraints and is shown in Exhibit 8.1-1. Subsequently, the County intends to prepare a Project Report to refine project construction elements (such as grading and drainage) as the basis for environmental analysis.

In an effort to ensure close coordination between the La Pata Avenue Gap Closure Project and the Proposed Project for Amendment No. 2 to the 2001 GDP at the PDL, the County RDMD and the IWMD have met with representatives of the USACE, USFWS, CDFG, and RWQCB to review site conditions and discuss issues concerning resources under their respective jurisdictions. Based on these regulatory agency discussions (which are considered preliminary assessments for both conceptual alignments and associated grading for landslide stabilization/remediation), the following potential impacts have been identified that will be addressed in the La Pata Avenue Gap Closure Project EIR. It should be noted that the construction of the La Pata Avenue Gap Closure Project is currently projected to occur around 2013, and may therefore occur in advance of any landfilling-related activities within Zone 4 of the Proposed Project. Some of the areas requiring landslide remediation by RDMD for road construction will overlap areas requiring this same or similar treatment by the IWMD in preparation for landfilling operations in Zone 4. As such, only areas that are outside these common landslide remediation/stabilization areas required for the construction of La Pata Avenue and that were not previously identified by the SEIR for Prima are identified below:

- **Biological:** Implementation of either the eastern or western alignments may involve impacts to approximately 38.0 acres of existing coastal sage scrub (CSS) outside the areas previously addressed by this SEIR. Also, project implementation would result in impacts to approximately 13.0 acres of recently planted CSS and approximately 0.45 acre of freshwater marsh within the Site A portion of the Phase B Landslide Remediation Bio-Mitigation areas of the Prima Deshecha Landslide Remediation Project. The project

has the potential to also impact approximately 6.1 acres under the jurisdiction of the CDFG, including approximately 3.05 acres under USACE jurisdiction within the Prima Deshecha Cañada channel and its associated tributaries (in addition to that acreage impacted by Amendment No. 2). Project implementation may also impact three least Bell's vireo (LBV) territories, one California gnatcatcher territory, and an area containing the small-flowered morning glory (*Convolvulus simulans*). Portions of the roadway may affect existing wildlife movement and use along: (1) the southern boundary of the landfill which connects existing open space areas east of the project with the Talega and Forster Ranch developments; designated open space areas within Segunda Deshecha; (2) the southern portions of Zones 1 and 4; and (3) San Clemente open space areas located south and west of the project site. In addition, the roadway project may potentially affect the hydrological conditions/spring flows that support the existing and newly created riparian habitat resources within the Prima Deshecha Cañada channel. Lastly, the roadway project may impact mitigation restoration sites within the project site (e.g., CSS and freshwater marsh) and at both the Talega and Forster Ranch developments.

Mitigation for the La Pata Avenue project is being coordinated between the RDMD and the IWMD. CSS mitigation opportunities for this project have been identified on site within Segunda Deshecha, and riparian and jurisdictional mitigation opportunities have been identified off site within the San Juan Creek portions of Ronald M. Caspers Wilderness Park (opportunities which are in addition to those contained within Amendment No. 2's Proposed Project Pre-Mitigation Plan).

- **Geological**: Existing landforms would be altered and the roadway would traverse an area with extensive landslides.
- **Air Quality**: Short-term air quality impacts related to temporary construction emissions would occur; however, the project may result in long-term air quality benefits by reducing the long-term emissions associated with congestion.
- **Noise**: There would be both short-term and long-term noise impacts, though the significance of these impacts would be dependent upon the alignment selected and its proximity to noise-sensitive receptors. These impacts would also include potential effects on LBV and California gnatcatcher breeding and nesting activities in habitat areas located immediately adjacent to the newly constructed roadway.
- **Aesthetics**: The project would potentially result in a substantial amount of grading, with potential aesthetic impacts.

Alternate La Pata Avenue alignments were considered in formulating the Proposed Project and its alternatives. The RDMD and the IWMD have conducted frequent coordination meetings to discuss the alignments that will be considered in the La Pata Avenue Feasibility Study in an effort to resolve any potential conflicts between the two projects. These meetings also provided an opportunity to formulate on-site and off-site mitigation programs for both the Proposed Project and the La Pata Avenue Gap Closure Project. Mitigation program discussions considered wildlife corridor connections from open space areas east and south of the Proposed Project site (including Talega and Forster Ranch) to the southern edges of the PDL property, and the San Clemente open space to the west of the Proposed Project. These alignments are illustrated on Exhibit 8.1-1.

Close coordination of these 2 projects have indicated that implementation of the Proposed Project for Amendment No. 2 will neither preclude the design, construction, or operation and



### La Pata Avenue Potential Roadway Alignments

Prima Deshecha Landfill Supplemental Environmental Impact Report 597

Exhibit 8.1-1



maintenance requirements for either potential roadway alignment nor will it impact implementation of the Proposed Project Pre-mitigation Plan.

## **SECTION 9.0 GROWTH-INDUCING IMPACTS, UNAVOIDABLE ADVERSE IMPACTS, AND SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES**

### **9.1 GROWTH-INDUCING IMPACTS**

Section 15126.2(d) of the California Environmental Quality Act (CEQA) Guidelines requires that an Environmental Impact Report (EIR) describe the potential growth-inducing impacts of a proposed project. Specifically, Section 15126.2(d) state that a project must:

*Discuss the ways in which the proposed project could foster economic development or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment.... [It should] also discuss the characteristics of some projects which may encourage and facilitate other activities that could substantially affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental or of little significance to the environment.*

Implementation of the Proposed Project will not involve an increase in landfill capacity or significant changes in landfill operations over the long-term; as a result, the number of employees at the PDL will not change substantially with implementation of the Proposed Project. Employees will continue to perform similar landfill operations including administration, landfill cover operations, and other landfill-related operations in order to support operations covered under EIR 575. The numbers and types of equipment used at the PDL will not change substantially as a result of the Proposed Project, nor will the days of operation or schedule of the facility change substantially.

The Proposed Project will not, in itself, be an inducement to growth, as the improvements under the Proposed Project would not entail new residences or the extension of major infrastructure facilities (i.e., sewer or water lines, roads) that would result in secondary or indirect growth in and around the area. In addition, waste disposal needs for the region have been considered for the project based on the County of Orange in the *Countywide Integrated Waste Management Plan* (CIWMP), which assesses existing and approved development and ultimate General Plan buildout for southern Orange County. As the Proposed Project does not include elements that alter refuse capacity at the site; create permanent employment opportunities; result in the extension of major infrastructure facilities; or affect regional housing trends, there will be no incremental growth-inducing effects as a result. This issue was adequately addressed in EIR 575 for the 2001 GDP as amended.

### **9.2 UNAVOIDABLE ADVERSE IMPACTS**

Section 15126(b) of the CEQA Guidelines requires that an EIR “describe any significant impacts, including those which can be mitigated, but not reduced to a level of insignificance. Where there are impacts that cannot be alleviated without imposing an alternative design, their implications and the reasons why the project is being proposed, notwithstanding their effect, should be described.”

All project impacts can be mitigated to a level that is less than significant except those for air quality. Implementation of updated mitigation measures and best available control technology will minimize this impact to the maximum extent practicable, but not below significance thresholds.



As described in Section 5.4, Air Quality, the Prima Deshecha Landfill is currently implementing several mitigation measures to reduce potential air quality impacts. Implementation of the mitigation measures described in Section 5.4.4 will help to further reduce air quality impacts that result from operations at the Prima Deshecha Landfill. However, even with implementation of all existing and recommended mitigation measures, operations at the Prima Deshecha Landfill would continue to result in significant and unavoidable air quality impacts.

### **9.3 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES**

Section 15126.2(c) of the CEQA Guidelines requires that an EIR discuss significant adverse irreversible environmental changes that would be caused by implementation of the proposed project. In addition, irretrievable commitments of resources should be evaluated. Implementation of the proposed project will result in both short- and long-term commitments of natural resources.

Implementation of the Proposed Project will not result in significant changes in quantities of building materials over those assessed within the 2001 GDP and EIR 575. Proposed project elements consist largely of incremental modifications to the 2001 GDP that will be accomplished concurrently with approved site-preparation activities and will not consume significant quantities of additional resources. Those materials that are utilized for implementation of proposed landslide remediation measures and the Zone 4 desilting system are anticipated to be in adequate supply into the foreseeable future. In addition, several elements of the Proposed Project are oriented toward environmental enhancement or restoration and will not consume resources for construction. The Proposed Project will not result in the wasteful, inefficient, or unnecessary consumption of energy during construction. Therefore, no significant impacts from energy consumption would occur.

The Proposed Project for Amendment No. 2 will not result in any significant impacts to local or regional energy supplies; will not impact peak or base energy standards; and will not violate existing energy standards or result in significant impacts to energy resources. The Proposed Project will result in the irretrievable and irreversible commitment of energy resources in the form of diesel fuel, gasoline, and electricity. However, these uses are part of normal operations and are not considered a substantial or a wasteful use of resources. In addition, these types of resources are anticipated to be in adequate supply into the foreseeable future. Therefore, impacts are not considered significant.

Water will be utilized for dust-control and watering activities that will occur as a result of the Proposed Project. These uses are currently in effect at the site and are required for site-mitigation responsibilities; therefore, the Proposed Project is not anticipated to incrementally increase these needs to a significant level. These are not considered to be wasteful, inefficient, or unnecessary uses of water. As sources of water for the Proposed Project are available and anticipated to be in adequate supply into the foreseeable future, impacts due to this irretrievable and irreversible commitment of resources are not considered significant.

## **SECTION 10.0 PERSONS AND ORGANIZATION CONSULTED/LIST OF PREPARERS**

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**DRAFT**  
**SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT 597**  
**SECOND AMENDMENT TO THE 2001 PRIMA DESHECHA**  
**GENERAL DEVELOPMENT PLAN**

**VOLUME 2**

Prepared for:

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**September 11, 2006**

## **APPENDIX A**

**Notice of Preparation, February 9, 2004**  
**Notice of Preparation Comment Letters**



# NOTICE OF PREPARATION

Date: February 9, 2004

Subject: Notice of Intent to Prepare Draft Supplemental Environmental Impact Report # 597

Project Title: Second Amendment to 2001 Prima Deshecha General Development Plan

Applicant: County of Orange Integrated Waste Management Department

The County of Orange has determined that a Supplemental Environmental Impact Report (SEIR) is necessary for the subject project. The County will be the Lead Agency for the subject project and will prepare the SEIR. In order for the concerns of your agency to be incorporated into the Draft SEIR, we need to know the views of your agency as to the scope and content of the environmental information relevant to your agency's statutory responsibilities in connection with the proposed project. Your agency must consider the SEIR when considering your permit or approval for the project. The project description, location, and an analysis indicating the probable environmental effects of the proposed action are contained in the attached materials.

Pursuant to Section 21080.4 of CEQA, your response must be sent not later than 30 days after receipt of this notice. Please mail your response to Robert Richmond at the following address:

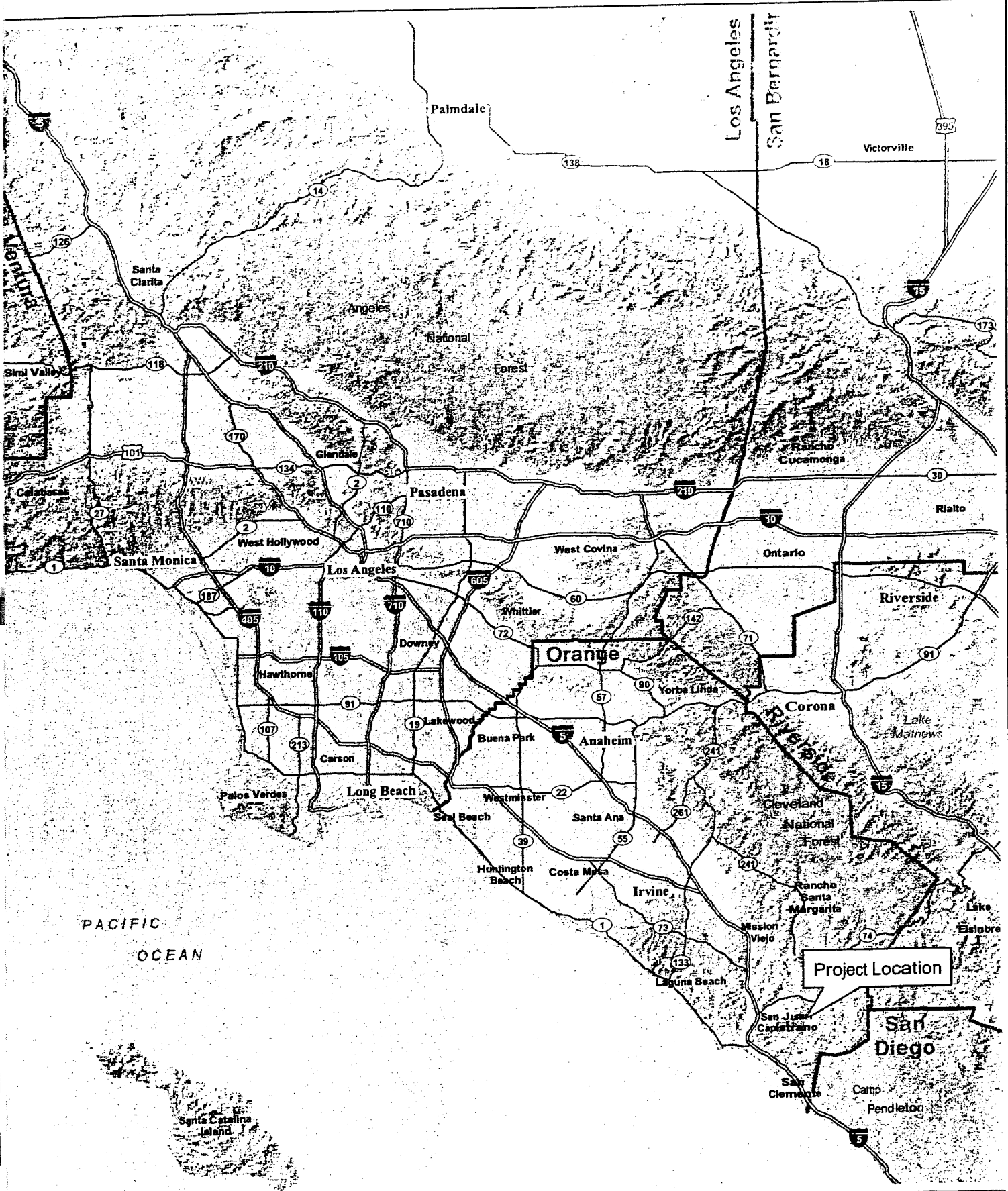
Integrated Waste Management Department  
320 N. Flower Street, Suite 400  
Santa Ana, CA 92703

Fax: (714) 834-4002

Public Information Officer: Linda Hagthrop  
Phone: (714) 834-4176

Attachment: Project Description/  
Environmental Effects

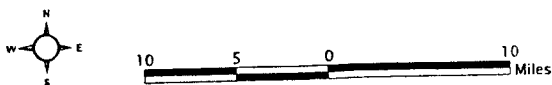
Submitted by:



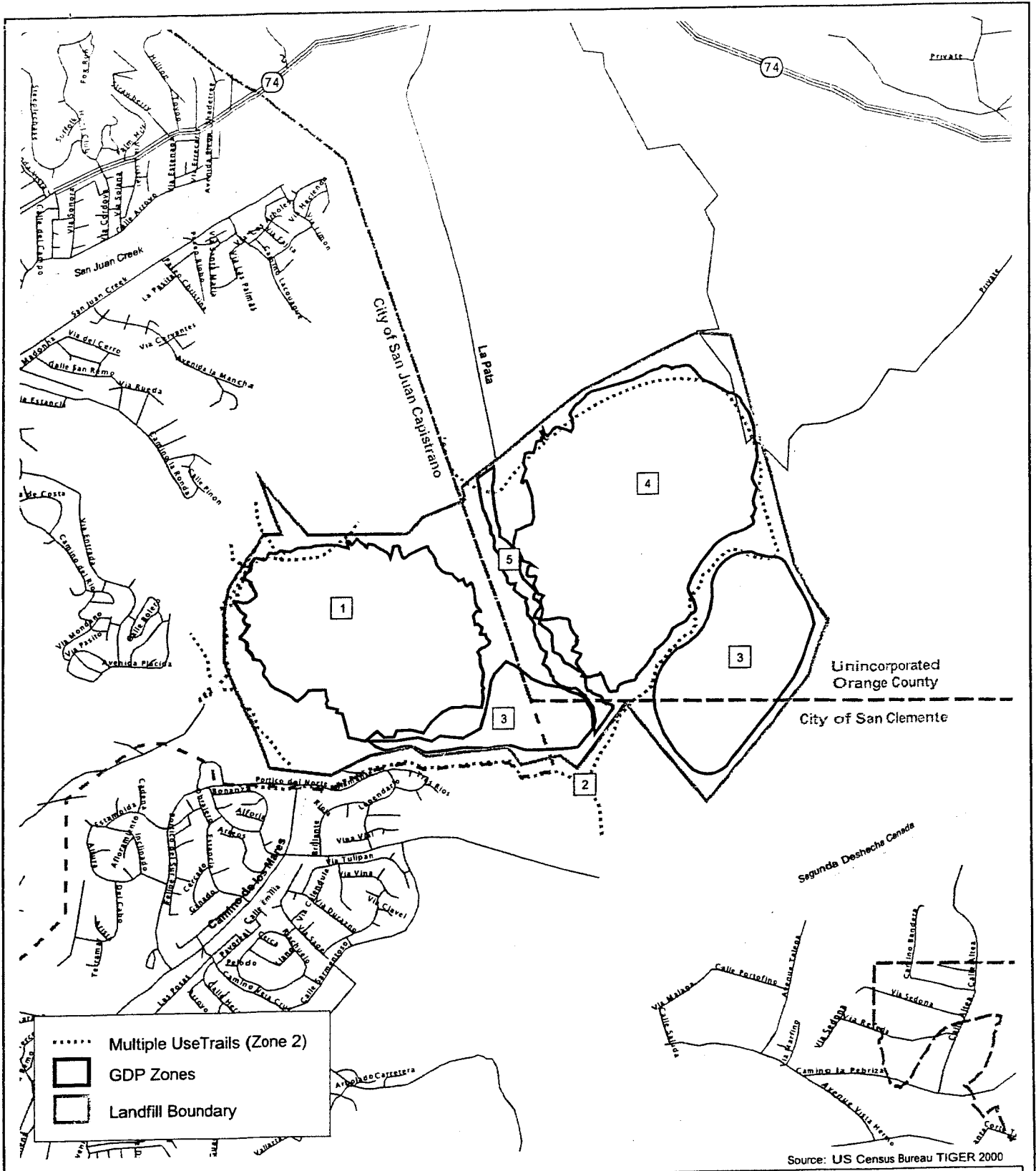
**Regional Location**

*Prima Deshecha Landfill*

**Exhibit 1**



**Borterra**  
CONSULTING

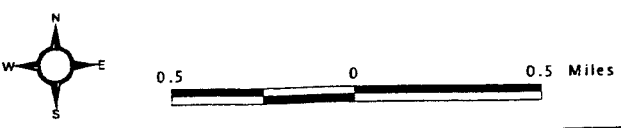


Source: US Census Bureau TIGER 2000

# Local Vicinity and General Plan Zones

## Exhibit 2

Prima Deshecha Landfill



**Bonterra**  
CONSULTING  
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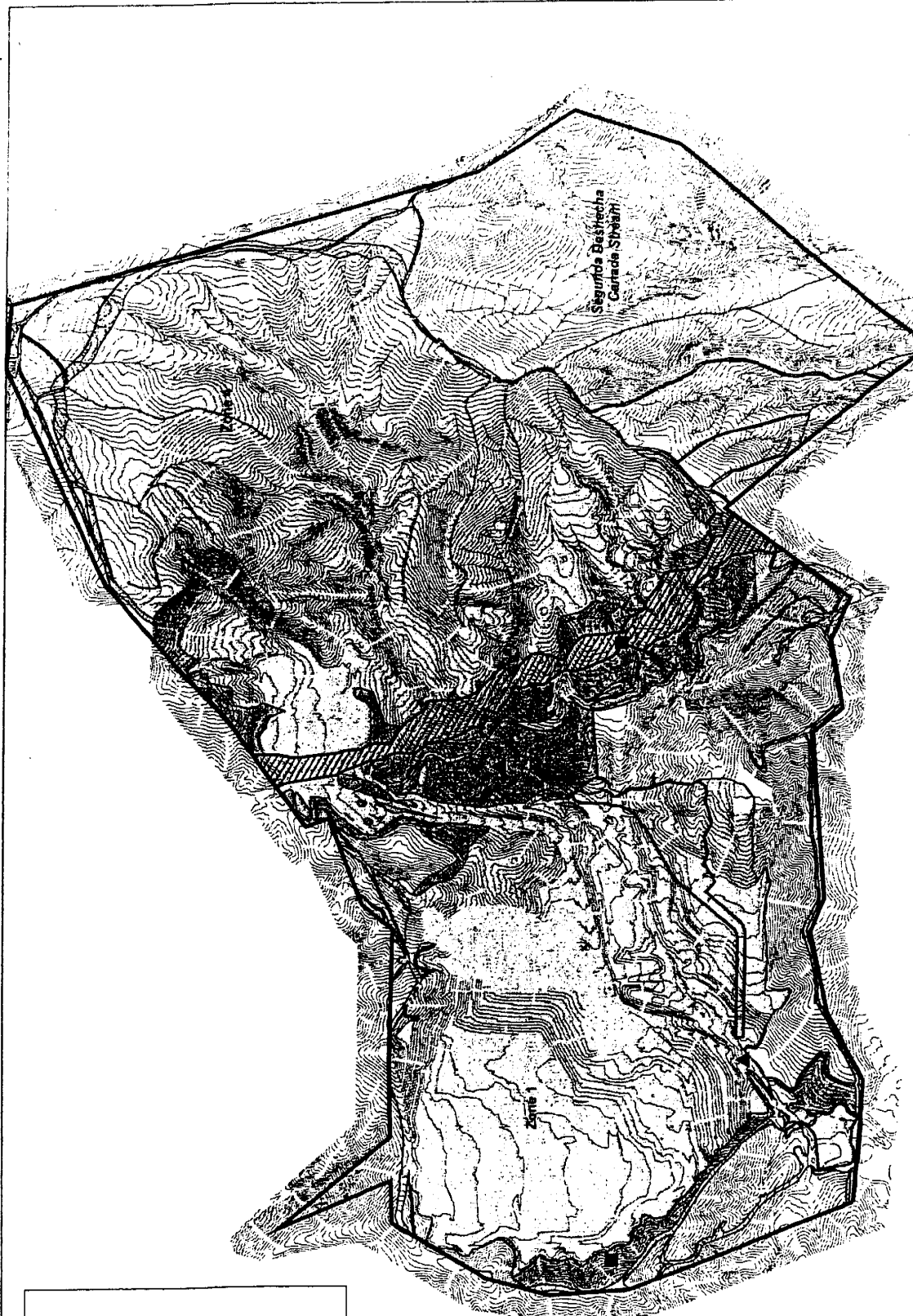


Exhibit 3

**Bentley**  
CONSULTING  
311 S. EMBURY AVE., SUITE 200  
DENVER, CO 80202

Site Location and Proposed Project Elements

Prima Deshecha Lenofill



- Streams
  - Site Topography
  - Project Boundary
  - Existing Restoration Mitigation and Landslide Remediation Areas
  - La Pata Road
  - 2001 GDP Alignment
- Project Elements**
- Potential In-line and/or Off-line Desilting Basin Locations
  - Potential Future Stockpile Area
  - 2001 GDP Impact Area and Existing Disturbed Area
  - Proposed New Limits of Disturbance

Segurba Deshecha  
Carrao Stream

# **NOTICE OF PREPARATION FOR SUPPLEMENTAL DRAFT EIR 597**

## **SECOND AMENDMENT TO THE 2001 PRIMA DESHECHA GENERAL DEVELOPMENT PLAN**

### **I. PROJECT SUMMARY**

The County of Orange Integrated Waste Management Department is proposing minor changes to the adopted 2001 Prima Deshecha General Development Plan (GDP). The changes to the GDP primarily relate to project mitigation features associated with obtaining state and federal resource agency permits and authorizations needed for implementation of the approved 2001 GDP, actions associated with landslide remediation, and some additional elements required for the success of the environmental mitigation and restoration components of the 2001 GDP.

This Notice of Preparation (NOP) is being circulated pursuant to California Public Resources Code Section 21153(a) and California Environmental Quality Act (CEQA) Guidelines Section 15082. Public agencies and the public are invited to comment on the proposed scope and content of the environmental information to be included in the Supplemental Environmental Impact Report (SEIR). The format of the NOP is as follows: Section II describes the project location, Section III discusses the background and purpose of the proposed project and previous applicable plans/environmental documentation, Section IV provides a detailed description of the proposed project. Section V presents alternatives to the Proposed Project, Section VI discusses compatibility with adopted plans and Section VI describes responsible agencies for the Proposed Project. This is followed by the Environmental Analysis Checklist, and the Environmental Analysis and Checklist Responses.

### **II. PROJECT LOCATION**

The 1,530-acre Prima Deshecha Landfill (PDL) site is located in Orange County (see Exhibit 1), and includes acreage within the jurisdictions of the cities of San Juan Capistrano (570 acres) and San Clemente (133 acres). The remaining 827 acres are within unincorporated Orange County. The 2001 GDP is the planning document to guide coordinated long-term implementation of both interim and ultimate site development uses. The GDP was approved in November 2001 and, along with its first amendment (approved in October 2002), constitute what is referred to herein as the "2001 GDP."

The PDL site lies in the hills of southeastern Orange County. Ground elevations range from 230 feet above mean sea level (amsl) at the southwest boundary of the site to a maximum elevation of 1,125 feet amsl at the northeast boundary of the site. The Prima Deshecha Cañada watercourse traverses the site from the northeast to the southwest. Two major utility easements, including a 150-foot-wide San Diego Gas and Electric (SDG&E) easement and a 200-foot-wide Southern California Edison (SCE) easement, extend through the central portion of the site and separate the western (Zone 1) and eastern (Zone 4) landfill components of the landfill property (see Exhibit 2).



Conservation Plan (NCCP/HCP) led by the U.S. Fish and Wildlife Service, the California Department of Fish and Game, and the County of Orange, and the San Juan/San Mateo Creeks Special Area Management Plan (SAMP) led by the U.S. Army Corps of Engineers and the California Department of Fish and Game. This SEIR will include a discussion of the relationship of the Prima Deshecha GDP and associated Amendment No. 2 to these regional planning efforts.

#### **IV. DESCRIPTION OF THE PROPOSED PROJECT**

**General.** The 2001 GDP divides the 1,530-acre site into five zones for planning purposes, as shown in Exhibit 2 and briefly described below, with proposed design changes, zone boundary adjustments, and landfill grading and height limits based upon subsequent discussions with regional partners and site requirements. As indicated above, the Amendment No. 2/SEIR 597 will address project-level impacts for those actions nearing preliminary or final design, project mitigation features associated with State and Federal resource agency permitting and regulatory authorizations, elements needed to address physical site stability required for continued landfill operations, and elements needed to provide for the long term success of the environmental mitigation and restoration components of the 2001 GDP. Specific new analyses contained herein will focus on those aspects of the 2001 GDP that serve as the basis for Amendment No. 2.

The project objectives approved in the 2001 GDP will continue to guide project planning at the site.

**Proposed Project Elements.** The proposed project will include the following elements covered by this SEIR (Exhibit 3):

1. The limits of potential disturbance which extend beyond the landfill footprint accurately reflect the area of potential landslide remediation needed to address unstable geologic conditions on the property (i.e., Capistrano formation soils) and implement the existing approved 2001 GDP. As evidenced by the landslide which occurred at the site in 1998, slope instability is problematic throughout the PDL site. Landslide remediation measures will be necessary for future development of the site and will be implemented to minimize potential damage to existing and enhanced environmental resources and disruption of on-going landfill operations. Although additional geotechnical field investigations and slope stability analyses will be conducted for future development of the PDL, an updated assessment of potential limits of disturbance has been completed for the site based on the available geotechnical information (Exhibit 3). These updated potential disturbance limits will be analyzed within SEIR 597. There will be no increase in landfill prism, trash capacity, or operational life of the landfill facility as a result of the Proposed Project, nor will ongoing landfill operations be adversely affected. If future geotechnical investigations and analysis result in changes to the development limit shown in SEIR 597, those changes will be addressed in a future CEQA analysis.
2. The location and preliminary design of a desilting basin proposed in the GDP between Zones 1 and 4. Design concepts proposed for this basin will include both in-stream and off-stream storage facilities. Exhibit 3 shows the general location proposed for this facility. The desilting basin location is in an area of known landslide deposits and will require landslide stabilization. This stabilization is proposed to occur within the development limits shown on Exhibit 3.
3. Long-term maintenance and preservation of the Zone 1 landslide remediation biomitigation sites and existing riparian resources to be permanently preserved

- Zone 3:** Zone 3 occurs within Segunda Deshecha and the southern portions of the PDL property. This zone is dominated by non-native grassland resources and ruderal species such as artichoke thistle and black mustard. This area of the site also contains small patches of native vegetation, including coastal sage scrub habitat used by the California gnatcatcher, and mixed chaparral. Amendment No. 2 to the 2001 GDP will include the identification of candidate restoration and enhancement opportunities within a portion of Zone 3 to be used as pre-mitigation to offset impacts associated with the ultimate build-out of the landfill.
- Zone 4:** This zone comprises a 473-acre area (including non-refuse cut acreage) of which 409 acres is to be used for refuse fill operations (Exhibit 2). The total area of 409 acres is a design change from the 2001 GDP associated with discussions with RMV, which resulted in a reduction in the Zone 4 refuse footprint (from 412 to 409 acres). The RMV agreements also identify RMV's Benefited Property, and place conditions on a No-Build Area within the Benefited Property adjacent to and east of the Prima Deshecha property.
- Zone 5:** This zone encompasses the area of disturbance for construction of La Pata Avenue. The boundaries of Zone 5 presented in Exhibit 1 were defined based upon a conceptual alignment design proposed by the County in a 1996 Interim Project Design Report. Accordingly, there are no elements of the Proposed Project that occur within Zone 5.

**TIMING OF PROPOSED PROJECT ELEMENTS:** The timing for implementation of measures for slope stabilization will be determined by additional analyses and will be presented in the SEIR. The existing desilting basin at the south portion of Zone 1 is scheduled to be enlarged and improved in 2004/2005 to support the future development of Zone 1, and the on-line detention/desilting basin between Zones 1 and 4 will be implemented in approximately 2017 (prior to initiation of refuse filling in Zone 4). Requirements for maintenance of the biomitigation areas will be analyzed and implemented once the results of additional studies are available to assist in specifying the needs of the site. Zone 4 is planned for future refuse disposal activities after Zone 1 is filled to capacity, which is estimated to take place in 2019, and would be in active operation for approximately 48 years.

## **V. ALTERNATIVES TO THE PROPOSED PROJECT**

Alternatives to the Proposed Project that will be considered are listed below in accordance with their feasibility:

### **Proposed for Detailed Alternative Analysis:**

1. *No Project.* This alternative maintains the project actions as approved in the 2001 GDP. The elements covered within the 2001 GDP include solid waste disposal, various regional park and recreational uses, and implementation of a key arterial highway and road extension included in the Master Plan of Arterial Highway (MPAH), Orange County Circulation Plan (OCCP), and Circulation Elements of the cities of San Juan Capistrano and San Clemente. The 2001 GDP incorporates three primary elements including a Landfill Plan covering build-out of Zones 1 and 4, a Circulation Plan, and a Recreation Plan.
2. *Revisions to Zone 4 Development.* Several alternatives will be evaluated that involve redesign and relocation of the Zone 4 footprint and associated limits of disturbance

- California Regional Water Quality Control Board, San Diego
- California Integrated Waste Management Board
- California Department of Fish and Game
- Caltrans
- United States Army Corps of Engineers
- United States Fish and Wildlife Service

The approval process for Second Amendment and SEIR will include a hearing at the County of Orange Planning Commission with a recommendation for approval; the project will then proceed to the Board of Supervisors. Once the SEIR for the project is certified by the Board, local and state responsible agencies will be able to rely on the environmental clearance for issuing permits.

**Exhibits:**

1. Regional Location Map
2. Local Vicinity Map
3. Site Location and Proposed Project Elements Map

ISSUES & SUPPORTING DATA SOURCES	New Significant Impact	More Severe Impacts	No Substantial Change From Previous Analysis
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>4. GEOPHYSICAL. Would the project result in or expose people to impacts involving:</b>			
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soils, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal system where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

ISSUES & SUPPORTING DATA SOURCES	New Significant Impact	More Severe Impacts	No Substantial Change From Previous Analysis
<b>6. TRANSPORTATION/CIRCULATION.</b> Would the project result in:			
a) Increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that result in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Conflict with adopted policies, plan or programs supporting alternative transportation (e.g. bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>7. AIR QUALITY.</b> Would the project:			
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

ISSUES & SUPPORTING DATA SOURCES	New Significant Impact	More Severe Impacts	No Substantial Change From Previous Analysis
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Services?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on Federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**10. AESTHETICS. Would the project:**

a) Have a substantial adverse effect a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**11. CULTURAL/SCIENTIFIC RESOURCES, Would the project:**

a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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<b>ISSUES &amp; SUPPORTING DATA SOURCES</b>	<b>New Significant Impact</b>	<b>More Severe Impacts</b>	<b>No Substantial Change From Previous Analysis</b>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk or loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Include a new or retrofitted storm water treatment control Best Management Practice (BMP), (e.g. water quality treatment basin, constructed treatment wetlands), the operation of which could result in significant environmental effects (e.g. increased vectors and odors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**15. PUBLIC SERVICES. Would the project:**

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

i) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

ISSUES & SUPPORTING DATA SOURCES	New Significant Impact	More Severe Impacts	No Substantial Change From Previous Analysis
b) Does the project have possible environmental effects, which are individually limited but cumulatively considerable? ("cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Does project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>


**DETERMINATION:**

Based upon the evidence in light of the whole record documented in the attached environmental checklist explanation, cited incorporations and attachments, I find that the proposed project:

Has been previously analyzed as part of an earlier CEQA document (which either mitigated the project or adopted impacts pursuant to findings) adopted/certified pursuant to State and County CEQA Guidelines. The proposed project is a component of the whole action analyzed in the previously adopted/certified CEQA document.

Has been previously analyzed as part of an earlier CEQA document (which either mitigated the project or adopted impacts pursuant to findings) adopted/certified pursuant to State and County CEQA Guidelines. Minor additions and/or clarifications are needed to make the previous documentation adequate to cover the project, which are documented in this addendum to the earlier CEQA document (CEQA §15164).

Has been previously analyzed as part of an earlier CEQA document (which either mitigated the project or adopted impacts pursuant to findings) adopted/certified pursuant to State and County CEQA Guidelines. However, there is important new information and/or substantial changes have occurred requiring the preparation of an additional CEQA document (ND or EIR) pursuant to CEQA Guidelines Sections 15162 through 15163.

Signature: 

Planner: Robert Richmond  
 Environmental Services  
 Fax: (714) 834-4002

Revised 2-13-03

*NOTE: All referenced and/or incorporated documents may be reviewed by appointment only, at the County of Orange Integrated Waste Management Department, 320 N. Flower Street, Santa Ana, California, unless otherwise specified. An appointment can be made by contacting the Public Information Officer at (714) 834-4176.*



primary use is being contemplated for the proposed project. Project implementation will not result in the displacement of existing market-rate or affordable housing. Therefore, no significant impacts related to housing availability are anticipated.

#### 4. GEOPHYSICAL

- a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.
  - ii) Strong seismic ground shaking?
  - iii) Seismic-related ground failure, including liquefaction?
  - iv) Landslides?
- b) Result in substantial soil erosion or the loss of topsoil?
- d) Be located on expansive soils, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?
- e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal system where sewers are not available for the disposal of wastewater?

*No Substantial Change from Previous Analysis.* The Proposed Project at Prima Deshecha Landfill remains consistent in concept with activities approved in the 2001 GDP EIR and, therefore, will have no substantial change from the previous analysis. Prior mitigation commitments to ensure the stability of all cut, fill, and lined slopes will maintain the effects of grading operations below significance, and all landfill design plans will comply with state and federal seismic stability requirements. Erosion control measures implemented to comply with landfill regulations include vegetation of cut slopes, silt control, and soil stabilizers to minimize impacts from soil erosion. No significant change is anticipated from previous analyses on land subsidence, expansive soils, erosion, or loss of topsoil.

- c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

*No Substantial Change from Previous Analysis.* The 2001 GDP and EIR 575 identified the potential for activating existing landslides during future landfill development if development areas are not stabilized. Future landslide remediation design and construction in the expanded disturbance footprint, similar to that proposed in the 2001 GDP, will serve to stabilize existing soil conditions.

#### 5. HYDROLOGY AND WATER QUALITY

- a) Violate any water quality standards or waste discharge requirements?
- f) Have a significant adverse impact on groundwater quality or otherwise substantially degrade water quality?

*No Substantial Change from Previous Analysis.* The Proposed Project will not violate water quality standards or discharge requirements or otherwise substantially degrade water quality. In addition, PDL continues to monitor water quality on-site in accordance with the San Diego Regional Water Quality Control Board (RWQCB) waste discharge requirements. PDL also operates in compliance with the National Pollutant Discharge Elimination System (NPDES) program under the Clean Water Act.

- i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?
- j) Inundation by seiche, tsunami, or mudflow?

*No Substantial Change from Previous Analysis.* As noted above, landfill operations are an existing condition and it is not anticipated that the Proposed Project will result in more severe impacts from runoff than indicated in the previous analysis. On-site detention, diversion and drainage facilities are designed and constructed to accommodate the volume of peak flows in compliance with the California Code of Regulations for landfill operations. No portion of the landfill operations is located within the 100-year floodplain, and there is no potential for flooding as a result of the failure of a levee or dam, or inundation by seiche or tsunami. Since the Proposed Project includes landslide remediation, the potential impacts of mudflow, as analyzed in EIR 575, are substantially reduced.

## **6. TRANSPORTATION/CIRCULATION**

- a) Increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?
- b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?
- c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that result in substantial safety risks?
- d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
- e) Result in inadequate emergency access?
- f) Result in inadequate parking capacity?
- g) Conflict with adopted policies, plan or programs supporting alternative transportation (e.g. bus turnouts, bicycle racks)?

*No Substantial Change from Previous Analysis.* Project implementation will not significantly affect roadway operations and/or existing levels of service as the landfill is currently in operation and supplemental project features as proposed herein will not alter traffic volumes or patterns onto or off the site, or in the vicinity.

The Proposed Project is being coordinated with local entities concerned with regional transportation systems. The 2001 GDP was developed with a view toward incorporation of an extension of La Pata Avenue through the site, and allowance has also been made for the extension of Camino de los Mares through the southwestern corner of the site. The Proposed Project maintains the approach of the 2001 GDP regarding these elements. The IWMD is committed to continued close coordination with the cities of San Clemente and San Juan Capistrano on regional transportation needs. In addition, transportation features needed to support landfill operations have been provided for on-site, and there will be no additional impact to transportation corridors or Level of Service impacts off the PDL property due to the supplemental project features proposed herein.

The Proposed Project does not conflict with adopted policies supporting alternative modes of transportation or have the potential to impact parking capacity. The landfill is served by vehicles hauling municipal solid waste and sewage sludge (i.e., biosolids), including passenger cars, single unit trucks, and combination vehicles. No change in this condition is proposed and no impacts are anticipated. The Proposed Project will have no effect on air traffic patterns.

be developed that includes salvage of seed for use within a designated restoration area within the site as determined by a restoration ecologist in consultation with the CDFG.

The proposed action may also involve impacts to at least four previously detected LBV territories requiring consultation with and subsequent authorizations from the USFWS and CDFG prior to removal of any habitat supporting this species including the development of a mitigation program that may occur both on- and off-site. Sensitive biological resources on-site that could be impacted by noise generated from short-term construction activities, such as the Least Bell's Vireo (LBV) and the California gnatcatcher (gnatcatcher), will be accommodated through the incorporation of mitigation measures such as installation of berms or phasing and/or management of construction activities, as needed, to reduce the impacts to less than significant.

The 2003 gnatcatcher surveys indicate that this species was detected in the Zone 3 and in an undeveloped area northwest of Zone 1. LBV surveys indicate that four pairs and one solitary male were detected in 2003, within Prima Deshecha Cañada Channel up and downstream of the newly realigned Prima Deshecha Cañada Channel. The proposed action may impact one known location of California gnatcatcher between Zones 1 and 4. However, a mitigation program involving the creation of coastal sage scrub habitat will be developed in consultation with the USFWS and CDFG and implemented prior to the initiation of landfilling operations within Zone 4.

- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Services?
- d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?
- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
- f) Conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The biological resources database for the entire Prima Deshecha Landfill was updated in 2002-2003 in anticipation of IWMD's participation in the Southern NCCP program and to provide the necessary biological and jurisdictional resource data to obtain state and federal regulatory permits and agreement authorizations. This effort included revisions to the vegetation database to reflect proposed limits of disturbance, and verification of the extent of coastal sage scrub, chaparral, riparian and native grassland resources; special status plant species surveys; and California gnatcatcher and LBV surveys. These efforts also included the delineation of state and federal jurisdiction wetlands and waters of the U.S. and the identification of potential habitat restoration. Based on these efforts, the site can be characterized as follows:

Prima is a 1,530-acre facility with 408 acres of disturbed area primarily in Zone 1, the site access roads, weigh station, and administration buildings; 804.4 acres of non-native annual grassland dominated by ruderal species, such as artichoke thistle and black mustard covering most of the site; 191.0 acres of coastal sage scrub distributed in moderate to small patches in the southern and eastern portions of the site in Zones 3 and 4; 63.1 acres of chaparral in the northern portion of Zone 4 and in Segunda Deshecha; 20.9 acres of riparian primarily within Prima Deshecha Cañada drainage and the main side drainage between Zones 1 and 4; 14.3 acres of southern needlegrass grassland near the eastern boundaries of Zone 4; and 27.6 acres of ruderal vegetation in small patches throughout the site. The proposed action to stabilize existing landslide conditions and prepare areas of the site for landfilling operations and the installation of associated facilities will involve the removal

residents of the City of San Clemente. IWMD and the City of San Clemente have agreed on the elements of a Viewshed Protection Plan (VPP), to be prepared by IWMD prior to development of Zone 4. The Zone 4 VPP will provide assurance that landfill operations are maintained at an elevation no greater than the natural ground surface elevation of the surrounding topography, keeping the visibility of landfill operations to a minimum from adjacent housing developments. In addition, the VPP will provide for a landscaping plan and contour grading plan elements that are to be accepted by the local municipalities.

The Proposed Project will maintain these commitments in the design and evaluation of all project features. Accordingly, no impact is anticipated to aesthetics from the Proposed Project.

## **11. CULTURAL/SCIENTIFIC RESOURCES**

- a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?
- b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?
- c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

*No Substantial Change from Previous Analysis.* The proposed project elements are located in areas previously studied for the 2001 GDP and EIR 575. Although enlargement of the disturbance footprint due to remediation activities is expected to result in significant earth movement, cultural/scientific resources consultants under contract with the County will continue to monitor operations at the landfill to ensure that identified resources are not adversely impacted.

## **12. RECREATION**

- a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?
- b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

*No Substantial Change from Previous Analysis.* An expressed purpose of the 2001 GDP is to create both interim and long-term recreational opportunities on the project site. These opportunities, as listed in the 2001 GDP, will not be subject to alteration or effect from the Proposed Project. In addition, implementation of the Proposed Project will not result in an increased demand for local or regional parks or other recreational facilities. Several recreational facilities in the form of trails (hiking, riding, biking) are located in the vicinity and around the perimeter of the project site. Access to these trails will be maintained through the period of project implementation, with temporary detours as needed based upon localized construction of landslide remediation measures. No significant impacts are anticipated as a result of project implementation.

## **13. MINERAL RESOURCES**

- a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?
- b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

## 15. PUBLIC SERVICES

- a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

*No Substantial Change from Previous Analysis.* The landfill use is an existing condition and implementation of the Proposed Project would not result in the need for increased fire or police services. Project elements being proposed will not create any impact on schools in the area as no new students will be generated by either the implementation of landslide stabilization measures or other supplemental on-site project elements.

The project itself will not create the need for new roads. The extension of La Pata Avenue accommodated by the GDP is a regional transportation element and is not part of the Proposed Project.

The project is not expected to result in any impacts on public facilities such as libraries, city halls, post offices, or hospitals. No regional facilities such as other regional parks are expected to be impacted.

## 16. UTILITIES AND SERVICE SYSTEMS

- a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?
- c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which would cause significant environmental effects?
- e) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?
- f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?
- g) Comply with federal, state and local statutes and regulations related to solid waste?

*No Substantial Change from Previous Analysis.* As the Proposed Project remains consistent with existing landfill activities, wastewater treatment requirements and determinations, storm drain facilities and landfill service will not be affected beyond that which has already been identified in prior documents. All landfill activities comply with federal, state and local statutes and regulations related to solid waste.

- b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental impacts?
- d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

*More Severe Impacts.* The Proposed Project may result in an increased need for potable or reclaimed water on the site for long-term biomitigation maintenance. Currently, it has not been determined whether additional water sources are required for this purpose, or how much water will be necessary to maintain the biomitigation areas. A thorough evaluation of the alternatives will be conducted with a view toward the minimization of impacts to utilities.

**ORANGE COUNTY FIRE AUTHORITY**

P. O. Box 86, Orange, CA 92856-9086 • 145 South Water St., Orange, CA 92866-2123

Chip Prather, Fire Chief

(714) 744-0400

[www.ocfa.org](http://www.ocfa.org)

February 18, 2004

Integrated Waste Management  
Robert Richmond  
320 N Flower St #400  
Santa Ana, CA 92703

**Ref: Second Ammendment to 2001 Prima Deshecha GDP**

Dear Mr. Richmond:

The Orange County Fire Authority (OCFA) serves the project site, including the city and unincorporated county areas. We have no comment on the amendment. Please ensure that the OCFA Hazardous Materials Services Section is provided updated information for the Emergency Business Plan. While no additional public safety resources are needed as a result of this project, all standard conditions and guidelines will be applied to the project during the normal review process.

Please contact me if you have any additional needs: [michelehernandez@ocfa.org](mailto:michelehernandez@ocfa.org) or 714-744-0420.

Sincerely,

  
Michele Hernandez

Management Analyst  
Strategic Services Section



# South Coast Air Quality Management District



21865 E. Copley Drive, Diamond Bar, CA 91765-4182  
(909) 396-2000 • [www.aqmd.gov](http://www.aqmd.gov)

February 19, 2004

Mr. Robert Richmond  
Integrated Waste Management Dept.  
320 N. Flower Street, Suite 400  
Santa Ana, CA 92703

Dear Mr. Richmond:

**Notice of Preparation of a Draft Supplemental Environmental Impact  
Report for Second Amendment to 2001 Prima Deshecha General  
Development Plan**

The South Coast Air Quality Management District (SCAQMD) appreciates the opportunity to comment on the above-mentioned document. The SCAQMD's comments are recommendations regarding the analysis of potential air quality impacts from the proposed project that should be included in the Draft Environmental Impact Report (EIR).

**Air Quality Analysis**

The SCAQMD adopted its California Environmental Quality Act (CEQA) Air Quality Handbook in 1993 to assist other public agencies with the preparation of air quality analyses. The SCAQMD recommends that the Lead Agency use this Handbook as guidance when preparing its air quality analysis. Copies of the Handbook are available from the SCAQMD's Subscription Services Department by calling (909) 396-3720. Alternatively, lead agency may wish to consider using the California Air Resources Board (CARB) approved URBEMIS 2002 Model. This model is available on the CARB Website at: [www.arb.ca.gov](http://www.arb.ca.gov).

The Lead Agency should identify any potential adverse air quality impacts that could occur from all phases of the project and all pollutant sources related to the project. Air quality impacts from both construction and operations should be calculated. Construction-related air quality impacts typically include, but are not limited to, emissions from the use of heavy-duty equipment from grading, earth-loading/unloading, paving, architectural coatings, off-road mobile sources (e.g., heavy-duty construction equipment) and on-road mobile sources (e.g., construction worker vehicle trips, material transport trips). Operation-related air quality impacts may include, but are not limited to, emissions from stationary sources (e.g., boilers), area sources (e.g., solvents and coatings), and vehicular trips (e.g., on- and off-road tailpipe emissions and entrained dust). Air quality impacts from indirect sources, that is, sources that generate or attract vehicular trips should be included in the analysis. An analysis of all toxic air contaminant impacts due to the

Mr. Robert Richmond

-2-

February 19, 2003

decommissioning or use of equipment potentially generating such air pollutants should also be included.

### Mitigation Measures

In the event that the project generates significant adverse air quality impacts, CEQA requires that all feasible mitigation measures be utilized during project construction and operation to minimize or eliminate significant adverse air quality impacts. To assist the Lead Agency with identifying possible mitigation measures for the project, please refer to Chapter 11 of the SCAQMD CEQA Air Quality Handbook for sample air quality mitigation measures. Additionally, SCAQMD's Rule 403 – Fugitive Dust, and the Implementation Handbook contain numerous measures for controlling construction-related emissions that should be considered for use as CEQA mitigation if not otherwise required. Pursuant to state CEQA Guidelines §15126.4 (a)(1)(D), any impacts resulting from mitigation measures must also be discussed.

### Data Sources

SCAQMD rules and relevant air quality reports and data are available by calling the SCAQMD's Public Information Center at (909) 396-2039. Much of the information available through the Public Information Center is also available via the SCAQMD's World Wide Web Homepage (<http://www.aqmd.gov>).

The SCAQMD is willing to work with the Lead Agency to ensure that project-related emissions are accurately identified, categorized, and evaluated. Please call Charles Blankson, Ph.D., Air Quality Specialist, CEQA Section, at (909) 396-3304 if you have any questions regarding this letter.

Sincerely,



Steve Smith, Ph.D.  
Program Supervisor, CEQA Section  
Planning, Rule Development and Area Sources

SS:CB:li

ORC040211-02LI  
Control Number





*Excellence  
Integrity  
Service*

**COUNTY OF ORANGE  
HEALTH CARE AGENCY**

**REGULATORY HEALTH SERVICES  
ENVIRONMENTAL HEALTH**

**JULIETTE A. POULSON, RN, MN  
DIRECTOR**

**MIKE SPURGEON  
DEPUTY AGENCY DIRECTOR  
REGULATORY HEALTH SERVICES**

**STEVEN K. WONG, REHS, MPH  
DIRECTOR  
ENVIRONMENTAL HEALTH**

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E-MAIL: [environhealth@hca.co.orange.ca.us](mailto:environhealth@hca.co.orange.ca.us)

March 4, 2004

Robert Richmond  
Environmental Services  
County of Orange IWMD  
320 North Flower Street, Suite 400  
Santa Ana, CA 92703

**Subject: Notice of Preparation of Draft Supplemental Environmental Impact Report # 597  
Prima Deshecha Landfill (SWIS No. 30-AB 0019), San Juan Capistrano**

Dear Mr. Richmond:

On February 10, 2004, the Solid Waste Local Enforcement Agency (LEA) received a Notice of Preparation (NOP) for Draft SEIR 597. This CEQA document will address project elements needed for landslide stabilization and maintenance of environmental mitigation and restoration areas at Prima Deshecha Landfill. Orange County Integrated Waste Management Department (OCIWMD) prepared this NOP.

1. Section IV DESCRIPTION OF THE PROPOSED PROJECT, Proposed Project Elements:  
*"The limits of potential disturbance which extend beyond the landfill footprint accurately reflect the area of potential landslide...."*. For clarity purposes, the LEA suggests replacing "landfill footprint" with "waste footprint" in the draft SEIR since the landfill encompasses waste fill areas as well as native buffer zones.
2. Section IV - DESCRIPTION OF THE PROPOSED PROJECT, Zone Descriptions: Not clear if any elements of the proposed project to be analyzed by SEIR 507 are within Zone 4. Please clarify.

If you have any questions, please contact me at (714) 667-2026.

Sincerely,

Ossama "Samir" Abu-Shaban, PE, DEE  
Senior Civil Engineer  
Solid Waste Local Enforcement Agency  
Environmental Health

cc: Raymond Scamans, CIWMB

San Joaquin Hills  
Corridor Agency

Chairwoman:  
Linda Lindholm  
Laguna Niguel



**TRANSPORTATION CORRIDOR AGENCIES**

Foothill/Eastern  
Corridor Agency

Chairman:  
Peter Herzog  
Lake Forest

March 8, 2004

Integrated Waste Management Department  
320 N. Flower Street, Suite 400  
Santa Ana, CA 92703

**Subject: Notice of Intent to Prepare Draft Supplemental Environmental Impact  
Report #597**

To Whom It May Concern:

Thank you for forwarding the Notice of Intent for the Draft Supplemental Environmental Impact Report No. 597 for the Prima Deshecha Landfill. The Transportation Corridor Agencies (TCA) has reviewed the above-subject notice and would like to offer the following comments for your review:

- The TCA is in the process of evaluating several alternatives for the extension of the Foothill Transportation Corridor – South (FTC-S). Some of the alternatives under consideration have the potential to impact landfill operations. The draft environmental document for the FTC-S Project will be released soon and available for review. The TCA requests that the County continue to coordinate with us on this project.
- The TCA would like to review any future environmental documents and/or technical appendices related to this Notice of Intent.

Should you have any questions regarding this letter, please contact me at (949) 754-3483.

Sincerely,

Macie Cleary-Milan  
Deputy Director  
Environmental Planning

cc: Valarie McFall

Walter D. Kreuzen, Chief Executive Officer

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Terry Tamminen  
Secretary for  
Environmental  
Protection

## California Integrated Waste Management Board

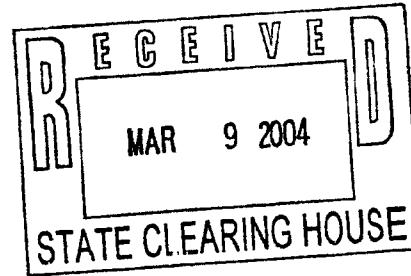
Linda Moulton-Patterson, Chair  
1001 I Street • Sacramento, California 95814 • (916) 341-6000  
Mailing Address: P. O. Box 4025, Sacramento, CA 95812-4025  
[www.ciwmb.ca.gov](http://www.ciwmb.ca.gov)



Arnold Schwarzenegger  
Governor

March 9, 2004

Mr. Robert Richmond  
Integrated Waste Management Department  
Environmental Services  
320 North Flower Street  
Santa Ana, CA 92703-5000



**Subject: SCH No. 1999041035:** Notice of Preparation for a Draft Supplemental Environmental Impact Report for the Second Amendment to the 2001 Prima Deshecha General Development Plan for Prima Deshecha Landfill - Solid Waste Facilities Permit No. 30-AB-0019, San Juan Capistrano, Orange County

Dear Mr. Richmond:


Thank you for allowing the California Integrated Waste Management Board's (Board) staff to provide comments for this proposed project and for your agency's consideration of these comments as part of the California Environmental Quality Act (CEQA) process.

Board staff has reviewed the environmental document cited above and offer the following project description, analysis, and our recommendations for the proposed project based on Board staff's understanding of the project. If Board staff's project description varies substantially from the project as understood by the Lead Agency, Board staff requests notification of any significant differences prior to preparation of the Draft Supplemental Environmental Impact Report.

### PROJECT DESCRIPTION

The County of Orange Integrated Waste Management Department, acting as Lead Agency, has prepared and circulated a Notice of Preparation of a Draft Supplemental Environmental Impact Report in order to comply with the CEQA and to provide information to, and solicit consultation with, Responsible Agencies in the approval of proposed changes in design and operations at the Prima Deshecha Landfill. The proposed project may require revision of SWFP No.30-AB-0019, as well as other federal, state and local approvals.

California Environmental Protection Agency

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March 9, 2004

MAR 15 2004

The Prima Deshecha Landfill is located in Orange County and in the geographies within the jurisdictions of the cities of San Juan Capistrano and San Clemente. The landfill has been operating since the mid-1970s.

The Proposed Project will address project elements needed for landslide stabilization of the site, project features required for maintenance of environmental mitigation measures and restoration areas, both of which constitute incremental additions or changes to the approved project as defined in the 2001 General Development Plan. The Proposed Project description for Amendment No. 2 will not increase the landfill prism, trash capacity or the operating life of the facility and will not adversely affect ongoing landfill operation.

### **BOARD COMMENTS AND QUESTIONS**

Since the Board may be one of the Responsible Agencies involved in the discretionary approval process for the SWFP revision, Board staff will perform an environmental analysis for this project, using the environmental document developed by the Lead Agency as required in CEQA Guidelines, Title 14, California Code of Regulations (14 CCR), Section 15096.

To help the Lead Agency prepare a CEQA document that will be as complete as possible, and to identify environmental impacts for consideration in the Draft Supplemental Environmental Impact Report for the purposes of the Board's environmental evaluation, Board staff offer the following comments and questions:

#### **Supplemental Environmental Impact Report**

If the proposed project remains as it is described in this Notice of Preparation as circulated through the Office of Planning and Research, State Clearinghouse, Board staff has no substantive comments at this time.

If the proposed project changes so as to change the operation of the landfill by changing such things as the landfill prism, trash capacity, the operating life of the facility, disposal footprint, peak tonnage, peak vehicle count, landfill operation, elevations, etc. Board staff would at that point have comments on the Draft Supplemental Environmental Impact Report.

### **BOARD CEQA REVIEW**

As a Responsible Agency under CEQA, Board staff's comments on environmental documents are intended to assist the Lead Agency in developing an environmental document that will be as complete and adequate as possible for use by the Lead Agency and all Responsible Agencies.

Board staff's comments are intended to help decision-makers 1) identify potential impacts from proposed projects; 2) determine whether any such impacts are significant; and 3) ascertain whether significant impacts can be mitigated to a level of insignificance in compliance with the CEQA statutes and guidelines.

When performing the initial review of a CEQA document such as a Draft Environmental Impact Report or Negative Declaration during the circulation process, the first analysis Board staff must make is to evaluate whether or not the proposed CEQA document clearly describes all phases of the project and assesses all potential primary and secondary impacts to the environment and/or public health and safety that could occur if the proposed project is implemented.

When evaluating the adequacy of an environmental document for purposes of SWFP concurrence, Board staff must compare the design and operation of the facility as described in the proposed SWFP with the project as described and evaluated in the environmental document cited for CEQA compliance in the proposed SWFP.

In order for Board staff to evaluate and recommend whether or not the environmental document is adequate for use in the Board's permitting process, the proposed project must be described in sufficient detail for the Environmental Review Section staff to understand and evaluate the proposed project, the potential environmental impacts, proposed mitigation measures, and findings as presented by the Lead Agency.

When the proposed SWFP is received by the Board along with the citation of evidence of CEQA compliance by the LEA, the second analysis performed by the Board staff is to evaluate whether or not the CEQA evaluation in the cited environmental document supports the requested specifications, revisions, and/or conditions of the proposed SWFP. For instance, does the environmental document clearly describe and assess the potential air quality, water quality, geological impacts, traffic, noise, dust, vector and other health and safety impacts that can be associated with the proposed solid waste facility or changes in design and/or operation? When this type of information is included and addressed in the environmental document, the SWFP concurrence process is greatly facilitated.

After comparison of the cited CEQA document with the proposed SWFP, Board staff makes a recommendation to the Board regarding the adequacy of the CEQA document for the Board's SWFP concurrence purposes. The Board members make the final determination of the adequacy of the CEQA document for SWFP concurrence as well as whether or not to concur in issuance of the SWFP.

### **Summary**

Board staff thanks the Lead Agency for the opportunity to review and comment on the Notice of Preparation and hopes that this comment letter will be useful to the Lead Agency in carrying out their responsibilities in the CEQA process.

Board staff requests copies of any subsequent environmental documents including, the Draft Supplemental Environmental Impact Report, the Final Environmental Impact Report, the RFI, any Statements of Overriding Considerations, copies of public notices and any Notices of Determination for this project. Refer to 14 CCR, Section 15094(c) that states: "If the project requires a discretionary approval from a state agency, the notice of determination shall also file with OPR [Office of Planning and Research, State Clearinghouse]."

Board staff requests that the Lead Agency provide a copy of its responses to comments at least ten days prior to certifying the Final Environmental Impact Report. Refer to PRC Section 21092.5(a).

If the document is certified during a public hearing, the Board staff request ten days advance notice of this hearing. If the document is certified without a public hearing, Board staff requests ten days advance notification of the date of the certification and project approval by the decision-making body.

If you have any questions regarding these comments, please contact me at 916.341.6728 or email at [rseamans@ciwmb.ca.gov](mailto:rseamans@ciwmb.ca.gov). Additional information regarding Environmental Impact Reports for landfills can be found on the Board's website at <http://www.ciwmb.ca.gov/LEACentral/CEQA/disposal.htm>.

Sincerely,



Raymond M. Seamans  
Permitting and Inspection Branch, Region 4  
Environmental Review  
Permitting and Enforcement Division  
**California Integrated Waste Management Board**

cc: Tadese Gebre-Hawariat  
Permitting and Inspection Branch, Region 4  
Permitting and Enforcement Division  
**California Integrated Waste Management Board**

Suzanne Hambleton, Supervisor  
Permitting and Inspection Branch, Region 4  
Permitting and Enforcement Division  
**California Integrated Waste Management Board**

Patty Henshaw  
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County of Orange  
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2009 East Edinger Avenue  
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**DEPARTMENT OF FISH AND GAME**

<http://www.dfg.ca.gov>  
4949 Viewridge Avenue  
San Diego, CA 92123  
(858) 467-4201



March 12, 2004

Robert Richmond  
County of Orange  
Integrated Waste Management Department  
320 North Flower Street, Suite 400  
Santa Ana, California 92703

**Comments on the Notice of Preparation of a Draft Supplemental Environmental Impact Report for the Second Amendment to the 2001 Prima Deshecha General Development Plan Project in the County of Orange (SCH# 1999041035)**

Dear Mr. Richmond:

The Department of Fish and Game (Department) appreciates this opportunity to comment on the above-referenced project, relative to impacts to biological resources. The Department is a Trustee Agency and a Responsible Agency pursuant to the California Environmental Quality Act (CEQA), Sections 15386 and 15381 respectively. As a Trustee Agency, the Department must be consulted by the Lead Agency during the preparation and public review for project-specific CEQA documents. As a Trustee Agency, the Department reviews proposed projects, comments on their impacts, and determines whether the mitigation measures or alternatives proposed are feasible and appropriate. Pursuant to Section 1802 of the Fish and Game Code, the Department has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants and habitat necessary for biologically sustainable populations of those species. The Department also administers the Natural Community Conservation Planning Program (NCCP).

**Project Description**

The project proposes a second amendment to the adopted 2001 Prima Deshecha General Development Plan (GDP) to accommodate mitigation features associated with landslide and subsequent remediation activities that were included in the first amendment. The active 1,530-acre Prima Deshecha Landfill is located in southern Orange County within the planning boundaries of Orange County's Southern Subregion NCCP. The Draft Supplemental Environmental Impact Report (DSEIR) will provide project-level analysis for actions described and adopted at the programmatic level by the 2001 GDP. According to the Notice of Preparation (NOP), the proposed project will not increase the volume or operating life of the landfill or affect ongoing activities.

Project elements proposed include updated geotechnical investigations and analyses; location and preliminary design of a desilting basin; hydrologic design and analysis to ensure existing riparian mitigation sites associated with Zone 1 landslide remediation work can be

maintained; and development and implementation of a pre-mitigation plan to address impacts associated with the eventual build-out of Zone 4.

### **Specific Comments**

Portions of the landfill will eventually be restored to native habitats and will provide connectivity for wildlife as part of the Southern Subregion NCCP Reserve system. The project should endeavor to minimize impacts to existing biological resources as well as include measures to ensure that implementation of the proposed work will not preclude connectivity for wildlife after landfill closure and during the operational period.

Although construction of La Pata Avenue is not included as part of the project, the DSEIR should include analysis of alternative alignments of the road and potential effects on wildlife movement and design of preserved portions of the landfill. Specifically, the project should ensure that alternative locations of La Pata Avenue are not precluded and that subsequent construction and operation of the road does not adversely affect the preparation and implementation of Orange County's Southern Subregion NCCP.

We appreciate and encourage the County's efforts to implement restoration plans prior to project impacts. These efforts will minimize temporal loss of habitat and possibly avoid them altogether. We look forward to working with County's staff and consultants to develop a restoration plan.

### **General Comments**

To enable the Department to adequately review and comment on the proposed project from the standpoint of the protection of plants, fish and wildlife, we recommend the following information be included in the DEIR:

1. A complete discussion of the purpose and need for, and description of, the proposed project, including all staging areas and access routes to the construction and staging areas.
2. A complete list and assessment of the flora and fauna within and next to the project area, with particular emphasis upon identifying State or federally listed rare, threatened, endangered, or proposed candidate species, California Species of Special Concern and/or State Protected or Fully Protected species, and any locally unique species and sensitive habitats. Specifically, the DEIR should include:
  - a. A thorough assessment of Rare Natural Communities on site and within the area of impact, following the Department's Guidelines for Assessing Impacts to Rare Plants and Rare Natural Communities (Attachment 1; revised May 8, 2000).
  - b. A current inventory of the biological resources associated with each habitat type on site and within the area of impact. The Department's California Natural Diversity Data



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Base in Sacramento should be contacted at (916) 327-5960 to obtain current information on any previously reported sensitive species and habitat, including Significant Natural Areas identified under Chapter 12 of the Fish and Game Code.

- c. An inventory of rare, threatened, and endangered species on site and within the area of impact. Species to be addressed should include all those which meet the CEQA definition (see CEQA Guidelines, Section 15380).
  - d. Discussions regarding seasonal variations in use by sensitive species of the project site as well as the area of impact on those species, using acceptable species-specific survey procedures as determined through consultation with the Department. Focused species-specific surveys, conducted in conformance with established protocols at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable, are required.
3. A thorough discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources. All facets of the project should be included in this assessment. Specifically, the DEIR should provide:
- a. Specific acreage and descriptions of the types of wetlands, coastal sage scrub, and other sensitive habitats that will or may be affected by the proposed project or project alternatives. Maps and tables should be used to summarize such information.
  - b. Discussions regarding the regional setting, pursuant to the CEQA Guidelines, Section 15125(a), with special emphasis on resources that are rare or unique to the region that would be affected by the project. This discussion is critical to an assessment of environmental impacts.
  - c. Detailed discussions, including both qualitative and quantitative analyses, of the potentially affected listed and sensitive species (fish, wildlife, plants), and their habitats on the proposed project site, area of impact, and alternative sites, including information pertaining to their local status and distribution. The anticipated or real impacts of the project on these species and habitats should be fully addressed.
  - d. Discussions regarding indirect project impacts on biological resources, including resources in nearby public lands, open space, adjacent natural habitats, riparian ecosystems, and any designated and/or proposed NCCP reserve lands. Impacts on, and maintenance of, wildlife corridor/movement areas, including access to undisturbed habitats in adjacent areas, should be fully evaluated and provided. A discussion of potential adverse impacts from lighting, noise, human activity, exotic species, and drainage. The latter subject should address: project-related changes on drainage patterns on and downstream of the project site; the volume, velocity, and frequency of existing

and post-project surface flows; polluted runoff; soil erosion and/or sedimentation in streams and water bodies; and post-project fate of runoff from the project site.

- e. Discussions regarding possible conflicts resulting from wildlife-human interactions at the interface between the development project and natural habitats. The zoning of areas for development projects or other uses that are nearby or adjacent to natural areas may inadvertently contribute to wildlife-human interactions.
  - f. An analysis of cumulative effects, as described under CEQA Guidelines, Section 15130. General and specific plans, and past, present, and anticipated future projects, should be analyzed concerning their impacts on similar plant communities and wildlife habitats.
  - g. If applicable, an analysis of the effect that the project may have on completion and implementation of regional and/or subregional conservation programs. Under Section 2800 through Section 2840 of the Fish and Game Code, the Department, through the NCCP program, is coordinating with local jurisdictions, landowners, and the Federal Government to preserve local and regional biological diversity. Coastal sage scrub is the first natural community to be planned for under the NCCP program. The Department recommends that the Lead Agency ensure that the development of this and other proposed projects do not preclude long-term preserve planning options and that projects conform with other requirements of the NCCP program. Jurisdictions participating in the NCCP program should assess specific projects for consistency with the NCCP Conservation Guidelines. Additionally, the jurisdictions should quantify and qualify: 1) the amount of coastal sage scrub within their boundaries; 2) the acreage of coastal sage scrub habitat removed by individual projects; and 3) any acreage set aside for mitigation. This information should be kept in an updated ledger system.
4. Mitigation measures for adverse project-related impacts on sensitive plants, animals, and habitats. Measures to fully avoid and otherwise protect Rare Natural Communities (Attachment 2) from project-related impacts. The Department considers these communities as threatened habitats having both regional and local significance.

Mitigation measures should emphasize avoidance, and where avoidance is infeasible, reduction of project impacts. For unavoidable impacts, off-site mitigation through acquisition and preservation in perpetuity of the affected habitats should be addressed. The Department generally does not support the use of relocation, salvage, and/or transplantation as mitigation for impacts on rare, threatened, or endangered species. Studies have shown that these efforts are experimental in nature and largely unsuccessful.

This discussion should include measures to perpetually protect the targeted habitat values where preservation and/or restoration is proposed. The objective should be to offset the project-induced qualitative and quantitative losses of wildlife habitat values. Issues that should be addressed include restrictions on access, proposed land dedications, monitoring

Mr. Robert Richmond

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and management programs, control of illegal dumping, water pollution, increased human intrusion, etc. Plans for restoration and revegetation should be prepared by persons with expertise in southern California ecosystems and native plant revegetation techniques. Each plan should include, at a minimum: (a) the location of the mitigation site; (b) the plant species to be used; (c) a schematic depicting the mitigation area; (d) time of year that planting will occur; (e) a description of the irrigation methodology; (f) measures to control exotic vegetation on site; (g) success criteria; (h) a detailed monitoring program; (i) contingency measures should the success criteria not be met; and (j) identification of the entity(ies) that will guarantee achieving the success criteria and provide for conservation of the mitigation site in perpetuity.

Mitigation measures to alleviate indirect project impacts on biological resources must be included, including measures to minimize changes in the hydrologic regimes on site, and means to convey runoff without damaging biological resources, including the morphology of on-site and downstream habitats.

5. A California Endangered Species Act (CESA) Permit must be obtained, if the project has the potential to result in "take" of species of plants or animals listed under CESA, either during construction or over the life of the project. CESA Permits are issued to conserve, protect, enhance, and restore State-listed threatened or endangered species and their habitats. Early consultation is encouraged, as significant modification to a project and mitigation measures may be required in order to obtain a CESA Permit. Revisions to the Fish and Game Code, effective January 1998, may require that the Department issue a separate CEQA document for the issuance of a 2081 permit unless the project CEQA document addresses all project impacts to listed species and specifies a mitigation monitoring and reporting program that will meet the requirements of a 2081 permit. For these reasons, the following information is requested:
  - a. Biological mitigation monitoring and reporting proposals should be of sufficient detail and resolution to satisfy the requirements for a CESA Permit.
  - b. A Department-approved Mitigation Agreement and Mitigation Plan are required for plants listed as rare under the Native Plant Protection Act.
6. Descriptions and analyses of a range of alternatives to ensure that alternatives to the proposed project are fully considered and evaluated. The analyses must include alternatives that avoid or otherwise reduce impacts to sensitive biological resources. Specific alternative locations should be evaluated in areas of lower resource sensitivity where appropriate.
7. The Department has responsibility for wetland and riparian habitats. It is the policy of the Department to strongly discourage development in wetlands or conversion of wetlands to uplands. We oppose any development or conversion which would result in a reduction of wetland acreage or wetland habitat values, unless, at a minimum, project mitigation assures there will be "no net loss" of either wetland habitat values or acreage. Development and conversion include but are not limited to conversion to subsurface drains, placement of fill

Mr. Robert Richmond  
March 12, 2004  
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or building of structures within the wetland, and channelization or removal of materials from the streambed. All wetlands and watercourses, whether intermittent or perennial, should be retained and provided with substantial setbacks which preserve the riparian and aquatic values and maintain their value to on-site and off-site wildlife populations.

- a. If the site has the potential to support aquatic, riparian, or wetland habitat, a jurisdictional delineation of lakes, streams, and associated riparian habitats should be included in the DEIR, including a delineation of wetlands pursuant to the U. S. Fish and Wildlife Service wetland definition adopted by the Department<sup>1</sup>. Please note that some wetland and riparian habitats subject to the Department's authority may extend beyond the jurisdictional limits of the U.S. Army Corps of Engineers.
- b. The project may require a Lake or Streambed Alteration Agreement, pursuant to Section 1600 *et seq.* of the Fish and Game Code, with the applicant prior to the applicant's commencement of any activity that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank (which may include associated riparian resources) of a river, stream or lake, or use material from a streambed. The Department's issuance of a Lake or Streambed Alteration Agreement for a project that is subject to CEQA will require CEQA compliance actions by the Department as a responsible agency. The Department as a responsible agency under CEQA may consider the local jurisdiction's (lead agency) Negative Declaration or Environmental Impact Report for the project. To minimize additional requirements by the Department pursuant to Section 1600 *et seq.* and/or under CEQA, the document should fully identify the potential impacts to the lake, stream or riparian resources and provide adequate avoidance, mitigation, monitoring and reporting commitments for issuance of the agreement<sup>2</sup>.

The Department appreciates the opportunity to comment on your project and look forward to working with the County and their consultants. Please contact Warren Wong of the Department at (858) 467-4249 if you have any questions or comments concerning this letter.

Sincerely,



For

William E. Tippets  
Environmental Program Manager

Attachments (2)

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<sup>1</sup> Cowardin, Lewis M., et al. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service.

<sup>2</sup> A Streambed Alteration Agreement form may be obtained by writing to: Department of Fish and Game, 4949 Viewridge Avenue, San Diego, CA 92123, by calling (858) 636-3160, or by accessing the Department's web site at [www.dfg.ca.gov/1600](http://www.dfg.ca.gov/1600).

# Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities

State of California  
THE RESOURCES AGENCY  
Department of Fish and Game  
December 9, 1983  
Revised May 8, 2000

The following recommendations are intended to help those who prepare and review environmental documents determine when a botanical survey is needed, who should be considered qualified to conduct such surveys, how field surveys should be conducted, and what information should be contained in the survey report. The Department may recommend that lead agencies not accept the results of surveys that are not conducted according to these guidelines.

1. Botanical surveys are conducted in order to determine the environmental effects of proposed projects on all rare, threatened, and endangered plants and plant communities. Rare, threatened, and endangered plants are not necessarily limited to those species which have been "listed" by state and federal agencies but should include any species that, based on all available data, can be shown to be rare, threatened, and/or endangered under the following definitions:

A species, subspecies, or variety of plant is "endangered" when the prospects of its survival and reproduction are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, over-exploitation, predation, competition, or disease. A plant is "threatened" when it is likely to become endangered in the foreseeable future in the absence of protection measures. A plant is "rare" when, although not presently threatened with extinction, the species, subspecies, or variety is found in such small numbers throughout its range that it may be endangered if its environment worsens.

Rare natural communities are those communities that are of highly limited distribution. These communities may or may not contain rare, threatened, or endangered species. The most current version of the California Natural Diversity Database's List of California Terrestrial Natural Communities may be used as a guide to the names and status of communities.

2. It is appropriate to conduct a botanical field survey to determine if, or to the extent that, rare, threatened, or endangered plants will be affected by a proposed project when:
  - a. Natural vegetation occurs on the site, it is unknown if rare, threatened, or endangered plants or habitats occur on the site, and the project has the potential for direct or indirect effects on vegetation; or
  - b. Rare plants have historically been identified on the project site, but adequate information for impact assessment is lacking.
3. Botanical consultants should possess the following qualifications:
  - a. Experience conducting floristic field surveys;
  - b. Knowledge of plant taxonomy and plant community ecology;
  - c. Familiarity with the plants of the area, including rare, threatened, and endangered species;
  - d. Familiarity with the appropriate state and federal statutes related to plants and plant collecting; and,
  - e. Experience with analyzing impacts of development on native plant species and communities.
4. Field surveys should be conducted in a manner that will locate any rare, threatened, or endangered species that may be present. Specifically, rare, threatened, or endangered plant surveys should be:
  - a. Conducted in the field at the proper time of year when rare, threatened, or endangered species are both evident and identifiable. Usually, this is when the plants are flowering.

When rare, threatened, or endangered plants are known to occur in the type(s) of habitat present in the project area, nearby accessible occurrences of the plants (reference sites) should be observed to determine that the species are identifiable at the time of the survey.

- b. Floristic in nature. A floristic survey requires that every plant observed be identified to the extent necessary to determine its rarity and listing status. In addition, a sufficient number of visits spaced throughout the growing season are necessary to accurately determine what plants exist on the site. In order to properly characterize the site and document the completeness of the survey, a complete list of plants observed on the site should be included in every botanical survey report.
  - c. Conducted in a manner that is consistent with conservation ethics. Collections (voucher specimens) of rare, threatened, or endangered species, or suspected rare, threatened, or endangered species should be made only when such actions would not jeopardize the continued existence of the population and in accordance with applicable state and federal permit requirements. A collecting permit from the Habitat Conservation Planning Branch of DFG is required for collection of state-listed plant species. Voucher specimens should be deposited at recognized public herbaria for future reference. Photography should be used to document plant identification and habitat whenever possible, but especially when the population cannot withstand collection of voucher specimens.
  - d. Conducted using systematic field techniques in all habitats of the site to ensure a thorough coverage of potential impact areas.
  - e. Well documented. When a rare, threatened, or endangered plant (or rare plant community) is located, a California Native Species (or Community) Field Survey Form or equivalent written form, accompanied by a copy of the appropriate portion of a 7.5 minute topographic map with the occurrence mapped, should be completed and submitted to the Natural Diversity Database. Locations may be best documented using global positioning systems (GPS) and presented in map and digital forms as these tools become more accessible.
5. Reports of botanical field surveys should be included in or with environmental assessments, negative declarations and mitigated negative declarations, Timber Harvesting Plans (THPs), EIR's, and EIS's, and should contain the following information:
- a. Project description, including a detailed map of the project location and study area.
  - b. A written description of biological setting referencing the community nomenclature used and a vegetation map.
  - c. Detailed description of survey methodology.
  - d. Dates of field surveys and total person-hours spent on field surveys.
  - e. Results of field survey including detailed maps and specific location data for each plant population found. Investigators are encouraged to provide GPS data and maps documenting population boundaries.
  - f. An assessment of potential impacts. This should include a map showing the distribution of plants in relation to proposed activities.
  - g. Discussion of the significance of rare, threatened, or endangered plant populations in the project area considering nearby populations and total species distribution.
  - h. Recommended measures to avoid impacts.
  - i. A list of all plants observed on the project area. Plants should be identified to the taxonomic level necessary to determine whether or not they are rare, threatened or endangered.
  - j. Description of reference site(s) visited and phenological development of rare, threatened, or endangered plant(s).
  - k. Copies of all California Native Species Field Survey Forms or Natural Community Field Survey Forms.
  - l. Name of field investigator(s).
  - j. References cited, persons contacted, herbaria visited, and the location of voucher specimens.

## ATTACHMENT 2

### Sensitivity of Top Priority Rare Natural Communities in Southern California

Sensitivity rankings are determined by the Department of Fish and Game, California Natural Diversity Data Base and based on either number of known occurrences (locations) and/or amount of habitat remaining (acreage). The three rankings used for these top priority rare natural communities are as follows:

- S1.# Less than 6 known locations and/or on less than 2,000 acres of habitat remaining.
- S2.# Occurs in 6-20 known locations and/or 2,000-10,000 acres of habitat remaining.
- S3.# Occurs in 21-100-known locations and/or 10,000-50,000 acres of habitat remaining.

The number to the right of the decimal point after the ranking refers to the degree of threat posed to that natural community regardless of the ranking. For example:

- S1.1 = very threatened
- S2.2 = threatened
- S3.3 = no current threats known

#### Sensitivity Rankings (February 1992)

<u>Rank</u>	<u>Community Name</u>
S1.1	Mojave Riparian Forest Sonoran Cottonwood Willow Riparian Mesquite Bosque Elephant Tree Woodland Crucifixion Thorn Woodland Allthorn Woodland Arizonan Woodland Southern California Walnut Forest Mainland Cherry Forest Southern Bishop Pine Forest Torrey Pine Forest Desert Mountain White Fir Forest Southern Dune Scrub Southern Coastal Bluff Scrub Maritime Succulent Scrub Riversidean Alluvial Fan Sage Scrub Southern Maritime Chaparral Valley Needlegrass Grassland Great Basin Grassland Mojave Desert Grassland Pebble Plains Southern Sedge Bog Cismontane Alkali Marsh

- S1.2                    Southern Foredunes  
                          Mono Pumice Flat  
                          Southern Interior Basalt Flow Vernal Pool
- S2.1                    Venturan Coastal Sage Scrub  
                          Diegan Coastal Sage Scrub  
                          Riversidean Upland Coastal Sage Scrub  
                          Riversidean Desert Sage Scrub  
                          Sagebrush Steppe  
                          Desert Sink Scrub  
                          Mafic Southern Mixed Chaparral  
                          San Diego Mesa Hardpan Vernal Pool  
                          San Diego Mesa Claypan Vernal Pool  
                          Alkali Meadow  
                          Southern Coastal Salt Marsh  
                          Coastal Brackish Marsh  
                          Transmontane Alkali Marsh  
                          Coastal and Valley Freshwater Marsh  
                          Southern Arroyo Willow Riparian Forest  
                          Southern Willow Scrub  
                          Modoc-Great Basin Cottonwood Willow Riparian  
                          Modoc-Great Basin Riparian Scrub  
                          Mojave Desert Wash Scrub  
                          Engelmann Oak Woodland  
                          Open Engelmann Oak Woodland  
                          Closed Engelmann Oak Woodland  
                          Island Oak Woodland  
                          California Walnut Woodland  
                          Island Ironwood Forest  
                          Island Cherry Forest  
                          Southern Interior Cypress Forest  
                          Bigcone Spruce-Canyon Oak Forest
- S2.2                    Active Coastal Dunes  
                          Active Desert Dunes  
                          Stabilized and Partially Stabilized Desert Dunes  
                          Stabilized and Partially Stabilized Desert Sandfield  
                          Mojave Mixed Steppe  
                          Transmontane Freshwater Marsh  
                          Coulter Pine Forest  
                          Southern California Fellfield  
                          White Mountains Fellfield
- S2.3                    Bristlecone Pine Forest  
                          Limber Pine Forest



**DEPARTMENT OF TRANSPORTATION****DISTRICT 12**

3337 MICHELSON DRIVE SUITE 380

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March 15, 2004

Mr. Robert Richmond  
County Of Orange I/WMD  
320 N. Flower Street, Suite 400  
Santa Ana, CA 92703

File: IGR/CEQA  
SCH#: 1999041035  
Log #: 1373  
SR: 74, I-5

**Subject: NOP for the 2001 Prima Deshecha General Development Plan (aka SEIR 597)**

Dear Mr. Richmond,

Thank you for the opportunity to comment on the **NOP for the 2001 Prima Deshecha General Development Plan (aka SEIR 597)** received February 25, 2004. The project is located in the County of Orange area of San Juan Capistrano off Ortega Highway (SR-74) and La Pata. The project consists of landslide stabilization of the site, and maintenance of environmental mitigation and restoration areas. This project is Amendment No. 2 to the 2001 General Development Plan.

**Caltrans District 12 is a reviewing agency on this project and has the following comments:**

1. It is proposed to incorporate additional landfill design considerations into a previously drafted General Development Plan (GDP). This is a 5-zone concept with Zone 5 being reserved for the development of La Pata Avenue as identified in a County of Orange 1996 Interim Project Design Report. As reported, no work will be done at this time in this Zone. Because Zone 5 is an important element in future arterial development, any future work to Zone 5 should include a complete traffic study to address traffic impacts in the region, the change in LOS from existing conditions and a discussion of the use of public traffic and landfill vehicles utilizing the road.
2. The Lead Agency should include the Department of Transportation in its close coordination on regional transportation needs with regards to La Pata Avenue.
3. All care should be taken to contain loads resulting from construction and operation of the landfill, from blowing over or onto State Right of Way or facilities.

Please continue to keep us informed of this project and other future developments, which could potentially impact our transportation facilities. If you have any questions or need to contact us, please do not hesitate to call Maureen El Harake at (949) 724-2086.

Sincerely,



Robert Joseph, Chief

District 12

IGR/Community Planning Branch

C: Terry Pencovic, HQ IGR/CEQA  
Terry Roberts, OPR  
Raouf Mousa, Traffic Operations - South

**Richmond, Bob**

---

**From:** Hagthrop, Linda  
**Sent:** Monday, March 15, 2004 2:08 PM  
**To:** Richmond, Bob  
**Cc:** info  
**Subject:** FW: SEIR 597  
Bob, here's your response.

-----Original Message-----

**From:** Adrian Peters [mailto:Apeters@Talega.com]  
**Sent:** Monday, March 15, 2004 10:31 AM  
**To:** 'info@iwmd.ocgov.com'  
**Subject:** SEIR 597

Bob,

We appreciate the opportunity to review the Notice of Preparation (NOP) for SEIR 597. At this time Talega Associates, LLC does not have any comments on the NOP; however, we reserve the right to comment on the SEIR once it becomes available for public review.

We would be grateful if you could keep us informed of issues involved with the Prima Deshecha landfill. In the meantime if you have any questions or would like to discuss any elements of this document with me in further detail please feel free to call me at (949) 498-1366.

Sincerely,

Adrian J. Peters, AICP  
Senior Project Manager

3/15/2004

# **APPENDIX B**

## **2001 GDP Amendment 2**

# Amendment No. 2 2001 General Development Plan

Prima Deshecha Landfill  
County of Orange, California

---

September 1, 2006

Amendment No. 1: October 2002

Amendment No. 2: August 2006

Prepared For:

COUNTY OF ORANGE  
Integrated Waste Management Department  
320 North Flower Street, Suite 400  
Santa Ana, California 92703

Prepared By:

BRYAN A. STIRRAT & ASSOCIATES  
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Diamond Bar, California 91765  
(909) 860-7777



BONTERRA CONSULTING  
151 Kalmus Drive, Suite E-200  
Costa Mesa, California 92626  
(714) 444-9199

**NOTE: THE FOLLOWING (DRAFT) AMENDMENT  
NO. 2 TO THE 2001 GENERAL DEVELOPMENT  
PLAN (GDP) IS PRESENTED IN STRIKE-AND-ADD  
FORMAT IN ORDER TO FACILITATE REVIEW OF  
THE PROPOSED GDP MODIFICATIONS**



**PRIMA DESHECHA LANDFILL  
AMENDED  
2001 GENERAL DEVELOPMENT PLAN**

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**PRIMA DESHECHA LANDFILL  
AMENDED  
2001 GENERAL DEVELOPMENT PLAN**

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## **SECTION 1.0**

## 1.0 INTRODUCTION

### 1.1 SITE DEVELOPMENT HISTORY

In February, 1973, the Orange County Board of Supervisors (Board of Supervisors) directed the adoption of a multi-use concept of refuse disposal/recreational development to establish the Prima Deshecha Landfill. At that time, it was determined that a master park plan was not necessary for the site. The disposal of municipal solid waste was initiated in 1976, in an area now known as Waste Management Unit 2 (WMU2). In December, 1976, a planning consultant was retained to prepare a General Development Plan (GDP) to combine both recreational and refuse disposal plans for the site.

An Interim Project Report/Environmental Impact Analysis for the Prima Deshecha site was submitted in August, 1978 to the County of Orange (County Harbors Beaches and Parks (HBP) Commission. The report contained an Interim Plan and two ultimate Alternative Schematic Plans. Alternative 2 (an 81 million cubic yard refuse plan covering 800 acres of landfill area and 200 acres of borrow area for a total of 1,000 acres) was recommended by the Commission and subsequently adopted by the Board of Supervisors in December, 1978. That Alternative Schematic Plan was further refined and provided the basis for the 1979 Prima Deshecha GDP as well as the initial and current Solid Waste Facilities Permit (SWFP) No. 30-A-0019 for the site. In 1980, the disposal operations were moved to a second active area known as Waste Management Unit 1 (WMU1).

In 1994, an updated draft GDP was prepared and described in a Program Environmental Impact Report (EIR 548) which was certified in November, 1995. The draft 1994<sup>5</sup> GDP itself was not approved pending additional landfill design considerations to be negotiated with the City of San Clemente. Negotiations with the City of San Clemente were consequently completed and the Board of Supervisors approved a Memorandum of Understanding (MOU) with the City of San Clemente on July 1, 1997, which included design features to be implemented at the landfill. Conditions governing landfill design and operations within the jurisdiction of the City of San Juan Capistrano were also subsequently negotiated and documented in a MOU approved by the Board of Supervisors on September 12, 1995, and a Conditional Use Permit (CUP) approved by the City of San Juan Capistrano on December 5, 1995. The previously proposed 1994 GDP was then modified in 2001 in an effort to provide compliance with the design and operational conditions set for both Cities. The MOU-approved design features contained within both approved MOUs were have been incorporated

into this ~~the~~ 2001 GDP, which replaces ~~the~~ 1979-1994 GDP and currently serves as the future planning guide for the Prima Deshecha site. Also incorporated into ~~the~~ 2001 GDP are related design requirements for design and operations conditions for development of the landfill within the jurisdiction of the City of San Juan Capistrano. These are documented in a MOU approved by the Board of Supervisors on September 12, 1995 and a Conditional Use Permit (CUP) approved by the City of San Juan Capistrano on December 5, 1995. ~~The previously proposed 1995 GDP has been modified in an effort to ensure compliance with the design and operational conditions for both Cities while also remediating a landslide which occurred in May, 1998 in a stockpile area south of the Prima Deshecha Cañada streamchannel.~~ This modification has resulted in enlarging the limit of the Zone 1 landfill plan and re-routing to the south a portion of the stream Prima Deshecha Cañada channel impacted by the landslide. This results in a total landfill area for the entire site of approximately 800 acres, as compared to 1,000 acres in the ~~approved 1979 GDP.~~

The 2001 Prima Deshecha GDP was further modified as an outcome of negotiations between the County and Rancho Mission Viejo, LLC (RMV), the adjacent landowner to the north and east of the Prima Deshecha Landfill property. These negotiations resulted in a Settlement Agreement and Covenant and Declaration of Restrictions (collectively referred to herein as RMV agreements) on 945 acres comprising the eastern portion of the Prima Deshecha property. The RMV agreements identified a Landfill Operations Area and Restricted Area on the eastern 945 acres of the Prima Deshecha Landfill property (referred to in the RMV agreements as the Burdened Property) and specified conditions and restrictions for each of those areas. One design change to the 2001 GDP due to the RMV agreements was a reduction in the Zone 4 refuse footprint previously established at 412 acres to 409 acres. The total Zone 4 area (including some cut areas outside refuse limits) remained the same at 473 acres. The agreements also identified RMV's Benefited Property and placed conditions on a No-Build Area within the Benefited Property adjacent to and east of the Prima Deshecha property. These agreements also contain requirements for La Pata Avenue funding, maintenance and litter control. Collectively, the RMV agreements constitute Amendment No. 1 to the 2001 GDP. Reference is made to the RMV agreements and conditions placed on the Prima Deshecha Landfill property in this Amendment No. 2 to the 2001 ~~this~~ GDP, where appropriate.

EIR 575 addresses environmental impacts resulting from the 2001 GDP for the property, which includes ~~replacing~~ the existing long term plan for the landfill,

recreational uses and traffic circulation. EIR 575 also addresses near-term activities planned for the next phases of landfill development.

Supplemental Environmental Impact Report 597 (SEIR 597) addresses environmental impacts of the project proposed in Amendment No. 2 to the 2001 GDP, herein referred to as "Amendment No. 2." The Amendment No. 2 Proposed Project considers a conservative measure in the areal extent of disturbance anticipated for potential landslide remediation to achieve slope stability within Zones 1 and 4, potential stockpile and trail areas and additional area for ancillary facilities. Amendment No. 2 incorporates biological mitigation measures for landfill project impacts within the revised potential disturbance areas. Landfill phasing is also updated (within previously approved landfill limits) and a regional environmental enhancement program detailing restoration and mitigation opportunities on site is included in the Proposed Project description. These regional environmental enhancement program opportunities would generally be made available to non-IWMD public and private project applicants.

The Proposed Project as proposed in Amendment No. 2 will not change the overall landfill airspace capacity, maximum daily waste intake, footprint of the refuse prism, or final landfill post-closure elevations.

## **1.2 SITE LOCATION**

The 1,530-acre Prima Deshecha Landfill site is located in south Orange County (see Figure 1). The County-owned site includes acreage within the jurisdictions of the cities of San Juan Capistrano (570 acres) and San Clemente (133 acres). The remaining 827 acres are within unincorporated Orange County. The operator of the site, County of Orange Integrated Waste Management Department (IWMD), has prepared a this GDP Amendment No. 2 for the site. The GDP is a planning document to guide coordinated long-term implementation of both interim and ultimate site development uses.

The Prima Deshecha site lies in the hills of southeastern Orange County. Ground elevations on the site range from 230 feet above mean sea level (amsl) at the southwest boundary of the site to a maximum elevation of 1,125 feet amsl at the northeast boundary of the site. The Prima Deshecha Cañada watercourse traverses the site from the northeast to the southwest. Two major utility easements, including a 150-foot wide San Diego Gas and Electric (SDG&E) easement and a 200-foot wide Southern California Edison (SCE) easement, extend through the central portion of the site which separate the western

(Zone 1) and eastern (Zone 4) components of the landfill property. These features are illustrated in Figure 2.

### 1.3 CURRENT SITE STATUS

WMU1 (see Figure 2), as well as ~~and~~ newly lined waste disposal areas, Phases A<sub>1</sub> and A1, A2, B, B1 and C1 located ~~directly north, east and north-southeast of WMU1, respectively, overlay 170 approximately 193 acres of the western portion of the site and is are~~ located entirely within the City limits of San Juan Capistrano. Landfilling of municipal solid waste with some biosolids (i.e., digested sewage sludge) continues at the site, with a total in-place ~~refuse air space~~ volume (as of January, 2004~~6~~) of ~~43.4 29.7~~ million cubic yards (mcy) (see Table 1). ~~This includes Rrefuse that has also been landfilled in WMU2 (see Figure 2), a 33-acre portion of the site located east of the current entrance facilities in unincorporated Orange County. The in-place refuse volume (as of January, 2001) in WMU2 is approximately 1.5 mcy. The first lined waste disposal area for the site, referred to as Phase A, was developed in 1998 and is located east of WMU1. Landfilling has proceeded easterly into Phase A<sub>1</sub> and north into Phases A1 and A2, east into Phase C1 and southeast into Phases B and B1. WMU1 is currently used as the wet weather disposal area.~~

The Prima Deshecha Landfill is a state-designated Class III facility which is permitted for the disposal of non-hazardous municipal solid waste and biosolids. No liquid or hazardous wastes are accepted or proposed for on-site disposal. The IWMD currently operates under Waste Discharge Requirements (WDR 93-86 and WDR 89-102~~R9-2003-0306~~) issued by the San Diego Regional Water Quality Control Board (SDRWQCB), a Solid Waste Facility Permit (SWFP) (No. 30-AB-0019) issued by the County Health Care Agency, Environmental Health Division which is the Local Enforcement Agency (LEA) and concurred on by the California Integrated Waste Management Board (CIWMB), and CUP 95-4 issued by the City of San Juan Capistrano, as well as other permits required for environmental monitoring and control systems.

In addition to the landfilling operations, related facilities and activities at the site include:

- Personnel facilities, site office, and equipment maintenance facilities.
- An energy recovery facility (ERF) that converts landfill gas to electricity.

- A Household Hazardous Waste Collection Center (HHWCC) and a facility for the temporary storage of hazardous materials.
- One fee booth and two scales. A third scale is planned for 2007, pending approval of easement encroachments by San Diego Gas & Electric Company.
- A landfill gas collection and flaring system for the site, which consists of vertical and horizontal extraction wells, collection piping and a flaring facility.
- Groundwater monitoring wells located in the vicinity of the current and future refuse disposal areas.
- A groundwater extraction system located downstream of WMU1, consisting of a pump station and four groundwater extraction wells within the alluvial material of the Prima Deshecha Cañada watercourse.
- ~~Temporary bridge/underpass for landfill operations.~~
- A leachate collection and recovery system (LCRS) for the lined areas, including a two 10,000-15,000-gallon collection tanks.
- Perimeter and interior drainage facilities.
- Biological mitigation sites to the east and south of Zone 1.
- The main concrete-lined/desilting basin for Zone 1.

Since the site began operations in 1976, there has been substantial residential development in the area, particularly to the south within the City of San Clemente. The 2001 GDP and subsequent amendments takes the current and projected proximity of urban development into account.

#### **1.4 SUMMARY OF THE 2001 GDP**

The Prima Deshecha 2001 GDP provides for the effective management of multiple uses on the site, including solid waste disposal, various regional park and recreational uses, and implementation of a key arterial highway and road extension included-identified in the Master Plan of Arterial Highway (MPAH),

Orange County Circulation Plan (OCCP), and Circulation Elements of the Cities of San Juan Capistrano and San Clemente.

The GDP divides the total 1,530-acre site into five zones for planning purposes as shown on Figure 3 and briefly described below:

#### Zone Descriptions

- Zone 1: This zone includes the currently active refuse disposal area. In approximately ~~138~~ years, as of January, 200~~16~~, or the year 2019, the Zone 1 landfill ~~would~~ is projected to be completely filled. After closure activities have been completed, satisfactory access established, and sufficient settlement has occurred, the ultimate recreational uses in Zone 1 as identified in a needs analysis could be implemented.
- Zone 2: This zone identifies all of the recreational trails that traverse the property. On-site city trails around Zone 1 can be used throughout the development of Zones 1 and 4 as long as the protection of public health and safety can be provided. Trails depicted along the perimeter of Zone 4 will be available during filling operations of Zone 1, but will be closed to the public during the filling operations in Zone 4 for the protection of public safety. The trails along the perimeter of Zone 4 are restricted by the RMV agreements to ten (10) feet below and to the south and west of the existing ridgeline between the Prima Deshecha property and adjacent RMV property. The GDP proposes to eventually connect the County trail along Zone 4 with on-site City trails proposed along Zone 1 to provide a complete loop for trail users. These on-site trail connections would not occur until Zone 4 is closed and a trail crossing under future La Pata Avenue is provided to the south. ~~Ongoing discussions commencing in January, 2001 with representatives of the Cities of San Clemente and San Juan Capistrano are focused on identifying specific trail alignments around Zone 1. These on-site trail connections would not occur until Zone 4 is closed and a trail crossing under future La Pata Avenue is provided to the south.~~
- Zone 3: This zone contains native vegetation, including coastal sage scrub habitat used by the California gnatcatcher, and mixed chaparral. The intent of the GDP is to retain the majority of Zone 3 in a native state. Some habitat enhancement could be implemented, where portions of these areas have been disturbed in the past or to compensate for lost



habitat associated with the development of the GDP or with other development in Orange County. The Proposed Project as contained within this Amendment No. 2 incorporates much of Zone 3 into a pre-mitigation area for landfill impacts or regional environmental enhancement area.

Zone 4: This zone is planned for future refuse disposal after Zone 1 is filled to capacity currently estimated to occur in the year 2019. ~~Two~~ ~~The western boundaries~~ for this zone have been defined. ~~The boundary ultimately established depends on whether the Zone 4 landfill or~~ was established to provide for the future extension of La Pata Avenue is constructed first (see Figures 3A and 3B) through the site. This zone is ~~to remain undisturbed during development of Zone 1, and following its closure, serves~~ as the final refuse disposal site on the property after Zone 1 is closed. Following closure of Zone 4, planned for the year 2067 and after sufficient settlement has occurred, implementation of the ultimate recreational activities can begin. These activities would be determined through a needs analysis and park plan undertaken near the time of closure. The current post-closure general plan ~~designated~~ land use for Zone 4 is a regional park.

Zone 5: This zone encompasses the area of disturbance for construction of La Pata Avenue. The boundaries of Zone 5 in the 2001 GDP were defined based on a conceptual alignment design and the assumption that La Pata Avenue would be constructed prior to the Zone 4 landfill (see Figure 3A). Should the Zone 4 landfill be constructed first (Figure 3B) and based on the final design for La Pata Avenue, the area of disturbance for La Pata Avenue would be modified. The County Resources and Development Management Department (RDMD) is currently conducting a feasibility study to determine the best alignment for the La Pata Avenue extension. Should this study indicate an alternative alignment to that shown in the 2001 GDP is the preferred project, the boundaries of Zone 5 in the GDP will be revised upon approval of the preferred alignment.

The GDP does not specify a defined set of uses for the remaining property outside the boundaries of the five zones. This remaining property is currently used for ancillary landfill operations (i.e., landfill gas flare facility, energy recovery facility [ERF]), landfill infrastructure (i.e., scalehouse, field offices) and viewshed protection. It is anticipated that in the future it could accommodate additional uses such as landslide remediation, temporary stockpile, trails, biological

mitigation, flood control facilities, recreational trail staging area(s) and open space buffer. It is the intent of Amendment No. 2 to define a conservative increase in the temporary limits of disturbance around Zones 1 and 4 that would accommodate these features.

The landfill plan for Zones 1 and 4 provides for approximately 116.8 mcy of remaining refuse capacity (as of January, 2001). The a total airspace site capacity, including an remaining airspace in-place refuse volume of 142.5 14.6 mcy in Zone 1 and WMU2 (as of January June 30, 20046), is of 131.4 171.6 mcy (see Table 1, page T-4). Features accommodated by the GDP for continued development of the landfill include a liner and leachate collection and removal system (LCRS) in future areas of the landfill zones, relocation of the HHWCC (completed in 2005), continued expansion of the landfill gas control system, modifications to the landfill gas control flare station, an ERF and potential acquisition of potable water (which will be the subject of subsequent environmental analysis) potable and non-potable water lines. The GDP also identifies-provides locations for detention-desilting basins and permanent LCRS facilities. The desilting basin system for Zone 4 is proposed to be modified in Amendment No. 2 to minimize impacts to sensitive biological resources.

Biological mitigation requirements for the landslide remediation element of the 2001 GDP resulted in the establishment of 70 acres of on-site mitigation at the PDL. Figure 4 illustrates the location of these sites, which offset project impacts to riparian, wetland, coastal sage scrub and upland habitats.

Recreational uses would ultimately be provided in two of five zones on the site. The GDP also accommodates the extension of Camino de los Mares and La Pata Avenue through the site, consistent with approved alignments shown on the MPAH. As indicated above, the final alignment for the La Pata Avenue extension will be determined through the completion of a detailed feasibility study and final design.

## **1.5 PURPOSE AND NEED FOR THE PROJECT**

The shortage of landfill space in the urban areas of Southern California is well documented and the value of the Prima Deshecha site to the Southern California region as a permitted landfill the Southern California region is to be preserved and protected maintained.

A GDP is a planning document to guide coordinated long-term implementation of both interim and ultimate site development uses. The GDP for the Prima Deshecha site also provides for effective management of multiple uses on the

site which include solid waste management, regional park and recreational development and completion of a major roadway link identified in the MPAH. The GDP enables concurrent implementation of these activities through a phasing program which allows multiple uses to be adequately separated or buffered during site development.

The GDP describes numerous operational needs, planning issues, opportunities and constraints, which have influenced the configuration and phasing of the GDP. It should be recognized that meeting solid waste disposal needs is the most important function on the site and will take precedence over other possible uses. To that end, the general development concept is for the site to function primarily as a solid waste disposal facility and, secondly, to provide interim and ultimate recreational opportunities for the general public. No priority issue is foreseen with implementation of the MPAH, which is accommodated by the two landfill zones.

Amendment No. 2 and SEIR 597 further modify the GDP with the incorporation of the elements of the Proposed Project listed below. In aggregate, these project modifications address the entire property and are necessary to (1) provide for slope stability measures, without which the PDL would be required to cease operations; (2) accommodate future landfill-related features such as LFG perimeter probes, LFG collection header lines; (3) modify the desilting basin location for Zone 4 to avoid sensitive biological resources and unstable areas; and (4) implement measures needed to provide for the long-term success of the environmental mitigation and restoration components of the overall GDP. In order to facilitate the assessment of biological impacts from future landfill operations within both zones and coordinate pre-mitigation of these impacts, the limits of disturbance around each zone have been refined to accommodate these features.

Also included within Amendment No. 2 is the development of a comprehensive pre-mitigation plan for the site, which will allow landfill operations to continue seamlessly, as mitigation of operational impacts on biological resources will have occurred before the impact happens. Additionally, on-site regional enhancement opportunities will have been identified for offsetting environmental impacts of other County (or third party) projects. Proposed project elements in Amendment No 2 will not alter landfill airspace capacity, maximum daily waste intake, footprint of the refuse prism, or final landfill post-closure elevations.

## 1.6 PROJECT OBJECTIVES OF THE GENERAL DEVELOPMENT PLAN

Implementation of the 2001 Prima Deshecha GDP is intended to achieve several solid waste management, circulation and recreation objectives. The objectives identified below were utilized in the preparation of the GDP, particularly with regard to the landfill design and operations. These objectives continue to apply to the 2001 GDP, as amended, herein.

### 1.6.1 SOLID WASTE MANAGEMENT OBJECTIVES

- Optimize the use of the site as a long-term waste disposal facility.
- Provide for consistency with the County of Orange Integrated Waste Management Plan (CIWMP), adopted County and applicable City General Plans, zoning regulations and compliance with City MOU design and operational conditions.
- Provide a long-term, regional solid waste management facility with appropriate safeguards to protect public health and safety as well as water, air, soil and other important resources which exist on-site and on surrounding property.

### 1.6.2 CIRCULATION OBJECTIVES

- Provide for regional as well as local access to landfill operations and recreational activities on the site.
- Accommodate adopted MPAH arterial highway alignments through the site.

### 1.6.3 RECREATION OBJECTIVES

- Identify preferred activities that include a variety of passive and limited active recreational uses which respond to the changing recreational needs in the region.
- Provide a phased recreation concept for implementation of both interim and ultimate recreational uses as solid waste management activities allow.
- Consider recreation goals and objectives of the Orange County Master Plan of Regional Parks as well as with those identified in the San Juan Capistrano and San Clémente General Plans.

- Provide opportunities for the benefit of the public to develop and operate recreation facilities within the regional park.
- Preserve regionally significant habitat on the site which will be set aside as natural reserves and which can be utilized throughout the region for educational purposes.
- Provide essential linkages to the existing multiple use trails in the area which will also serve the recreation elements of the GDP.

## **SECTION 2.0**

## 2.0 GDP ELEMENTS

The 2001 Prima Deshecha GDP encompasses the following three elements:

- Landfill Plan
- Circulation Plan
- Recreation Plan

The 2001 Prima Deshecha GDP provides for the effective management of multiple uses on the site, including solid waste disposal, implementation of key arterial highway and road extensions included in the MPAH, OCCP, and Circulation Elements of the Cities of San Juan Capistrano and San Clemente and various regional park and recreational uses.

The three elements are considered together in the 2001 GDP in order to ~~ensure~~ allow for compatibility of the existing, interim and ultimate uses on the site as well as to achieve the goals and objectives of approved local and regional plans and policies. It is important to note that unless stated otherwise, references made to the GDP refer to all three of the elements listed above. However, Amendment No. 2 to the GDP amends the Landfill Plan and Recreation Plan elements of the 2001 GDP only.

### 2.1 **LANDFILL PLAN**

#### 2.1.1 INTRODUCTION

The 2001 GDP divides the total 1,530-acre site into five zones for planning purposes as shown on Figure 3. Two zones are designated for landfilling. The ~~125-acre WMU1 landfill is located within Zone 1 which~~ refuse disposal area ultimately provides for 271 total acres (see Figure 4) to be filled over approximately 48-113 years (from January, 2004-6), and the 2001 GDP identified a total disturbance area (including cut slopes) around Zone 1 of 327 acres. The total updated acreage for Zone 1 including non-refuse cut potential disturbance areas identified in Amendment No. 2 is 349-437 acres (see Figure 43). Zone 4 is designated for the development of a future landfill area in the east central portion of the site (see Figure 4). Zone 4 consists of 409 acres (including the 14 acres of the original 33-acre WMU2 disposal area, WMU2) to be filled with refuse and would be in active operation for approximately 48-3 years following the closure of Zone 1. The total disturbance acreage for Zone 4 identified in the 2001 GDP (including cut slopes) is 473 acres. This area has been updated in Amendment No. 2 to a non-refuse cut area potential disturbance area of 641 acres. (Figure 4). The potential disturbance area is based on acreage that may

be needed for future landslide remediation, stockpiling, trails and other ancillary facilities.

The Prima Deshecha landfill is permitted to accept up to 4,000 tons per day (tpd). The site life for Zone 1 is based on an incremental increase in the disposal rate of up to 2,500 tpd in 2006 to 4,000 tpd by year 2014, and 4,000 tpd thereafter. The site life for Zone 4 is based on a daily refuse inflow rate of 4,000 tpd. Details on these assumptions are presented in Section 2.1.2.

The entrance facilities, field offices, ERF and landfill gas flare station are located in the north central portion of the site just west of Zone 4. The HHWCC, which is utilized to collect household hazardous waste (HHW) generated by households within the County, was currently located in Zone 1 and is planned to be but has been relocated near the field offices. The collected HHW is temporarily stored on-site and disposed off-site or recycled appropriately. The HHW is not disposed in the landfill.

## 2.1.2 DESIGN CRITERIA

Prior to preparing refined plans for the future landfill operations in Zones 1 and 4, a number of landfill design criteria were developed. The criteria balanced applicable regulatory standards with surrounding land use compatibility and on-site environmental considerations. Although these criteria reduce the potential capacity of the site for landfilling, the GDP does provide for a substantial landfill life of approximately ~~66~~ 61 years, as of January, 2006~~4~~. The established criteria are considered critical to creating an optimal relationship between waste disposal operations and other site uses.

The landfill development criteria consider grading and height limits, site capacity, and design issues, as described in the following sections.

### **Landfill Grading and Height Limits**

The first step in preparing plans for landfilling operations was to determine the boundaries of areas that could be made available for landfilling. Establishment of the landfill footprints was primarily driven by geotechnical recommendations for slope stability. Consideration was also given to avoiding minimizing impacts on environmentally sensitive areas, ridgelines, areas that had high visibility from current and future development, transmission line corridors and future roadway easements. The Southern California Edison Company (SCE), San Diego Gas and Electric Company (SDG&E) and existing and future public roadway easements through the site were to be avoided in establishing refuse



boundaries. Grading and height limits imposed by the Cities of San Clemente and San Juan Capistrano, as stated in MOU's with these Cities and by the RMV agreements discussed in Section 1.1, are reflected below:

#### City of San Clemente Requirements

##### Grading and Height Limits:

- The final grading elevation in Zone 1 is to be at a height below the level of the ridgeline behind Zone 1 as viewed from Truman Benedict Elementary School located at 1251 Sarmentoso, San Clemente, California 92673.
- The final grading elevation of Zone 4 is to be no higher than 1,010 feet, thereby minimizing the visual impact to residents of the City.
- It is understood that the side slopes of the landfill may be steeper than what is reflected in EIR No. 548 as may be determined by the County to be necessary to offset landfill capacity lost due to the height limits described above and in the MOU.

##### Zone Boundary Adjustments:

- The boundaries of Zone 1 to be adjusted from the Zone 1 boundaries described in EIR No. 548, with the understanding that additional boundary adjustments may be required for Zone 1 due to geotechnical conditions, drainage, and other environmental constraints provided such adjustment does not result in a final grading plan with a height limit greater than that specified above and in the MOU.
- The boundaries of Zone 4 to be adjusted as may be determined by the County to be necessary to offset landfill capacity lost due to the height limits described above and in the MOU, provided that any additions to the landfill resulting from the modification of the Zone 4 boundaries are not visible from within the City limits.

#### City of San Juan Capistrano Requirements

For that portion of the site within the boundaries of the City of San Juan Capistrano, the following conditions apply:

- According to the CUP, the permittee shall not extend any portion of the landfilling operation above the plane or outside the surface area of the fill design as established by the GDP, Prima Deshecha Landfill and the MOU executed between the City and County. "Landfilling operation" refers to that portion of the subject property in which waste is to be permanently placed and then buried under daily, interim and final cover material.
- According to the CUP, with the exception of previously established on-site borrow areas, the permittee shall excavate cover material only within the refuse disposal limits established by the GDP. This condition does not prohibit excavations outside those areas for the purposes of constructing drainage structures or noise abatement devices; performing work necessary to abate hazards to public or private property; or assuring slope stability.
- According to the MOU, the County will install and maintain final landfill ~~which landfill grades which~~ result in no silhouetting above and along the General Plan - designated "major ridgeline" which forms the northern and western edges of the landfill site boundary such that no landfill operations or placement of landfill materials will visually encroach upon the designated General Plan ridgeline or be viewed from Ortega Highway.

#### Rancho Mission Viejo, LLC (RMV) Requirements

The RMV agreements contain grading and fill restrictions on a Landfill Operations Area and a Restricted Area within 945 acres of the east portion of the Prima Deshecha Landfill to minimize effects of the landfill operation on RMV's Benefited Property to the north and east of the landfill property (see Section 1.1 for a description of those areas).

#### A Covenant and Declaration of Restrictions:

- Height Restriction – The height of any waste or refuse placed within the Landfill Operations Area shall not exceed one thousand and ten (1,010) feet above mean sea level unless and until appropriate measures (including any measures required by Applicable Laws) are taken to screen from view any portion of such waste or refuse that is visible from RMV's Benefited Property.
- Design Adjustments – The County shall adjust the design of any landfill within the Burdened Property and/or take such other steps as may be necessary to

prevent or mitigate any landfill-related costs and impacts on the Benefited Property.

- Site Grading and/or Soil Filling – The County may perform site grading and/or soil filling (to maximize capacity) within the Restricted Area in support of Landfill Operations so long as the same are not visible from the Benefited Property.
- Ridgeline Buffer – So as to maintain a buffer zone and natural barrier to minimize viewing, noise, dust, litter, and other effects, if any, of Landfill Operations on the Benefited Property, the height and natural contour of the existing ridge lines most immediately contiguous to the boundary line between the Prima Deshecha Landfill property and the RMV Benefited Property shall not be materially modified by the County; provided, nothing in this provision shall preclude the installation and maintenance of landscaping along said ridge line.

#### Settlement Agreement:

- Zone 4 Phasing of Landfill Activities – County anticipates that landfill operations within the Landfill Operations Area will occur in phases moving in a west to east progression, and that the placement of refuse within the easterly portion of the Landfill Operations Area will not commence until after the year 2025. County, shall in good faith, consider any alternatives or suggestions tendered by RMV prior to materially altering the general west-to-east phasing scheme.
- Viewshed Analysis – County is required to conduct a viewshed analysis with respect to the impacts of Zone 4's development on the RMV Benefited Property, and, if needed, prepare and implement a viewshed protection and landscaping plan ("VPL Plan").

Based on these limitations, two landfill zones have been established which represent approximately ~~800~~1,078 total acres of the 1,530-acre site (see Figure 4). It should be noted that not all of the 1078 acres may be actually needed for landfill activities, or disturbed. Zone 1 consists of a total of ~~319~~437 acres in the western portion of the site, of which 271 acres will be refuse fill areas. The final landfill grades for Zone 1 are below the major ridgelines which form the northern and western edges of the landfill site boundary as viewed from Ortega Highway, the valleys of San Juan Capistrano and the Truman Benedict Elementary School

in San Clemente. Line of sight cross-sections for the Zone 1 final landfill grades are presented in Figures 5, 6 and 7 from a viewpoint in San Juan Capistrano and from the Truman Benedict Elementary School in San Clemente.

Zone 4 ~~provides~~ consists of a total of 473- 641 acres in the east central portion of the site for future landfill development. The Zone 4 refuse fill area, including that area 14 acres of the previously filled in WMU2, is 409 acres. The Zone 4 landfill has a maximum elevation of 1,010 feet as previously described in EIR 548 and in accordance with MOU requirements of the City of San Clemente, and the Settlement Agreement with RMV. The Zone 4 footprint has been established to minimize the need for landslide stabilization mitigation avoid impacts to Segunda Deshecha Cañada and to minimize visual impacts from the south. ~~It~~ is anticipated that landslide remediation activities included in Amendment No. 2 to the GDP will temporarily affect the Zone 4 Landfill Operations Area and Restricted Area as defined by the RMV agreements; however, these activities will be consistent with the approved uses for the property as summarized above. Zone 4 final slopes and deck area have been modified to provide a more natural, undulating appearance.

### **Criteria Used to Determine Site Capacity**

The following site capacity criteria was developed for planning purposes to estimate the associated site life and potential impacts of landfilling on regional traffic, air quality, etc.:

- Zone 1 Incremental incremental increase in average daily refuse input of up to 3,000 2,500 tpd from in January 1, 2004 to December 31, 2008; 3,500 tpd from January 1, 2009 to December 31, 2013; and 4,000 tpd from January 1, by year 2014 and thereafter to the end of the Zone 1 life.
- Zone 4 average daily refuse input assumed to be 4,000 tpd.
- Average daily refuse input includes up to 350 tpd of biosolids, over a six-day week. The biosolids input meets or exceeds the current and projected needs of the South Orange County Wastewater Authority (SOCWA) and other agencies.
- Average effective density of waste in-place for Zones 1 and 4 of 1,333 lbs/cy; no net export or import of soil for cover material.

- Soil cover material usage based on a volume ratio of disposed refuse to cover soil of 4:1, including the use of tarps, greenwaste, or other alternative daily covers.
- The capacity and life of the site could be increased or decreased based on changes in landfill design standards and regulations, changes in daily cover use and final cover requirements, changes in refuse density, changes to the assumed refuse inflow rates and other similar changes.

Another provision to protect the future solid waste disposal capacity of landfills in California is the California Integrated Waste Management Act of 1989 (AB 939) requirement to maximize the diversion of recyclable materials from landfills. Materials such as plastics, paper, aluminum and vegetative matter, if not landfilled, can result in a substantial reduction in the amount of refuse deposited in landfills. In consideration of the policy to use landfill capacity for revenue by importing refuse from adjacent counties, the current estimates for solid waste disposal under the GDP represent an estimated maximum disposal rate for the near future, notwithstanding implementation of the AB 939 requirements for the diversion of recyclable materials from landfilling.

### **Criteria Related to Site Design**

The following principal design criteria for development of the landfill are based on State minimum standards:

- Minimum top deck slope of three (3) percent.
- Finished surface slopes of a maximum 3:1 between benches, 3.5:1 gross (see Figure 8).
- Interior interim surface slopes – maximum of 3.5:1.
- Access roadway width – 50 feet.
- Maximum access roadway slope – seven (7) percent.
- Cut slopes inclined as permitted by geology and liner stability. The maximum depth will be used under these constraints.

- Bottom slope – approximately two (2) percent minimum and maximum as permitted by fill stability and constructability.
- Maintenance and drainage benches – 15 feet wide measured level from the flow line. Final maintenance and drainage benches – spaced at 450-foot maximum vertical intervals, assuming 20-foot lifts.

### **Geotechnical Design Criteria**

The Prima Deshecha site is part of the Peninsular Ranges Province of Southern California. Exposed bedrock materials consist predominantly of marine and nonmarine sedimentary rock of the Capistrano and Monterey formations and the San Onofre Breccia which are overlain by bedrock-derived landslides, modern alluvial deposits in the main drainage channels and various types of native soils. Economically useful geologic resources do not occur on-site, with the exception of materials which may be suitable for daily and final cover or liner construction in further development of the landfill. Given the low strength of some bedrock units and the potential instability of numerous landslides on the site, new slope failures and reactivation of existing landslides are possible. In fact, a landslide occurred in 1998 in a Zone 1 stockpile area and portions of a number of the larger landslides on the east portion of the site display evidence of recent movement under existing conditions. The footprints for Zones 1 and 4 have been configured to enhance stabilization of refuse fills. Other stabilization measures for unstable cut slopes in the various units of bedrock and landslide debris could include construction of low angle (2:1) or shallower cut slopes, buttress and/or stabilization fills, shear keys and structurally reinforced fills. The GDP, as amended, provides for these types of stabilization measures within Zones 1 and 4 by increasing the potential limits of disturbance associated with these features based upon available geotechnical information. Although there is a possibility that further geotechnical analyses and detailed engineering design may result in the determination that additional area is required for landslide stabilization in the future, an effort was made to include conservative limits of disturbance in the GDP Amendment No. 2.

#### **2.1.3 ENVIRONMENTAL PROTECTION ELEMENTS**

The design for landfill operations under the GDP includes a number of environmental protection elements which respond to the established GDP goals and applicable local, state and federal regulations. These elements include compliance with surface and groundwater monitoring requirements and air and gas monitoring requirements. These controls are described below:

## Groundwater Protection Systems

Leachate is liquid which passes through the landfill, coming in contact with disposed wastes and possibly absorbing contaminants. The sources of moisture in a landfill may include: (1) rainfall which infiltrates the surface cover; (2) moisture in the refuse; and (3) moisture generated by decomposition.

Landfill regulations minimize the production of leachate by preventing infiltration. Infiltration reduction is accomplished by prohibiting disposal of liquid wastes in the landfill, effective drainage management which diverts off-site surface water flows away from the landfill, separating the bottom of the landfill from groundwater by means of a liner, placing cover over waste on a daily basis and placing a low-permeability final cover.

Drainage improvements for the site include perimeter storm drain channels around the fill areas, downdrains and terrace drains on the slopes and desilting basins. Final storm drain improvements are designed to accommodate flows from a 24-hour, 100-year storm event. The existing desilting basin at the south portion of Zone 1 will has been be enlarged and improved (in 2005) for future development of Zone 1. A detention/desilting basin between Zones 1 and 4 is was conceptually proposed in the 2001 GDP to meet stormwater detention/desilting requirements for ultimate development of the landfill in Zone 4. Amendment No. 2 proposes desilting basins around the perimeter of Zone 4 in lieu of a basin downstream of Zone 4 (between Zones 1 and 4) in order to avoid sensitive biological resources. Interim desilting basins will also be constructed as part of on-going landfill operations.

WMU1 contains no liner or underlying LCRS, since landfill operations in this area were initiated in 1980, before the 1984 adoption of the California Code of Regulations (CCR) Title 23, Chapter 15 (now Title 27) which established standards for leachate control. The existing groundwater extraction system was constructed as a condition for acceptance of bio-solids at the landfill. The system consists of four groundwater extraction wells, which are situated in a line roughly perpendicular to the Prima Deshecha Cañada streambed and slightly downstream of the toe of WMU1. The purpose of these wells is to extract groundwater which is flowing down gradient, away from the landfill, in the alluvium which fills within the canyon bottom. The wells are situated so that groundwater flowing downstream down gradient under WMU1 through the alluvial aquifer can be captured, if leachate is detected in the groundwater.

The collected leachate, if any, is tested and initially disposed off-site or applied to the surface of the lined portion of the landfill as a dust control measure. The final methods of disposal of landfill leachate ~~must be~~ approved by the SDRWQCB and the LEA. Eventually, depending on the quantities and composition of the leachate, including the degree of contamination, an on-site leachate treatment facility may be installed with the effluent being discharged to the public sanitary sewer system or used as on-site dust control. To date, the extracted groundwater has not been found to be affected by leachate and is used for landfill operational purposes.

~~For that portion of Zone 1 which is lined, leachate may be collected and disposed.~~ In accordance with Title 27, new areas to be landfilled under the GDP will be underlain by a liner and LCRS. For the development of Zone 1, an alternative liner design petition was prepared and approved by the SDRWQCB in WDR 93-86, Addendum No. 1 and was further modified in WDR R9-2003-0306, Addendum No. 1. The liner system design meets the requirements for alternative designs provided in Section III.A.1.b and Section III.A.3 of the State Water Resources Control Board Resolution No. 93-62. A typical cross-section of the currently approved alternative liner design is included in Figure 9.

Any variations of this design approach for the liner and LCRS will be submitted to the SDRWQCB for approval. ~~Any Liquid~~ percolating through the landfill ~~would will be collected and will flow by gravity through the above-described system~~ LCRS to storage tanks that ~~will be~~ located at the base of the landfill. ~~Collected liquids will be~~ Leachate collected in storage tanks may be transported off-site for treatment and disposal by a licensed hauler or used on-site for dust control in lined areas only as approved by the SDRWQCB. Alternate uses of the collected leachate will need approval by the SDRWQCB tested prior to final disposition.

### **Air Quality Protection Systems**

Landfill gas in the active fill area is currently collected by an active gas extraction system of horizontal collection piping and vertical wells. The gas is piped to the existing flare station and beyond that facility to ~~the new an e~~ Energy r Recovery f Facility (ERF). The IWMD has provided for energy recovery as an alternative to continued flaring of the landfill gas. An ERF has been designed, built and is currently being operated by Algonquin Power Systems under a lease with the County. Algonquin Power Systems will own the rights to all the landfill gas from the landfill for at least 20 years. The ERF is located north of WMU2 and northeast of the current scale house. The ERF accomplishes two objectives:



- The ERF provides additional capacity for the destruction of increasing quantities of landfill gas, a by-product of the decomposition of buried refuse.
- The ERF converts the gas to green power or electricity, which is sold to SDG&E. Sufficient power may be generated to supply approximately 3,000 homes.

As the landfill continues to receive refuse, the system will be expanded through the installation of both horizontal collection piping and vertical wells. Collected landfill gas will continue to be converted to electricity with additional flares installed as back-up as capacity requirements dictate. Some minor grading of the area may be necessary to create pads for additional flares and piping. Additional above-grade piping would be required to transport landfill gas from newly developed areas to the existing flare station and on to the energy recovery facility ERF. At closure, the site will still require a flare station and/or a gas utilization facility until landfill gas is no longer produced by the landfilled waste.

As gas flows through the landfill gas collection system, it cools and moisture condenses, resulting in a liquid called condensate. Condensate is separated from the landfill gas and is currently collected in tanks for off-site disposal. The condensate may eventually be treated in a leachate/condensate treatment system prior to discharge or it may be piped to the flare station for combustion. The final disposal methods of landfill gas condensate must be approved by the SDRWQCB, AQMD and the LEA.

~~The IWMD has provided for energy recovery as an alternative to continued flaring of the landfill gas. An Energy Recovery Facility (ERF) has been designed, built and is currently being operated by NEO California LLC (NEO) under a lease with the County. NEO will own the rights to all the landfill gas from the landfill for at least 20 years. The ERF is located north of WMU2 and northeast of the current scale house. The ERF accomplishes two objectives:~~

- ~~• The ERF provides additional capacity for the destruction of increasing quantities of landfill gas, a by-product of the decomposition of buried refuse.~~
- ~~The ERF converts the gas to electricity, which is sold to SDG&E. Sufficient power may be generated to supply approximately 3,000 homes.~~

~~At closure, the site will still require a flare station and/or a gas utilization facility until landfill gas is no longer produced by the landfilled waste.~~

#### 2.1.4 INTERIM AND FINAL REVEGETATION/LANDSCAPING

An important consideration of the landfill development, for erosion control as well as visual enhancement, is revegetation and landscaping of completed surfaces. Requirements for revegetation and landscaping for the Prima Deshecha Landfill are imposed by State requirements and by the Cities of San Clemente and San Juan Capistrano. Interim revegetation and landscaping requirements are included in the CUP with the City of San Juan Capistrano and the MOU with the City of San Clemente as summarized below:

##### CUP with City of San Juan Capistrano Requirements

- The final landfill slopes shall be concurrently reclaimed and revegetated within 90 days of completion. If directed by the LEA, the permittee shall install a temporary vegetation cover on all slopes and other areas that are to remain inactive for a period longer than 90 days.
- To the extent possible, revegetation shall blend with species indigenous to the area and be drought tolerant and shall be capable of rapid establishment. Plant selection shall not include exotic, invasive species as determined by the United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (DFG).

In addition to the above specific requirements of the CUP, the City of San Juan Capistrano has also requested that the use of Native California plants for revegetation be consistent with the existing plant palette bordering the landfill.

##### MOU with San Clemente Requirements

- Trees have been planted to screen the landfill in a location which has been approved by the City. The design of the treescape is described in plans and specifications titled "Prima Deshecha Landfill Mass Excavation Grading Plans for Zone 1 - Phase A," approved by the Board of Supervisors on May 13, 1997 and shall be in accordance with the "Tree Planting Plan" contained in those plans and specifications dated March 23, 1997.
- Interim landscaping treatment is to be provided consistent with erosion control measures required by current regulations.

In addition to the above requirements of the MOU, a Viewshed Protection Plan (VPP) is to be prepared to mitigate views of Zone 4 from San Clemente (to the south) as a condition of approval for EIR 575. The VPP is to be cooperatively

prepared between the City of San Clemente and IWMD prior to development of Zone 4.

As required by CCR, Title 27, final landscape plans are included in the existing Preliminary Closure and Post-Closure Maintenance Plan (19932003). This document will be updated to reflect vegetation proposed in the Preliminary Closure and Post-Closure Maintenance Plan is a selected plant species at closure which includes native seasonal grasses. Landfill landscaping will not include exotic plant species that may be invasive to native habitats including species on lists A1, A2 and B of the California Exotic Pest Plant Council's list of "Exotic Pest Plants of Greatest Ecological Concern in California as of October 1999" as required in the site's Section 1601 Streambed Alteration Agreement the closure design elements of the approved 2001 GDP, as part of the landfill SWFP revision process.

The Final Closure Plan for each zone will be prepared two years prior to closure of each landfill zone and will include existing or modified landscape plans. The proposed pre-mitigation program in Amendment No.2 will be completed years in advance of closure, and there will be no other landscaping obligations associated with other regional planning efforts. A discussion of funding for final closure and post-closure improvements including landscaping is included in Section 2.1.5.

## 2.1.5 FINAL CLOSURE AND POST-CLOSURE MAINTENANCE FUNDING

In order to ensure that landfill operators are able to fund final closure improvements for their sites, Title 27 of the CCR requires that operators establish financial assurance mechanisms for both closure and post-closure.

The following describes IWMD's funding for landfill closure/post-closure costs in accordance with the CCR, Title 27.

### **Closure**

Title 27 of the CCR requires that IWMD establish a Closure Escrow Account for each active landfill and to fund each escrow annually so that sufficient funds are set aside for estimated closure costs at the time of closure. The amount required for closure is based on a Preliminary Closure Plan with cost estimates developed by IWMD and approved by the CIWMB/SDRWQCB in accordance with State regulations. The IWMD sets aside \$1.15 per ton of refuse disposed at each of its three active landfills for closure funding. The funds are deposited into a trust account and transferred annually to each landfill's Closure Escrow

Account. The escrow amounts are calculated by dividing annual refuse tonnage disposed by remaining permitted landfill capacity and multiplying the result by the remaining closure cost amount. The Preliminary Closure Plan cost for the entire Prima Deshecha site approved by the SDRWQCB/CIWMB in February, 1993, 2003 and 2004, respectively, is \$44,725,318,46,435,450. As of January, 2004, Zone 1 closure is anticipated in approximately 18-13 years and Zone 4 in approximately 66-61 years. As of ~~December 31, 2000~~ August 2006, the Prima Deshecha Landfill Closure Escrow Account balance is \$4,648,959 \$15,920,921.33.

### **Post Closure Maintenance Care**

Under Title 27, Chapter 6, Article 2 Financial Assurance for Post Closure Maintenance, Section 22210 allows the Integrated Waste Management Department (IWMD) to guarantee post-closure funding for the landfills through an approved financial assurance mechanism known as a Pledge of Revenue. The Pledge of Revenue financial assurance mechanism allows the IWMD to forego funding of the post-closure costs in advance and pay the costs as they are incurred, beginning when closure construction is complete and continuing annually through a minimum 30-year post-closure maintenance period.

The IWMD elected to use a Pledge of Revenue financial assurance mechanism and has entered into a formal agreement with CIWMB, in accordance with provisions under Title 27. There is not a need or statutory requirement to include IWMD's current funding for post closure maintenance, because the decision to pre-fund post closure maintenance care is an IWMD administrative policy decision.

~~Title 27 allows the IWMD to guarantee post-closure funding for the landfills through an approved financial assurance mechanism known as a Pledge of Revenue. The Pledge of Revenue financial mechanism allows the IWMD to forego funding of the post-closure costs in advance and pay the costs as they occur, beginning when closure construction is complete and continuing annually through the 30-year post-closure period. The IWMD has elected to use the a Pledge of Revenue financial assurance mechanism, and currently has no funds set aside for post-closure maintenance of the landfills at this time. However, under the IWMD Fifteen Year Financial Plan, beginning in Fiscal Year 2003/04, IWMD will establish and begin funding a post-closure account within its Environmental Liability Reserve Fund. Funding for post-closure will be achieved by setting aside \$0.38 of the \$1.00 collected per ton for the Environmental Liability Reserve Fund.~~

## **Integrated Waste Management System Financial Stability**

IWMD ~~has developed~~ amaintains an ongoing Fifteen-Year Financial Plan (Plan). Under the Plan, IWMD has developed tonnage and revenue assumptions and projections that incorporate both operations and regulatory compliance cost obligations, which include funds set aside for closure and post-closure activities as described above. An Independent Engineer has validated the assumptions and projections and concluded that IWMD cashflow and net operating income support the operation and maintenance of the disposal system, under its current per ton tipping fee.

### **2.2 CIRCULATION AND ROADWAY PLAN**

#### **2.2.1 INTRODUCTION**

A key element of the GDP is the identification of the circulation and roadway improvements necessary to support the landfilling and recreation uses and to accommodate the arterial highway needs detailed in the currently approved MPAH, OCCP and City Circulation Plans. Internal, local circulation networks will be developed, as necessary, for the phased landfill operations and interim recreation use activities on site. Provisions for the future extension of La Pata Avenue through the site (Figure 11) as a major regional arterial link of the MPAH (Figure 1) are also included in this Amendment No. 2-GDP, as presented in the 2001 GDP. The currently approved MPAH and OCCP identify the approved ultimate capacity and conceptual alignment for this roadway.

Other roadways identified in the GDP include the extension of Camino de los Mares through the southwest corner of the site (see Figure 11). The circulation plans for the Cities of San Clemente and San Juan Capistrano identify the alignment for Camino de los Mares, which is proposed to connect to Camino Las Ramblas in San Juan Capistrano. As currently reflected on the MPAH, Camino Las Ramblas would be extended from its current terminus in a northeasterly alignment to the west and north of the landfill boundaries, eventually joining La Pata Avenue.

None of the arterial highway extensions will be constructed by the County IWMD as part of the landfill development. The County's construction of La Pata Avenue is neither contingent nor dependent on the development of the site in accordance with the GDP. Although not all of these circulation improvements will be implemented in conjunction with the GDP, it is important that the GDP not preclude the future development of these approved roadway extensions.

## 2.2.2 ARTERIAL EXTENSIONS

The following section describes each component of the arterial circulation system (see Figure 11) including the alignment for the connection of La Pata Avenue through the site and the ability to extend Camino de los Mares and Camino Las Ramblas, given the configuration of the GDP. Although these roadways would not be developed as part of the GDP, ~~this analysis was conducted to ensure that the GDP landfilling and recreational uses would not ultimately preclude their extension~~ have accommodated the conceptually proposed alignments for these roadways as depicted in the MPAH, OCCP and City Circulation Plans.

### **La Pata Avenue**

The northern portion of La Pata Avenue currently consists of a 1.5-mile long, three-lane road providing access to the landfill between the northerly limits of the landfill and Ortega Highway. It provides two southbound (uphill) lanes and one northbound (downhill) lane. An extension of La Pata Avenue through the landfill is proposed in the current MPAH and OCCP which would be a new arterial highway accommodating regional transportation demands and ~~could~~ will also serve current and future development of the landfill. This proposed roadway extension would also include some realignment and widening of the existing La Pata Avenue. Within the aforementioned limits, the MPAH classifies La Pata Avenue as a Primary Arterial Highway from Ortega Highway to just south of the southerly landfill property where it is then classified as a Major Arterial Highway to Avenida Pico. The San Juan Capistrano Circulation Element classifies La Pata Avenue between the landfill's southerly limits and Ortega Highway as a Secondary Arterial Highway which provides equivalent traffic capacity as the County's Primary Arterial Highway. The San Clemente Circulation Element classifies La Pata Avenue as a Primary Arterial Highway.

Ultimate MPAH and OCCP improvements would upgrade existing La Pata Avenue to its current designation of Primary Arterial Highway. The project would include a new four-lane extension of La Pata Avenue through the landfill to join ~~the planned-existing~~ Avenida La Pata in San Clemente. The completion of La Pata Avenue between Ortega Highway and Avenida Pico would complete a major segment of the MPAH and OCCP and improve north-south circulation in the area. Various improvement alternatives for the La Pata Avenue alignment through the site have been previously identified and compared, including alternatives analyzed in Final EIR 548. The alignment, shown in Figure 11, from Ortega Highway through the site is ~~the~~ a County Preferred Alignment ~~as illustrated in the~~

a La Pata Avenue Project Report (November, 1996), which is was a County staff-recommended alignment and has not been officially adopted. The County is currently conducting a feasibility study (the La Pata Avenue Gap Closure Study) which will identify the preferred alignment based upon current project objectives and site conditions. Amendment No. 2 of the GDP is being closely coordinated with studies on the La Pata Avenue extension to provide for consistency and compatibility is maintained between both projects. Should the La Pata Avenue Gap Closure Study identify a different alignment that is ultimately be approved, additional amendment of adjustments in the GDP might be required.

### **Camino de los Mares**

This existing Camino de los Mares roadway located within the City of San Clemente consists of a four-lane roadway terminating at the southern property line of the site. The extension of Camino de los Mares (north of its existing terminus in Forster Ranch at the southwest landfill boundary) to Camino Las Ramblas would create a secondary arterial highway as designated on the Cities' Circulation Plans. This road extension is shown on Figure 11 in the southwest corner of the property. There is sufficient property available within the GDP boundaries, unaffected by landfill operations, to allow extension of this arterial highway. However, a biological mitigation site and associated conservation easement are in close proximity to the conceptual alignment. The conservation easement contains provisions/permissions that allow the roadway to cross through the easement area. Should mitigation areas be affected, these resources will need to be replaced in a manner approved by the resource agencies. If this extension is constructed, a connection for alternate (southern) access to Zone 1, after closure of the landfill, could be developed. However, in accordance with the MOU with the City of San Clemente, in no event will haulers utilizing the landfill for the disposal of solid waste be permitted to use Camino de los Mares as an access route.

### **Camino Las Ramblas**

The MPAH indicates that Camino Las Ramblas will continue in a northeasterly direction from its intersection with the proposed Camino de los Mares extension and proceed adjacent to the westerly and northerly landfill boundaries, eventually joining La Pata Avenue (see Figure 1). The City of San Juan Capistrano passed a resolution on December 14, 1999 that stipulates the City's intention to pursue deletion of the Camino Las Ramblas extension to La Pata Avenue. Therefore, the City must submit a request to the OCTA to amend the MPAH. Prior to any action taken by OCTA, the City of San Juan Capistrano would be required to

prepare and process a General Plan Amendment (i.e., Circulation Element) Amendment and appropriate CEQA documentation. If the amendment is approved by the City of San Juan Capistrano, the amendment would then be forwarded to the OCTA Board for action. ~~The MPAH Amendment Process could take up to a year or longer to process through the OCTA.~~

An amendment to the MPAH as a result of actions taken by the City of San Juan Capistrano and/or San Clemente regarding the alignment of these arterial roadways may also necessitate a revision to the 2001 GDP to ensure consistency between the 2001 GDP Circulation Component and the MPAH.

The County and the City of San Juan Capistrano through the GMA process will analyze the need for this facility in the near future.

### 2.2.3 INTERNAL CIRCULATION SYSTEM

The general development concept is for the site to function primarily as a solid waste disposal facility and, secondly, to provide interim and ultimate recreational opportunities for the general public. To this end, the following criteria has been established for the internal roadway circulation plan:

- Landfill operations shall remain uninterrupted.
- Landfill operations traffic shall be separated from on-site recreational traffic.
- Landfill operations must be allowed to cross under the SDG&E and SCE electrical transmission lines without interrupting traffic flow on La Pata Avenue, if constructed.
- Refuse truck traffic will be approaching the landfill from the north via Ortega Highway and La Pata Avenue.
- If La Pata Avenue is eventually connected to the City of San Clemente roadway system, some trucks collecting refuse in San Clemente may approach the landfill from the south. (However, in accordance with the MOU with the City of San Clemente, haulers utilizing the landfill for refuse disposal cannot use Camino de los Mares as an access route. Also, in the event that the County's existing contracts with haulers to import waste to the landfill from outside Orange County, and require access to the landfill via San Clemente City streets, ~~is required,~~ approval of a designated haul route shall



first be obtained from the City of San Clemente, which shall be compensated for that access in accordance with the MOU.)

Other issues considered in developing the internal circulation system include protection of sensitive biological resources, aesthetic considerations regarding ridgeline impacts, geotechnical constraints and physical constraints associated with the existing utility easements.

The conceptual circulation plan, shown in Figure 11, also identifies individual on-site access roads, ~~provides for the connection of conceptual alignments for La Pata Avenue and for the extension of Camino de los Mares through the site.~~

The proposed site access and circulation system is intended to segregate existing and future landfill-related traffic from traffic generated by interim recreational uses. The goal of segregation is complicated by the dynamic nature of landfill-related circulation patterns which will continue to change as the fill area elevation increases and as operations shift from Zone 1 to Zone 4. Currently, landfill access is provided by La Pata Avenue which extends south from Ortega Highway and terminates at the northern boundary of the landfill site.

~~With the extension of La Pata Avenue through the site, landfill access and traffic circulation will need to be integrated into the preferred alignment plan. After the Zone 1 landfill is closed, an intersection at the landfill entrance is proposed to separate Zone 4 landfill traffic from recreational traffic accessing the regional park or golf course in Zone 1 and multiple-use trail staging areas proposed directly to the west of the entrance facilities will need to be accommodated. After entering the site, landfill traffic for Zone 4 would initially use a northerly perimeter road. Eventually, landfill traffic may access future Zone 4 from a new scalehouse location to the south from off the La Pata Avenue extension (see Figure 11). These new entrance facilities in the middle of the property could ultimately be used for Zone 4 recreational uses following closure.~~

## **2.3 RECREATION ACTIVITIES PLAN**

### **2.3.1 INTRODUCTION**

Proposed recreational uses on the Prima Deshecha Landfill site should respond to the needs of south Orange County residents. Various agency groups representing the Cities of San Juan Capistrano and San Clemente, the Talega Valley Reserve and the County of Orange have previously recommended that the proposed recreational uses on the site take into consideration the existing recreational activities adjacent to or near the project site (i.e., multiple use trails).

These uses should also be consistent with the County of Orange Master Plan of Regional Recreational Facilities which identifies proposed future recreational facilities.

### 2.3.2 RECREATIONAL USE POTENTIAL

Given the variety of possible recreational uses on the site, research was previously conducted to determine whether the recreational uses would be compatible with adjacent land uses designated on the General Plans of the adjacent cities and the County of Orange. Specifically, the Orange County ~~Public Facilities and Resources Department/Harbors, Beaches and Parks Resources and Development Management Department/Harbors, Beaches and Parks (PF&RDRDMD/HBP)~~ and the Cities of San Juan Capistrano and San Clemente, through the public review process for EIR 548, developed a list of possible recreational uses including a regional staging area and multiple use trails which are ~~currently~~were appropriate to meet the demands of county-wide residents at the time. However, these demands may change ~~over time~~by the time the site closes. They will, therefore, be re-evaluated in a needs analysis prior to the time of landfill closure, when the recreational needs can be assessed with greater certainty. ~~EIR 548 was prepared to serve as the environmental documentation for the 1995 Prima Deshecha GDP. The 1995 proposed GDP also included Landfill, Circulation and Recreation Components and was intended to be the long-range planning program for landfill, circulation and recreation programs occurring on the subject property. Although the proposed 1995 GDP was not approved by the Orange County Board of Supervisors, Final EIR 548 was certified in November 1995.~~

### 2.3.3 PHASING FOR INTERIM AND ULTIMATE RECREATIONAL USES

The purpose of the recreation ~~plan~~ component of the GDP is to identify opportunities and locate sites for various interim and ultimate recreational uses in the context of pre- and post-closure landfill operations. Figure 3 shows areas designated for recreational development and landfill operations. The GDP is divided into five zones which delineate current and future landfill operations, and potential interim and ultimate recreational areas. ~~Ongoing~~ Discussions commencing in January, 2001 with representatives of the Cities of San Clemente and San Juan Capistrano are focused on identifying specific trail alignments around Zone 1. Interim uses are those recreational activities which can occur during landfilling operations on the site. The primary use of the site is as a landfill. While waste management operations are occurring, however, limited interim and ultimate recreational activities can occur on other locations at the site

depending on the status of landfill closure activities, satisfactory access and protection of public health and safety.

As previously illustrated, Figure 3 depicts alignments for regional and local riding and hiking trails throughout the site in areas designated as Zone 2. Although some sections of these trails have been constructed, the majority are not yet built. ~~None of the trails on or in the immediate vicinity of the site are yet constructed.~~ For the majority of these trails, final alignments have not yet been determined. Therefore, it is not possible to predict when an individual ~~each~~ trail would be completed and open for use by the public. Trails depicted along the perimeter of the Zone 4 landfill area will be available as interim recreational use only during filling operations of the Zone 1 landfill. Once landfill operations are moved to Zone 4, it is proposed that this perimeter trail be closed to the public based on protection of public health and safety. PF&RDRDMD/HBP may evaluate the possibility of relocating this trail away from landfill operations. This would depend upon its use and importance as a regional trail and the existence of a through trail along the western perimeter of the site at that time.

A regional park or golf course (see Figure 10) for Zone 1 is ~~a viable use which can be accommodated on~~ implemented as soon as the deck of the Zone 1 landfill ~~once it~~ is closed, sufficient settlement has occurred and concessionaires (in the case of a golf course) are identified. However, a recreation needs analysis will be performed just prior to Zone 1 closure before a final use plan is adopted. As mentioned above, trails may also be implemented in those areas which are unaffected by landfill operations or where landfilling has been completed and formally closed. This allows for staging of recreational uses over an extended time frame when landfill operations would also be occurring on the site.

~~The 2001 GDP proposed a~~ An ultimate regional park recreational use, ~~(the proposed 'Prima Deshecha Regional Park' as depicted on the Master Plan of Regional Recreational Facilities of the Recreation Element),~~ has been designated for Zone 4. Although the PDL site has been designated as "Regional Park" by the County on the adopted Land Use Element, ultimate regional park recreational uses have not been identified for Zone 4. However, Zone 4 will not be available for regional park use until after the closure of the Zone 4 landfill, which is not anticipated until about 2067. Consequently, a commitment to implement specific uses is not included in the 2001 GDP since recreational demand for this park might be quite different by that time. A needs analysis and park plan reflecting the recreational needs of south Orange County residents will be more appropriately developed nearer to the time of closure of Zone 4. In

addition, biological mitigation and environmental enhancement actions within and around Zone 4 may require a more passive recreational post-closure use.

#### 2.3.4 NATURAL OPEN SPACE

In addition to recreational uses, two areas of the site will be retained as natural open space. Zone 3 contains two natural areas on the site (see Figure 3) which will not be impacted by landfill refuse filling operations and should be protected and retained in their natural state in concert with the Natural Community Conservation Plan (NCCP) program being developed by the County of Orange, landowners, environmental groups and resource agencies. These natural areas include habitat used by the California gnatcatcher which is an avian species protected by the Federal Endangered Species Act. SEIR597 for Amendment No. 2 to the GDP contains an extensive biological pre-mitigation program as well as a regional environmental enhancement program that identifies biological resource enhancement opportunities onsite consistent with the NCCP. These programs will assist in facilitating streamlined regulatory authorizations and continuation of landfill activities through project build-out, while providing for the long-term protection and enhancement of biological resources at the site in a manner consistent with local, State and Federal regional planning objectives. ~~Some habitat enhancement may be implemented on-site subject to the provisions of an approved NCCP, where habitat areas were disturbed in the past or to compensate for habitat lost as a result of implementation of the GDP landfilling, circulation and recreational uses.~~

#### 2.3.5 REGIONAL PARK FINANCING PLAN

The ~~PF&RD~~RDMD/HBP provides administrative, planning, and operational services for the County regional park system. Funding for ~~PF&RD~~RDMD/HBP is provided from a percentage of County property tax revenues dedicated to the regional park system. ~~PF&RD~~RDMD/HBP Capital Project funds are allocated based upon rating and ranking criteria specified within their Five-Year Capital Plan.

The Five-Year Capital Plan is updated annually. County regional park programs and construction of other potential recreational improvements are identified and implemented in conjunction with this Five-Year Capital Plan. Prima Deshecha Landfill is currently designated on the County Master Plan of Regional Recreational Facilities as a proposed regional park. The Five-Year Capital Plan is reviewed by the ~~PF&RD~~RDMD/HBP Commission, and presented to the Board of Supervisors for approval as part of the County's annual budget process.

County regional parks are designed for passive, open space use; in contrast, urban community parks provide for active recreational uses. If the needs assessment for a regional park indicates that active recreational programs are needed over and above those provided by the County regional park system, those programs become the responsibility of the local municipality park and recreational planning process. The goal of County Regional Recreational Park programs is to accommodate Orange County's regional recreation needs. However, County parks have provided ~~rent-free~~ leased space for active community uses within regional parklands (i.e., Mile Square Park in Fountain Valley and Yorba Regional Park in Yorba Linda), with the local municipality providing for the programming and operations of these facilities.

#### Zones 1 and 4 Regional Park Financing

The IWMD will begin preparation of a Final Closure and Post-Closure Maintenance Plan approximately five years prior to the cessation of waste acceptance in Zones 1 and 4. These documents will be submitted to the CIWMB two years prior to the planned closure as required per CCR, Title 27. The closure plan, including final end use, must be approved by regulatory agencies prior to initiation of closure activities. During the five-year period prior to ~~the last date of waste acceptance~~ closure, the ~~PF&RDRDMD/HBP~~ will include the Prima Deshecha Regional Park in their Five-Year Capital Plan. The process will involve a needs analysis for regional, and as appropriate, local uses undertaken in cooperation with adjacent cities and interest groups. A definitive cost study will also be conducted as part of this process once the proposed uses are established.

#### Zone 2 Trail Financing

The Recreational Element of the County General Plan includes a Master Plan of Regional Riding and Hiking Trails Component. County trail development, maintenance and operations are funded as part of the ~~PF&RDRDMD/HBP~~ Five-Year Capital Program (Fund No. 405 of the County Service Area No. 26 annual budget). Other funding sources include new, private developments and the cities. The City trails proposed in Zone 2 of the GDP are funded by the individual cities.

## **SECTION 3.0**

## 3.0 GDP PHASING

### 3.1 OVERVIEW

The implementation of the 2001 GDP landfill plan is proposed to be phased over a span of approximately ~~66-61~~ years from January, 2004~~2006~~. Active landfilling will continue in Zone 1 concurrently with the development of trails for recreational use around the perimeter of ~~the site~~Zone 1. When landfilling in Zone 1 has ceased, closure activities have been completed, satisfactory access has been established, sufficient settlement has occurred, and landfilling has begun in Zone 4, the ultimate recreational use(s) ~~in Zone 1, a regional park or 18-hole golf course~~for Zone 1, as identified in a needs analysis, can be developed. When the landfilling in Zone 4 is complete, the ultimate recreational uses can be developed for that site after closure activities have been completed and sufficient settlement has occurred. The only long-term landfill related activities that will occur on the site after Zone 4 is filled will be associated with the continued collection and disposal of leachate and landfill gas, ongoing maintenance of the landfill final cover, drainage and groundwater monitoring.

The proposed phasing and factors affecting phasing for the landfill, recreation and circulation uses on the site are described in Sections 3.2 through 3.5. In Section 3.6, actions subsequent to approval of the 2001 GDP to plan, design and implement the GDP uses are identified.

### 3.2 LANDFILL PLAN PHASING

Zone 1 includes the lateral (eastward) and vertical development of the previous WMU1 refuse area from ~~425-100~~ acres to 271 acres (see Figure 4) over a period of approximately ~~48-413~~ years from 2004~~6~~. This time span is based on assumptions presented in Section 2.1.2 and Table 2. Zone 4 encompasses a ~~landfill-refuse~~ footprint of 409 acres in the east portion of the site, which would last for approximately ~~48-3~~ years based on a disposal rate of 4,000 tpd. The total life of the site for landfill purposes, as of ~~January~~June 30, 2006~~4~~, is estimated to be approximately ~~616~~ additional years or to 2067. The total in-place and remaining refuse capacity for the site is summarized in Table 2 (see page T-2). ~~The site's~~ life could be extended if less refuse is accepted for disposal than the projected amount and/or if new technologies are developed which have the effect of increasing the landfill capacity. One such technology is the use of tarps, currently utilized at the landfill, as well as greenwaste or other alternative approaches to daily cover on the active face of the landfill. However, soil for daily cover will continue to be necessary.

As the owner/operator of the landfill, the County of Orange is required to provide amendments to operating permit documentation to the LEA at least every five years, or more frequently, to discuss any changes in the site design, operations plan and/or the remaining life of the landfill.

For operational guidance and to allow a closer examination of the environmental impacts of the GDP over time, phasing scenarios were developed for the landfill which include a four major phases plan for sequential development of for Zone 1 (see Figures 12 and 13 Phases A through D) and a nine major phase plan for the development of Zone 4 (see Figure 14 Phases A through I). Smaller sub-phases of development are implemented based on operational needs and capital budgeting requirements. Table 2 presents a summary of information on refuse capacity, excavation volumes and projected life for Zones 1 (by phase) and 4. Figures 12 through 14-15 illustrate the sequential progress major phases of the landfilling activities at the site from existing conditions (2005) to the end of landfilling operations under the GDP. These major phases will be developed in sub-phases as operations progress. Figures 12 and 13 present the phasing limits of excavation and refuse filling for Zone 1, respectively. Figures 14 and 15 present the phasing limits of excavation and refuse filling for Zone 4, respectively. The excavation phasing limits have been modified for both Zones 1 and 4 in Amendment No. 2 to reflect a greater potential disturbance limit for landslide remediation. The design is intended to minimize the need for stockpiling and double handling of cover material (soil), although substantial stockpiling will be necessary. In general, soil is excavated in new development areas on the site and is stockpiled in future disposal areas and/or is used as daily cover for ongoing operations. It is intended that all excavated soil be used on-site, and that no exporting or importing of soil will be necessary. Should there be a need to import or export soil in the future, that plan would be subject to separate CEQA documentation.

### 3.2.1 ZONE 1 - LANDFILLING

As indicated above, four phases of excavation are proposed for the development of Zone 1 (refer to Figure 12). Filling has occurred in the landfill areas, WMU1, Phases A and A1 with future development continuing to the south and east of the present active footprint of the landfill. The ultimate development of Zone 1 will provide a total area of 271 acres for refuse fill. Eight phases of excavation within major Phases A through D are currently proposed for the full development of Zone 1 (refer to Figure 13). Filling has occurred in landfill areas designated as WMU1 (Summer 1980), Phases A (February 1999), A1 (November 2000), C1 (July 2002), and B (July 2004), A2 (September 2005), B1 (December 2005), and



C2 (expected October 2006) with future development continuing to the east of these active landfill areas. The ultimate development of Zone 1 will provide a total area of 271 acres for refuse fill. The following describes the lined phases of development for Zone 1 (as of 2006).

### **Phase A and A1**

The first phase (Phase A) of lateral development in Zone 1 extends to the east of WMU1 and was the first lined cell in Zone 1. ~~Development of Phase A began in July, 1997 and a A liner and LCRS was were installed prior to refuse filling in Phase A that area, which began in February, 1999.~~

The Phase A development required the excavation of approximately 4.1 mcy of soil, the majority of which (2.4 mcy) was stockpiled to the north and west of WMU1 (Stockpile 2). Approximately 1.7 mcy of the material excavated from Phase A was stockpiled in a 17-acre area to the south of the landfill (Stockpile No. 1), adjacent to the Prima Deshecha Cañada water course running through the site. As a result of unusually heavy rains during early 1998, a landslide developed in Stockpile No. 1.

~~It is estimated that the Stockpile 1 Landslide is more than 2.0 mcy (which is greater than the 1.7 mcy of stockpiled material). It extends over 2,500 feet adjacent to the Prima Deshecha Cañada stream much of this length shows areas of distress to the stream. At the present time, flows through the stream have not been completely blocked although movement of the slide mass has narrowed the stream along the toe of the failure. Recent monitoring has indicated that the slide mass is moving in a northeasterly direction (directly into the stream) and it is anticipated that the landslide will eventually block flows through the channel. Remediation of this landslide is proposed as part of the Phase B development.~~

As a result of the landslide, a Phase A1 area was developed to ensure ongoing operations during the approval process for the landslide remediation plan. Phase A1 is a lined area and is located north of WMU1 (previously Stockpile Area No. 2) and provides d an additional 1.8 years of airspace capacity.

### **Phase A2**

The Phase A2 area was recently constructed (2005) and encompasses approximately 7.5 acres of grading and 3.1 acres of liner area and requires the excavation of approximately 60,000 cy of soil material, 5,000 cy of fill and subsequent lining of the subgrade. Phase A2 was developed to eliminate a low

area created from the adjacent refuse fill. This will ease operational access and drainage. The Phase A2 development area will provide a small increment of additional airspace (estimated at 680,000 cy) for the area between Phases A1 and C1 (see Figure 13). The primary purpose of lining this area is to improve operations and drainage with additional refuse fill. A majority of the cut slope excavation for the Phase A2 liner subgrade was completed concurrently with Phase A1, as the majority of grading proposed for Phase A2 (cut and fill) is required to tie in adjacent bench grades and to accommodate a perimeter drainage system.

The additional liner to be placed for Phase A2 will require realignment of two existing concrete v-ditches to provide perimeter drainage control for the expanded liner. The interim perimeter drainage control system for Phase A2 will be designed to accommodate a 100-year, 24-hour storm event and to minimize erosion.

## **Phase B**

~~The excavation for the next phase (Phase B) of development will be occurred along the southern boundary of Phase A and future Phases C and D Zone 1 (see Figure 12). The design basis for the excavation of Phase B is was the remediation of the landslide in Stockpile No. 1 which includes d realignment of the Prima Deshecha Cañada stream channel to the south. The remediation project includes d the removal of alluvial and stockpile material and recompaction of soil fill to stabilize the landslide, and the realignment of the natural open channel so that it would carry carries water to the east and south of the existing stockpile. To provide a positive grade required to establish this new stream alignment (a minimum 1% grade), some ponding would be required and compacted fill would need to be placed in the channel and surrounding area upstream of the stockpile Zone 1.~~

~~This project would involve the complete removal of approximately 1.7 mc y of stockpiled material and recompaction of approximately 1.2 mc y to stabilize the landslide, achieve channel grades, and provide liner subgrade. The excavation of approximately 1.4 mc y of hillside, comprised of non-native grasslands, would also be required to achieve the realigned channel grade. The realigned natural stream channel would cover in excess of 6 acres, would vary in width from 50 to 85 feet and would be approximately 3,100 feet long. The approximate 85-foot width of the majority of new channel corridor would be adjacent to a 25-foot wide landfill perimeter maintenance road, improved drainage channel and a setback for a final cover keyway. The realigned stream would be outside the area of~~

landfill operations, thus minimizing indirect impacts on streambed biological resources from daily landfill operations and would provide opportunity for additional riparian habitat. Phase B excavation involved the complete removal of approximately 1.7 mcy of stockpiled material and recompaction of approximately 1.0 mcy to stabilize the landslide, achieve realigned channel grades, and provide the liner subgrade. The realigned natural stream channel is in excess of six acres, varying in width from 50 to 101 feet and is approximately 3,100 feet long. The approximate 85 to 101 foot width of the majority of new channel corridor is adjacent to a 25-foot wide landfill perimeter maintenance road, improved drainage channel and a setback for a final cover. The realigned stream is located outside the area of landfill operations, thus minimizing indirect impacts on streambed biological resources from daily landfill operations and providing opportunity for additional riparian habitat.

The entire Part of the area to the south of Phase A and future Phases C and D will be excavated for Phase B; however, only the west portion of the Phase B will be excavation was lined initially for refuse filling (see Figure 13). The remaining area of Phase B will be is being used as a stockpile area and will be lined as part of Phase D for refuse filling future phases of development (future major Phases C and D. Future Phase B filling will extend north into the WMU1 fill area. Phase B filling will eventually extend north into the WMU1 fill area.

### **Phase B1**

The Phase B1 area (construction completed in (2005), encompasses approximately 10.1 acres of excavation and 7.2 acres of liner area, and requires the excavation of approximately 450,000 cubic yards (cy) of soil material and subsequent lining of the subgrade. The Phase B1 liner area unifies filling operations between Phase B to the south and Phase C1 to the north (see Figure 13). This area could not be lined previously with either Phase C1 or Phase B due to a delay in relocating the site's HHWCC located within B1. The HHWCC was recently relocated to the site entrance facility area and Phase B1 is intended to fill in the gap left between Phases B and C1, thereby, facilitating refuse fill operations in that area. The Phase B1 development area provides approximately 4.0 mcy of airspace capacity resulting in two years of life (based on 3,000 tons per day refuse inflow rate, 4:1 refuse-to-soil ratio and 307 operating days per year).

## Phase C

The third phase (Phase C) will extend to the east of Phase A. The construction of the liner system in Phase C will likely occur in two stages due to the projected life of Phase C. Phase C will extend to the east of Phase A (see Figures 13) and is currently comprised of sub-phases C1 and C2. Due to delays in obtaining the landslide remediation and Phase B development project permits and approvals, an interim solution of developing Phase C1 to provide refuse airspace was previously necessary. Phase C1 was developed in July, 2002 ahead of Phase B, as it did not require any permit action other than CEQA compliance. Phase B was, therefore, developed after Phase C1. Phase C1 comprises 34 acres including 21 acres of lined area.

The Phase C2 liner area is proposed to provide additional airspace and time for IWMD excavation of the northerly cut slopes of Zone 1. The Phase C2 development area will provide up to 2.8 million cubic yards (mcy) of airspace capacity resulting in approximately 1.6 years of life (based on 3,000 tons per day refuse inflow rate, 4:1 refuse-to-soil ratio and 307 operating days per year). The Zone 1-Phase C2 development area will extend operations from Phase B and B1 to the east in an area previously occupied by a temporary desilting basin constructed during Phase B1/A2. The eastern edge of the Phase C2 excavation abuts the Phase B stockpile. The northern and western limits of Phase C2 will join the existing landfill subgrade elevations and will connect with the existing liner systems in Phases B and B1. Refuse filling in Phase C2 will also join the refuse fill gradients in Phases B and B1. The Phase C2 liner system is currently under construction (completion expected in October 2006).

## Phase D

The fourth and final phase of Zone 1 (Phase D) will extend to the east of Phases C-B and BC. The construction of the liner system in Phase D will also likely occur in two stages-sub-phases based on the projected capacity and life for Phase D.

Phases C and D will involve the excavation and stockpile of materials for daily cover in the west portion of Phase B and over previous fill areas (for Phase D). Filling in Phase D will reach the remaining final grades in Zone 1.

The Zone 1 final grades are based on MOUs with the Cities of San Clemente and San Juan Capistrano and a CUP with the City of San Juan Capistrano. Excavation of the first phase in Zone 4 will commence toward before the end of filling Phase D of Zone 1.

In addition to the four major phases of liner development in Zone 1, the existing desilting basin at the toe of Zone 1 ~~will be~~ enlarged in 2005 and improved concrete lined. ~~and a~~ permanent LCRS facility is proposed ~~was also completed~~ south of Zone 1 ~~as shown in Figure 4.~~

### 3.2.2 ZONE 4 - LANDFILLING

The current phasing scenario for Zone 4 proposes to begin operations in the northwestern corner (see Phase A in Figure 4 ~~15~~) ~~upon completion of Zone 1.~~ Operations and development of the landfill would then proceed in a ~~counter-clockwise~~ west to east direction, with a series of excavations (see Figure 15) and refuse fills (Phase A through I) until the final grade at 1,010 feet amsl (consistent with the San Clemente MOU) is reached. A more detailed phasing scenario will be developed prior to filling in Zone 4 based on geotechnical stability analyses for each incremental phase. Figure 4 presents the final grades of the completed landfill.

Excavated material in Phase A will be used for daily cover and compacted fills proposed for future phases in Zone 4. Excess excavation material from Phase A ~~will can be~~ stockpiled in Phases B and F ~~subsequent phase areas.~~ Phases B, C, D, E and F ~~will not~~ are not anticipated to require any soil stockpiling for their development. Once fill operations reach Phases G and H, soil material excavated to develop these phases will be stockpiled on the previously filled Phase D.

### 3.3 **RECREATIONAL PLAN PHASING**

The phasing and implementation of recreational uses of the site are constrained in that the landfilling activities and uses will always take precedence over the recreation and circulation improvements on the site and will always govern the timing of uses proposed to occur in areas that were formerly used for landfilling. In addition, the decision to proceed with an interim or ultimate recreational use must be supported by evidence that these uses will not impact ongoing landfilling operations on the site and that public health and safety can be protected. When the active disposal of solid waste on the site is completed, the ultimate recreational uses proposed to be implemented cannot interfere with or adversely affect long-term landfill management activities, including cover maintenance, landfill gas collection and disposal, leachate collection and recovery, groundwater well monitoring and other ongoing landfill maintenance and post-closure activities. Active recreational uses are proposed for Zones 1 and 4 with

trail uses proposed in Zone 2 (including a trail crossing across Zone 5) as described below.

### 3.3.1 PHASING OF RECREATIONAL USES IN ZONE 1

Zone 1 is an area where current landfilling takes place. The area now being filled will gradually be moved eastward to include all of the 271 acres designated for ~~landfilling refuse~~ in Zone 1. In approximately ~~48-13~~ years, as of ~~January, 2004~~<sup>6</sup>, or the year 2019 at the current GDP projected rate of disposal, Zone 1 would be completely filled. After closure activities have been completed, satisfactory access established, and sufficient settlement has occurred, the ultimate recreational uses as identified in a needs analysis could be implemented.

### 3.3.2 PHASING OF TRAIL USES

The PF&RDRDMD/HBP will coordinate the development of trails on the Prima Deshecha site with the development of trails outside the site proposed by the Cities of San Clemente and San Juan Capistrano. The County PF&RDRDMD/HBP's proposed Regional Riding and Hiking Trails ~~Prima Deshecha Trail~~ traverses the Prima Deshecha site along the northeastern perimeter of the property around Zone 4 as shown on Figure 3. The County trail will connect directly with the Cristianitos, University of California and the Regional Riding and Hiking Trails ~~San Juan Creek trails~~, which themselves provide connections to other trails in the area to the south and north, respectively. The off-site connections for the County trails are shown on Figure 3.

As discussed in Section 2.3.4, trails depicted along the perimeter of Zone 4 will be available as interim recreational use only during filling operations of Zone 1. ~~Ongoing discussions commencing in January, 2004~~ with representatives of the Cities of San Clemente and San Juan Capistrano are focused on identifying specific trail alignments around Zone 1. Upon commencement of filling operations in Zone 4, these trails will be closed to the public for the protection of public safety. PF&RDRDMD/HBP may evaluate the possibility of relocating these trails away from landfill operations. This would depend upon their use and importance as a regional trail and the existence of a through trail along the western perimeter of the site at that time. Trail heads proposed directly west of the current entrance facilities will be developed after Zone 1 is closed and directly east of the current entrance facilities after Zone 4 is closed.

On-site City trails around Zone 1 are shown on Figure 3 and can be used throughout the development of Zones 1 and 4. Also identified in Figure 3 are the off-site connections to City trails. The GDP proposes to eventually connect the County trail along Zone 4 with on-site City trails proposed along Zone 1 to provide a complete loop for trail users. These on-site trail connections would not occur until Zone 4 is closed (upon cessation of landfilling) and a trail crossing under future La Pata Avenue in Zone 5 is provided to the south.

### 3.3.3 PHASING OF RECREATIONAL USES IN ZONE 4

Zone 4 is the largest zone on the site, covering approximately 409 acres of refuse area. No interim uses are proposed for Zone 4, although trail uses are proposed during the operational life of Zone 1. After all landfilling operations have been completed in Zone 4, satisfactory access is established and sufficient settlement has occurred, the implementation of the ultimate recreational activities could begin. The ultimate recreational uses for Zone 4 include a wide range of possibilities, and at this time, the designated use for this zone is a regional park. Depending on the demand for recreational uses at the time of implementation, a needs analysis would be conducted and a park plan developed consistent with these demands and adjacent land uses in the area. In addition, biological mitigation and environmental enhancement actions within and around Zone 4 may result in a more passive recreational post-closure use. The park plan would be prepared concurrently with development of the final closure plan.

## 3.4 CIRCULATION PLAN PHASING

~~Two road fee programs were developed to provide funding for construction of La Pata Avenue. The first is the San Clemente Regional Circulation Financing and Phasing Program from which Avenida La Pata was recently deleted by the City of San Clemente. The second is the Avenida La Pata Supplementary Road Fee Program which was formulated by the Board of Supervisors on November 12, 1991, to provide an additional revenue of \$8.5 million for the construction of La Pata Avenue. The Area of Benefit of the latter program consists only of the unincorporated Talega Planned Community. The County has no immediate plans to construct this portion of the roadway; therefore, road fund availability is not being considered at this time. The County RDMD is undertaking a Feasibility Study and will subsequently prepare an Environmental Impact Report (EIR) for a preferred alignment of the La Pata Avenue Gap Closure project. The EIR is anticipated to be publicly distributed in 2006 and the road extension constructed by 2013.~~

Construction of the extension of Camino de los Mares through the southwest corner of the site would be initiated by the Cities of San Clemente and/or San Juan Capistrano. Construction of any roadways through the site would be coordinated among the cities and the IWMD.

### **3.5 FACTORS AFFECTING PHASING**

The implementation and phasing of the GDP landfilling, recreational uses and circulation may be affected by factors that could either change in the future or that are otherwise outside the control of the IWMD, PF&RDRDMD/HBP and other interested agencies and parties. Some of these potential factors are discussed in this section.

#### **3.5.1 FACTORS AFFECTING LANDFILL PHASING**

The phasing and staging of the landfilling uses under the GDP could be affected by the following factors:

- Increase or reduction in the rate of disposal could result in landfilling operations occurring for a shorter or longer period on the site.
- The capacity and life of the site could be increased or decreased based on detailed geotechnical analysis and final design, changes in landfill design standards and regulations, changes in daily cover use and final cover requirements, changes to the permitted refuse inflow rate and other similar changes.
- Increased recycling activities could result in a reduction in the volume of solid waste disposal in the landfill.

#### **3.5.2 FACTORS AFFECTING CIRCULATION PHASING**

The phasing of the circulation and roadway improvements under the GDP could be affected by the following factors:

- Timing and construction of other arterial or freeway improvements in the area.
- Availability of funding to construct the extension of La Pata Avenue through the site, to extend Camino de los Mares and Camino Las Ramblas, and to construct the widened segment of La Pata Avenue north of the site.



- Phasing of the recreational uses and other demand for the extension of La Pata Avenue through the site.
- Amendments to arterial highway extensions in the MPAH and changes to City general plan circulation elements.

### 3.5.3 FACTORS AFFECTING RECREATION PHASING

The phasing of the implementation of the recreational uses under the GDP could be affected by the following factors:

- Changes in the life of Zones 1 and 4 due to factors discussed in Section 3.5.1.
- Phasing of the on-site circulation improvements and the access roads to the individual recreational zones.
- Changes in the existing and future demand for recreational resources in south Orange County, including changes in the demand for the types of recreational uses proposed for the site.
- Receipt of a satisfactory proposal by a concessionaire to develop and operate a golf course on Zone 1, if that is the final selected use for the area.

### 3.6 **SUBSEQUENT ACTIONS**

Upon certification of SEIR 575-597 and approval of Amendment No. 2 to the 2001 GDP, ~~permit revision applications will be submitted to the LEA and SDRWQCB to reflect the new landfill plan. Also, an application for an amended Conditional Use Permit with the City of San Juan Capistrano will be submitted~~ the following permits will be required in order to implement a biological pre-mitigation program prior to future landfill impacts on biological resources:

- Individual 404 Permit from the U.S. Army Corps of Engineers including a Biological Opinion from the United States Fish and Wildlife Service.
- 401 Water Quality Certification Permit from the Regional Water Quality Control Board, San Diego Region.
- 1602 Streambed Alteration Agreement from the State Department of Fish and Game. This permit will not be required upon approval of the SNCCP/MSAA/HCP.
- 2080.1 Consistency Determination for Federally listed species. This determination will not be required upon approval of the SNCCP/MSAA/HCP.

The two primary support documents for the application are the Joint Technical Document and the Preliminary Closure and Post-Closure Maintenance Plans (PCPCMP). The Joint Technical Document includes:

- ~~Disposal Site Improvements.~~
- ~~Disposal Site Operations.~~
- ~~Disposal Site Controls.~~
- ~~Disposal Site Design.~~
- ~~Disposal Site Characteristics.~~

The PCPCMP includes:

- ~~Final Cover Design.~~
- ~~Final Grading and Drainage Plans.~~
- ~~Landfill Gas Control System Plans.~~
- ~~Landscaping and Irrigation Plans.~~
- ~~Site Security Plan.~~
- ~~Closure Plan Implementation Schedule.~~
- ~~Post-Closure Maintenance, Monitoring and Operational Procedures.~~
- ~~Closure and Post-Closure Maintenance Costs.~~

Full implementation of the 2001 GDP landfill plan will also require the following landfill regulatory agency permit actions:

- Amended Waste Discharge Requirements from the Regional Water Quality Control Board, San Diego Region.
- Revised Solid Waste Facility Permit from the County of Orange Health Care Agency and concurred on by the California Integrated Waste Management Department.

- Permits to Construct/Operate Landfill Gas Control System facilities for ongoing operations from the South Coast Air Quality Management District.
- Annual Update to the General Permit to Discharge Stormwater Associated with Industrial Activity – Water Quality Order No. 97-03-DWQ. Issued by the State Water Resources Control Board.

These landfill operation permit revisions need to be approved prior to operations in Zone 4.

~~Once revised~~In addition to permits are issued~~revisions~~, the site will be is subject to a permit review at least once every five years. In addition, the LEA inspects the site monthly, the SCAQMD quarterly, the SDRWQCB at least annually, and the CIWMB every 18 months for compliance with permit conditions and regulatory standards under each agency's jurisdiction.

Other subsequent actions for the site include:

- ~~404 Permit from the U.S. Army Corps of Engineers.~~
- ~~401 Permit from the Regional Water Quality Control Board, San Diego Region.~~
- ~~1601 Streambed Alteration Agreement from the State Department of Fish and Game.~~
- On-going CEQA Mitigation Monitoring.
- ~~Needs Analysis and Plans for Interim and Ultimate Recreational Uses.~~
- ~~On-going Landfilling Operations.~~
- Liner Construction Phasing Plans~~Design Reports for Landfilling Activities~~each phase of development.
- Final Circulation Alignments and~~Element Permit Approvals, Design, and Improvements.~~
- Needs Analysis and Plans for Interim and Ultimate Recreational Uses.
- Construction of Interim and Ultimate Recreational Improvements.
- Preparation of Final Closure and Post-Closure Plans.

## **SECTION 4.0**

## 4.0 LANDFILL REGULATIONS

The Prima Deshecha Landfill is a Class III landfill which is permitted for the disposal of non-hazardous municipal solid waste and digested sewage sludge (biosolids). State law requires that landfills operate under the authority of the CIWMB which exercises its authority through approval of a SWFP issued by a LEA. Organizationally, the LEA for Orange County landfills is a department within the County of Orange Health Care Agency, Environmental Health Division. The SDRWQCB also regulates landfill operations and design to ensure protection of surface and groundwater. The SDRWQCB exercises its authority through issuance of WDRs. The South Coast Air Quality Management District (SCAQMD) also regulates landfill operations related to landfill emissions control and monitoring and fugitive dust control.

The basis for the issuance of a SWFP is continuously reviewed during the life of the landfill and the permit may be modified, revised or revoked at any time. The system of landfill operation review (and imposed adjustment, as necessary) is accomplished through a reporting and monitoring procedure established by state statute. The basic elements of this reporting and monitoring system are:

- Joint Technical Document (JTD) (Title 27, California Code of Regulations [27 CCR] 21585 and 21590). The JTD is a document which fully describes the landfill site operations, design and future plans and is the primary regulatory support document for a SWFP and WDRs. The information contained in the JTD is used by the LEA and RWQCB to monitor compliance with a SWFP or WDR, respectively. In order to maintain a valid permit, the operator must ~~continuously update~~ keep the JTD current, through the filing of amendments to keep the information current.
- Review of Permits (27 CCR 21675). The SWFP shall be reviewed and, if necessary, revised from the date of last issuance at least once every five years. A permit review report is prepared by the LEA to determine if any permit changes have occurred at the site which require a permit that action to be taken by the operator.
- Recordkeeping Requirements (27 CCR 20515). The disposal site operator must maintain operational records which are open to inspection by the LEA and any other authorized regulatory or enforcement agency during normal business hours.
- State Minimum Standards (27 CCR). Title 27 CCR minimum standards are administered by the CIWMB, LEA and the local RWQCB. These regulations are oriented toward refuse disposal operations and site design including provisions for odor and litter control, hazardous waste exclusion, protection of surface water and groundwater quality, landfill gas control, and closure and post-closure care.

Although the CIWMB has primary oversight and regulatory responsibilities for the site and has designated the County of Orange Environmental Health Care Agency, Environmental Health Division as its LEA, the site is regulated at other federal, state and local levels. The site must also comply with regulatory and administrative requirements set forth by the U.S. Environmental Protection Agency (USEPA), the USFWS, the United States Army Corps of Engineers (~~AGOE~~USACE), the DFG, CEQA, the SDRWQCB, the SCAQMD, the Orange County Fire Authority, the County of Orange Resources and Development Management Department, City MOUs and Land Use Permits. The following are descriptions of these agencies and the regulations or requirements they are responsible for at the site.

## FEDERAL LEVEL

### **United States Environmental Protection Agency**

On October 9, 1991, the USEPA promulgated Subtitle D changes to the Resource Conservation and Recovery Act providing for nationwide minimum standards for landfilling municipal solid waste which became effective October 9, 1993. The regulations include requirements relating to daily cover, liners, landfill gas control, recordkeeping, groundwater monitoring, and closure and post-closure maintenance. After the USEPA approves a state plan, the regulations allow discretion on the part of state regulators to grant some flexibility to landfill operators in implementing Subtitle D regulations. California has been designated an "Approved State".

In addition, the USEPA is responsible for implementation of the Federal Clean Air Act (CAA). The CAA was first enacted in 1955 and has been amended numerous times in subsequent years (1963, 1965, 1967, 1970, 1977, 1990, and 1997). Under the authority granted by the CAA, USEPA has established National Ambient Air Quality Standards (NAAQS) for the following criteria pollutants: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>), particulate matter (PM10 and PM2.5), and sulfur dioxide (SO<sub>2</sub>).

The CAA also specifies future dates for achieving compliance with the NAAQS and mandates that states submit and implement a State Implementation Plan (SIP) for local areas not meeting these standards. These plans must include pollution control measures that demonstrate how the standards will be met. The 1990 amendments to the CAA identify specific emission reduction goals for air basins not meeting the NAAQS. These amendments require both a demonstration of reasonable further progress toward attainment and incorporation of additional sanctions for failure to attain or meet interim milestones.

## **U.S. Army Corps of Engineers**

The ACOEUSACE Regulatory Branch is responsible for assuring compliance with Section 404 of the Clean Water Act with respect to wetlands resources. Most activities involving wetland impacts require the approval of an individual 404 permit by the ACOEUSACE.

## **U.S. Fish and Wildlife Service**

The USFWS reviews and comments on all federal actions that affect wetlands and waters of the United States, including all 404 permitting applications submitted to the ACOEUSACE to assure compliance with the Federal Endangered Species Act (FESA) which concerns activities that affect plant or animal species listed in the FESA. USFWS implements the FESA through various mechanisms: the Natural Community Conservation Plans, Interim Habitat Loss Mitigation Plans, and Habitat Conservation Plans.

## **STATE AND LOCAL LEVEL**

### **California Air Act/California Air Resources Board (CARB)**

The California Clean Air Act (CCAA), signed into law in 1988, requires all areas of the State to achieve and maintain the California Ambient Air Quality Standards (CAAQS) by the earliest practical date. The CAAQS are at least as stringent, and often more stringent, than the NAAQS.

The CARB has been granted jurisdiction over a number of air pollutant emission sources that operate in the State. Specifically, CARB has the authority to develop emission standards for on-road motor vehicles, as well as for stationary sources and some off-road mobile sources. In turn, CARB has granted authority to the regional air pollution control and air quality management districts to develop stationary source emission standards, issue air quality permits, and enforce permit conditions.

### **California Department of Fish and Game**

Any activity that affects a river, stream, or lake may require a Lake or Streambed Alteration Agreement in accordance with the provisions of Sections 1600-1607 of the CDFG Code.

Section 2080.1 of the California Fish and Game Code authorizes the Director, California Department of Fish and Game to consider a request for incidental take of species listed as endangered by both the California Department of Fish and Game (CDFG) and the Department of the Interior for which an incidental take permit has been

issued pursuant to Section 1539 of Title 16 of the United States Code authorizing the taking of an endangered species or a threatened species that is listed pursuant to Section 1533 of Title 16 of the United States Code that is an endangered species, threatened species, or candidate species pursuant to this chapter. It is IWMD's intent to obtain incidental take authorizations from the Department of the Interior through the provisions of Section 7 of the Federal Endangered Species Act in association with the U.S. Army Corps of Engineer's Section 404 permit required to address impacts to wetlands and Waters of the United States that are under the jurisdiction of this federal agency.

Once the Section 7 Consultation is completed between the USACE and the U.S. Fish and Wildlife Service (USFWS) and a biological opinion (BO) has been issued to the USACE by the USFWS, IWMD will prepare and transmit a request for a Consistency Determination with this BO to the Director, CDFG. This submittal will notify the Director in writing that IWMD has received an incidental take permit issued pursuant to the federal Endangered Species Act of 1973 (16 U.S.C.A. Sec. 1531 et seq.).

### **California Environmental Quality Act**

County landfill projects are required to be in compliance with CEQA. When approving landfill projects, the County is required to adopt adequate environmental documentation in order to comply with this law.

### **South Coast Air Quality Management District**

The SCAQMD has jurisdiction over an area of 10,743 square miles consisting of Orange County, the non-desert portions of Los Angeles, Riverside and San Bernardino counties, and the Riverside County portions of the Salton Sea Air Basin and Mojave Desert Air Basin. Southern California Air Basin (SCAB) is a subregion of the SCAQMD's jurisdiction, which covers an area of 6,745 square miles and includes all of Orange County and the nondesert portions of Los Angeles, Riverside, and San Bernardino counties. While air quality in this area has improved, the basin requires continued diligence to meet air quality standards.

The SCAQMD has adopted a series of Air Quality Management Plans (AQMPs) to meet the CAAQS and NAAQS. These plans require, among other emissions-reducing activities, control technology for existing sources; control programs for area sources and indirect sources; a permitting system designed to ensure no net increase in emissions from any new or modified permitted sources of emissions; transportation control measures; sufficient control strategies to achieve a five percent or more annual reduction in emissions (or 15 percent or more in a three-year period) for Reactive



Organic Compounds (ROC),<sup>1</sup> NO<sub>x</sub>, CO, and PM<sub>10</sub>; and demonstration of compliance with the CARB's established reporting periods for compliance with air quality goals.

The 1997 AQMP, as amended in 1999, was approved by the USEPA in April 2000. The 1997/1999 AQMP represents the SIP for CO, O<sub>3</sub>, NO<sub>2</sub>, and PM<sub>10</sub> that is currently applicable to sources in the SoCAB.

On August 1, 2003, the SCAQMD adopted a comprehensive update, the 2003 AQMP for the basin. The 2003 AQMP outlines the air pollution control measures needed to meet now superceded federal 1-hour standard for O<sub>3</sub> by 2010,<sup>2</sup> and to meet the federal PM<sub>10</sub> standard by 2006. It also demonstrates how the federal standard for CO, achieved for the first time at the end of 2002, will be maintained. Lastly, the plan takes a preliminary look at what will be needed to achieve new and more stringent health standards for O<sub>3</sub> and PM<sub>2.5</sub>. The 2003 AQMP was approved by CARB and submitted to USEPA for its final approval on January 9, 2004.

The SCAQMD also adopts rules to implement portions of the AQMP. Various rules apply to landfill operations, including landfill emissions control and monitoring, sulfur emissions monitoring, and fugitive dust control. The SCAQMD conducts periodic inspections of the site and, similar to the RWQCB, may impose civil liabilities for permit violations.

Certain stationary sources of air pollution at the Prima Deshecha Landfill require permits from the SCAQMD. Emission increases related to those sources may also be subject to SCAQMD Regulation XIII or Regulation XXX (Title V).

In addition to the AQMP and its rules and regulations, the SCAQMD published a handbook (*CEQA Air Quality Handbook*; most recent version: November 1993) that is intended to provide local governments with guidance for analyzing and mitigating project-specific air quality impacts for both land use and permitting projects. The Handbook provides standards, methodologies and procedures for conducting air quality analyses in EIRs.

The California Clean Air Act, Federal Clean Air Act and the Lewis-Presley Air Quality Management Act authorize the adoption of rules and regulations for air quality permits and govern the enforcement of those permits and rules. These acts are all administered and enforced by the SCAQMD. Various rules apply to landfill operations,

<sup>1</sup> Reactive organic compounds (ROC) and volatile organic compounds (VOC) are designations made by CARB and USEPA, respectively, for organic compounds that can react with NO<sub>x</sub> in the presence of sunlight to form O<sub>3</sub>. Slight variations exist between the two designations; for example, the CARB definition of ROC includes ethane while the USEPA definition of VOC does not.

<sup>2</sup> In 1997, the USEPA adopted a new 8-hour O<sub>3</sub> NAAQS, and on June 15, 2005, the previous 1-hour O<sub>3</sub> NAAQS was revoked.

including landfill emissions control and monitoring, sulfur emissions monitoring, and fugitive dust control. The SCAQMD conducts periodic inspections of the site and, similar to the RWQCB, may impose civil liabilities for permit violations.

New Source Performance Standards/Emission Guidelines (NSPS/EG): On March 12, 1996, the USEPA promulgated standards of performance for new municipal solid waste landfills and emission guidelines for existing municipal solid waste landfills. These standards/guidelines for active landfills are intended to limit gaseous emissions to prevent public nuisance and possible detriment to public health caused by exposure to such emissions.

Regulation XXX – Title V Permits: This regulation prohibits construction, modification, relocation, or operation of a Title V facility, or equipment located at a Title V facility, without first obtaining a Title V permit or permit revision that allows such construction, modification, relocation or operation. Title V is part of the 1990 Clean Air Act Amendments and consists of a single air permit, which consolidates and replaces all the previously issued air permits for a facility. The USEPA granted interim approval of the SCAQMD Title V program in February, 1997 and the program became effective March 31, 1997. The SCAQMD program is called Regulation XXX.

Rule 1402 – Control of Toxic Air Contaminants from Existing Sources: The purpose of this rule is to reduce the health risk associated with emissions of toxic air contaminants from existing sources by specifying limits for maximum individual cancer risk (MICR), cancer burden, and noncancer acute and chronic hazard index (HI) applicable to total facility emissions and by requiring facilities to implement risk reduction plans to achieve specified risk limits, as required by the Hot Spots Act and this rule. The rule also specifies public notification and inventory requirements.

Rule 1401 – New Source Review of Toxic Air Contaminants: This rule prohibits the air district from issuing an authority to construct or a permit to operate to any facility that would create an unacceptable public health risk from the emissions of toxic air contaminants. Unacceptable individual cancer risk from a permitted source is one change in a million. If Toxics-Best Available Control Technology (T-BACT) is employed, the allowable risk is increased to 10 in one million.

Regulation XIII – New Source Review: This regulation requires that Best Available Control Technology (BACT) be utilized to reduce pollutants from stationary sources.

Ozone and Particulate Matter (PM<sub>10</sub> and PM<sub>2.5</sub>): The USEPA promulgated new clean air standards for ozone and fine particulates on July 18, 1997 based on the most recent medical studies regarding public health. The USEPA will be finalizing policies to implement the new air quality standards. In addition, the USEPA will require new

~~controls after the year 2002. The SCAQMD is soliciting preliminary public comments on possible control approaches and the best means to monitor the progress towards attainment of the new air quality standards.~~

Rule 1150.1 – Landfill Gas Emissions: The purpose of the current Rule 1150.1 for active and inactive landfills is to prevent public nuisance and possible detriment of public health caused by exposure to landfill gas emissions. The SCAQMD rewrote these rules to meet the federal NSPS/EG requirements.

Rule 431.1 – Sulfur Emissions: The purpose of this rule is to reduce sulfur oxides (SOx) emissions from the burning of gaseous fuels in stationary equipment and requires a permit to operate from the SCAQMD. The SCAQMD rewrote the Rule to raise the average daily limit of 40 parts per million (ppm) to 150 ppm effective June 12, 1998.

Rule 403 – Fugitive Dust Emissions: The purpose of this rule is to reduce the amount of particulate matter entrained in the ambient air as a result of man-made fugitive dust sources by requiring actions to prevent, reduce or mitigate fugitive dust emissions.

Rule 402 – Nuisance: This rule prohibits annoying odors from landfill operations.

### **San Diego Regional Water Quality Control Board**

Under the Porter-Cologne Water Quality Act (California Water Code Section 13000 et. seq.) (Porter-Cologne), the County is required to report waste discharges that could affect water quality. Porter-Cologne is administered and enforced by the State of California Water Resources Control Board and Regional Water Quality Control Boards. The SDRWQCB regulates the Prima Deshecha Landfill.

Waste Discharge Requirements: Pursuant to Porter-Cologne, the RWQCBs issue WDRs containing terms and conditions of permitted discharges for landfills. The WDRs typically mandate a regular self-monitoring program to detect pollutants. In the event of a violation of a WDR, the RWQCB may issue either a cease and desist order or a cleanup and abatement order which mandate deadlines for remedial action. A landfill operator's failure to comply with a RWQCB order or reporting requirements may result in administrative or judicial civil liabilities ranging up to \$25,000 a day.

National Pollutant Discharge Elimination System: National Pollutant Discharge Elimination System (NPDES) is a federal program of the Clean Water Act, administered by the RWQCB which regulates non-point storm water pollution. In 1997, the USEPA reauthorized the program and the County filed new Notices of Intent in compliance with the program.

**Solid Waste Assessment Testing:** Porter-Cologne also instituted the water quality Solid Waste Assessment Testing (SWAT) program, which requires an analysis of surface and groundwater under and within a one mile radius of a designated landfill for leakage of hazardous waste. If leakage outside of the landfill occurs, operators of the landfill must notify the State Department of Health Services and the CIWMB. These agencies may impose remedial action upon the landfill depending on the nature and extent of the release.

### **Orange County Fire Authority**

The Orange County Fire Authority regulates the storage and use of flammable or combustible liquids and the adequacy of fire break roads at the site.

### **Orange County Resources and Development Management Department**

The County of Orange RDMD regulates the construction of structures at the site and issues building, mechanical, electrical, and plumbing permits for certain landfill projects.

### **Cities of San Clemente and San Juan Capistrano**

MOUs between the County of Orange and the City of San Juan Capistrano (approved in September, 1995) and between the County of Orange and the City of San Clemente (approved in July, 1997) have been issued which specify requirements, guidelines and conditions for the operations and development of the site.

The MOU with the City of San Juan Capistrano identifies mitigation agreed to by the County for impacts on the City due to the acceptance of out-of-County waste at the landfill. This MOU addresses road improvements, ridgeline preservation, sound/visual berms, park planning and traffic circulation as they relate to the General Plan Amendment for the site and the GDP.

The MOU with the City of San Clemente establishes GDP guidelines (including grading and height limits, zone boundary adjustments and landscape treatment), provides for the development of a joint feasibility study to determine appropriate flood control infrastructure for the Prima Deshecha Cañada watershed from the landfill to Interstate 5 and addresses certain water quality issues.

A CUP (No. 95-4) has also been issued by the City of San Juan Capistrano for that portion of the site within the City boundaries. The permit places conditions on the landfill use and landfill-related uses for Zone 1.

### **Rancho Mission Viejo, LLC (RMV)**

The RMV agreements between the County and Rancho Mission Viejo, LLC place restrictions on the eastern 945 acres of the Prima Deshecha property including Zone 4. These restrictions are contained in a Settlement Agreement and Covenant and Declaration of Restrictions.

The Settlement Agreement contains requirements for County's use of restricted area on Prima Deshecha Landfill (PDL) property and RMV use of a no-build area adjacent to the PDL property on RMV lands.

The Covenant and Declaration of Restrictions contains restrictions on the landfill operations area and restricted area on PDL property as well as requirements for maintenance, dust and litter controls for La Pata Avenue.

The project described in the GDP as amended can be implemented under the requirements in the Settlement Agreement and Covenant & Declaration of Restrictions.

## **SECTION 5.0**

## 5.0 TECHNICAL REFERENCES

- BonTerra Consulting, Screencheck Draft Supplemental Environmental Impact Report 597, Second Amendment to the 2001 Prima Deshecha General Development Plan, prepared for Orange County Integrated Waste Management Department (August 5, 2005)
- Bryan A. Stirrat & Associates, Inc., Preliminary Closure Plan Joint Technical Document Prima Deshecha Sanitary Landfill Volumes I, and II, and III prepared for County of Orange Integrated Waste Management Department (July, 1990; Revised February, 1993 November 2003, Amendment No. 1: April 2004, Amendment No. 2: May 2005).
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- GeoLogic Associates, *Geotechnical Investigation Report – Zone 1 Master Plan*, prepared for County of Orange, Integrated Waste Management Department (October, 1999).

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## **TABLES**

**TABLE 1**

**PRIMA DESHECHA LANDFILL  
SUMMARY OF TOTAL AIRSPACE  
(AS OF JUNE 30, 2006)**

<b>Landfill Area</b>	<b>Airspace Filled<sup>(1)</sup> (mcy)</b>	<b>Remaining Total Airspace<sup>(1)</sup> (or Capacity) (mcy)</b>	<b>Total Airspace (or Capacity) (mcy)<sup>(2)(3)</sup></b>
Zone 1	26.8	26.3	53.1
Zone 4	2.3 <sup>(4)</sup>	116.2 <sup>(5)</sup>	118.5
<b>Total</b>	<b>29.1</b>	<b>142.5</b>	<b>171.6</b>

The following assumptions are the basis for Table 1 and are subject to change as operations progress:

mcy = million cubic yards.

- (1) Airspace filled based on IWMD Landfill Capacity Data As of June 30, 2006 table.
- (2) Total airspace for Zones 1 and 4 based on JTD Amendment No. 2, Appendix C, dated May 2005. Includes airspace available for refuse, daily/intermediate cover (assuming 4:1 refuse-to-soil ratio) and liner/protective cover/LCRS (0.4 mcy for Zone 1 and 5.2 mcy for Zone 4).
- (3) Final cover not accounted for in Total Airspace until landfill is within 5 years of closure. Natural settlement of landfill mass should create enough additional airspace to accommodate final cover volume.
- (4) Based on IWMD tonnage records for WMU2 (JTD Amendment No. 2, Appendix C, dated May 2005).
- (5) Based on JTD Amendment No. 2, Table 4, dated May 2005.

**TABLE 2**

**PRIMA DESHECHA LANDFILL  
AMENDMENT NO. 2 TO  
2001 GENERAL DEVELOPMENT PLAN  
SUMMARY OF REMAINING CAPACITY AND LIFE  
(AS OF JUNE 30, 2006)**

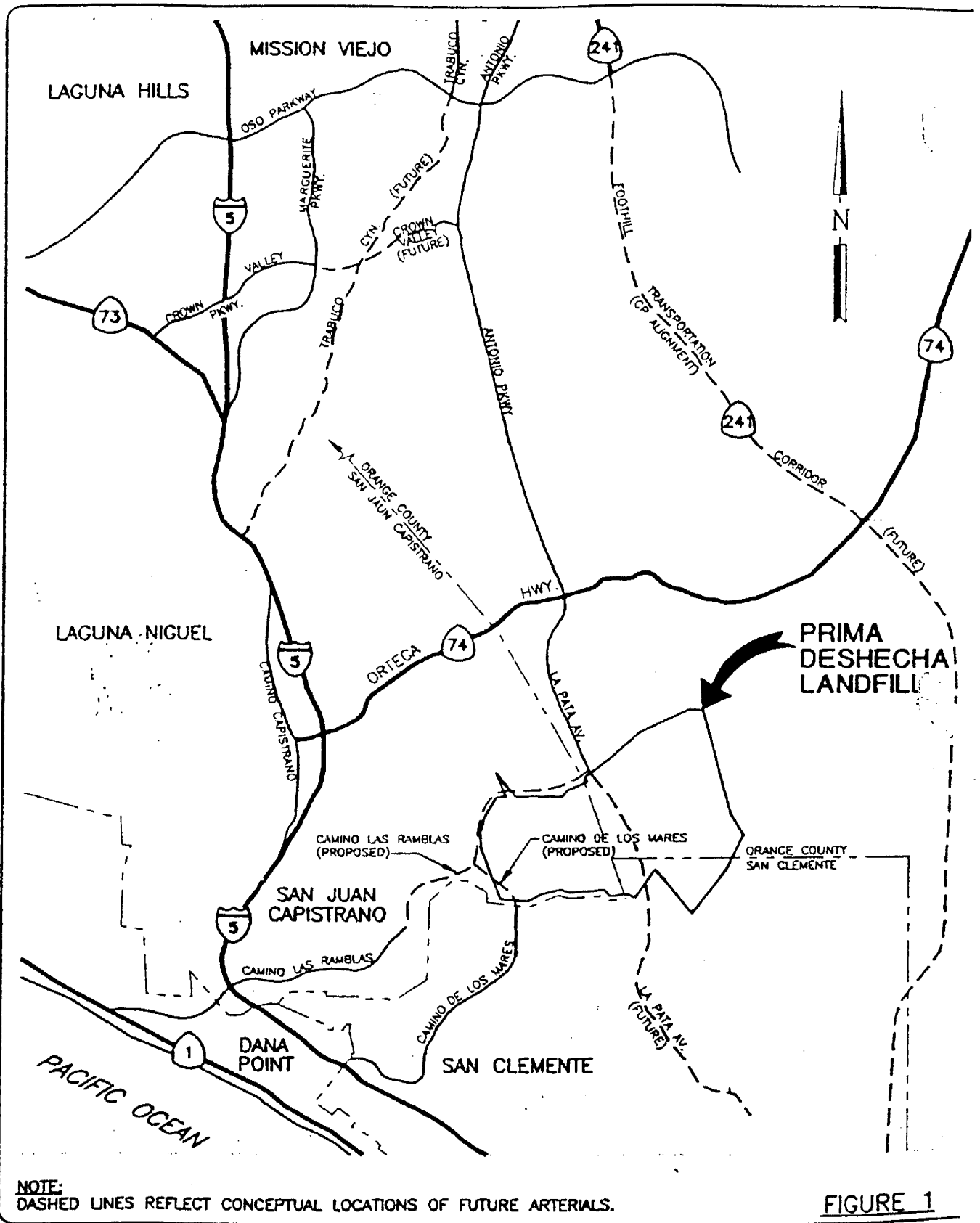
<b>Landfill Area</b>	<b>Remaining Total Airspace (or Capacity) (mcy) <sup>(1)</sup></b>	<b>Remaining Refuse Capacity (mcy) <sup>(2)</sup></b>	<b>Remaining Refuse Tonnage (million tons) <sup>(3)</sup></b>	<b>Remaining Life (years)</b>
Zone 1	26.3	20.7	13.8	13.4 <sup>(4)</sup>
Zone 4	116.2	88.8	59.2	48.3 <sup>(5)</sup>
<b>Total</b>	<b>142.5</b>	<b>109.5</b>	<b>73.0</b>	<b>61.7</b>

The following assumptions are the basis for Table 2 and are subject to change as operations progress:


mcy = million cubic yards

- (1) See Table 1.
- (2) Conversion from net airspace (Total Airspace – Liner/Protective Cover/LCRS) based on 4:1 refuse-to-soil ratio. Liner/Protective Cover/LCRS volume for Zone 1 = 0.4 mcy and Zone 4 = 5.2 mcy).
- (3) Assumes unit weight of waste in-place is 1,333 lbs/cy for Zones 1 and 4.
- (4) Assumes refuse inflow rate of 2,500 tpd from 6/30/06 to 12/31/08; 3,000 tpd from 1/1/09 to 12/31/13; and 4,000 tpd from 1/1/14, thereafter.
- (5) Assumes a daily refuse inflow rate of 4,000 tpd. Zone 4 life after closure of Zone 1.

## FIGURES



**FIGURE 1**

 <b>BRYAN A. STIRRAT &amp; ASSOCIATES</b>	<b>PRIMA DESHECHA LANDFILL</b>	JOB NO. 9845-91
	<b>GENERAL DEVELOPMENT PLAN REGIONAL LOCATION MAP</b>	DATE 3-98 DRAWN BY T.J.S. DRAWING NO. 179180B

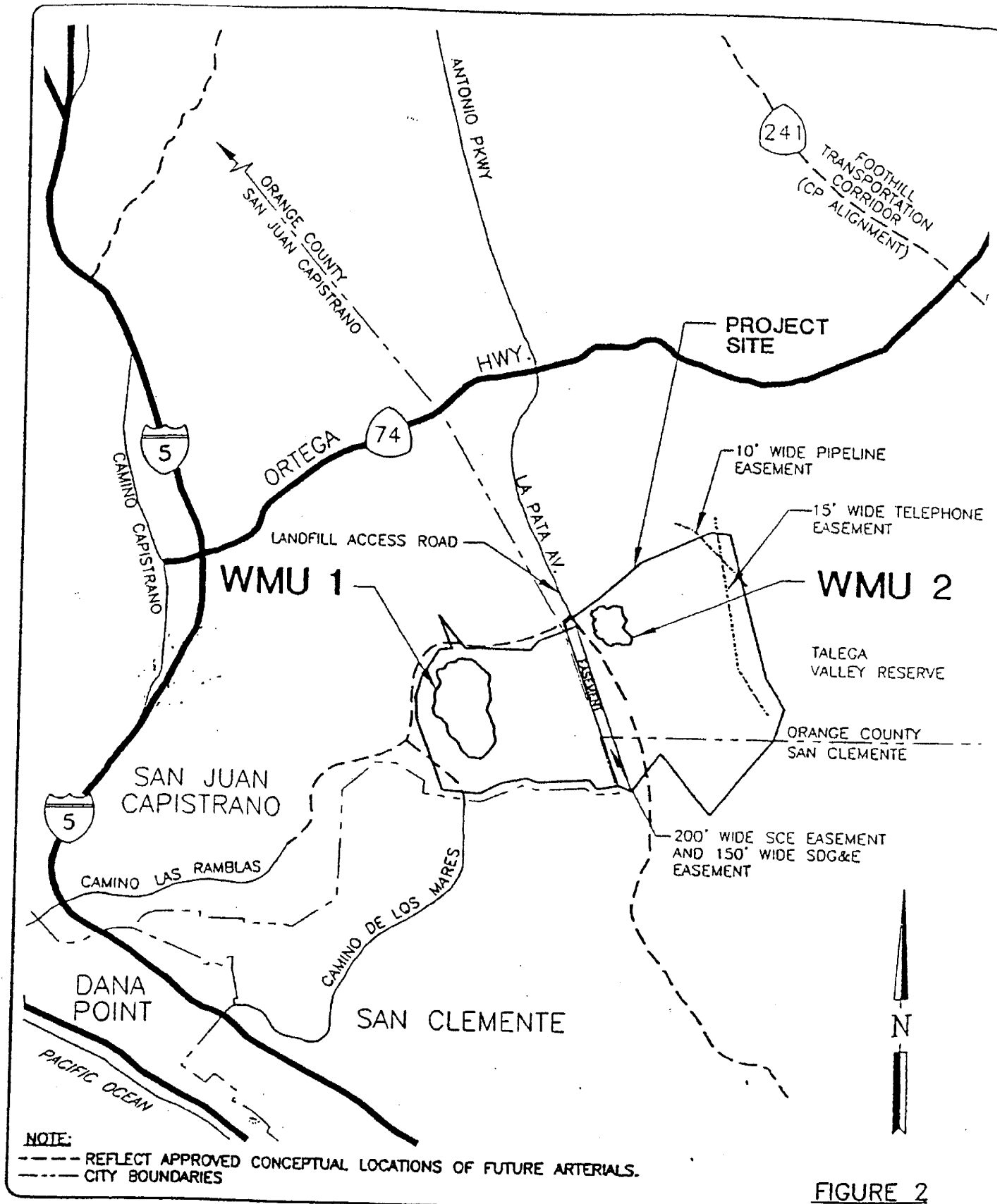



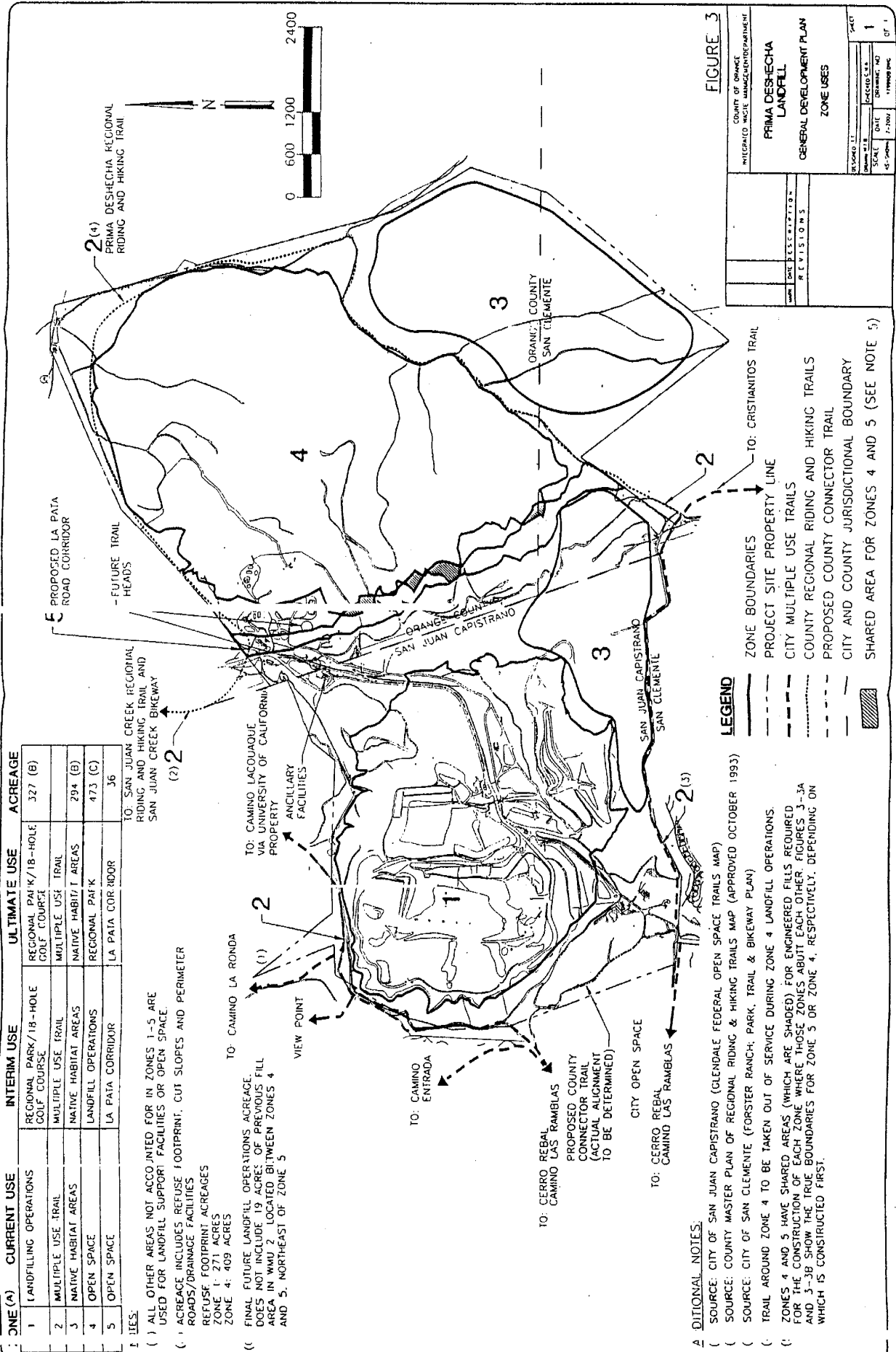
FIGURE 2

 <p><b>BRYAN A. STIRRAT &amp; ASSOCIATES</b>          CIVIL AND ENVIRONMENTAL ENGINEERS          1360 VALLEY VISTA DRIVE DANA POINT, CA 91705</p>	(909) 860-7777	<p>PRIMA DESHECHA LANDFILL</p> <p><b>GENERAL DEVELOPMENT PLAN</b>  <b>SITE LOCATION</b></p>	JOB NO. 0845-01	
				DATE 01-01
				DRAWN BY M.T.B.
				DRAWING NO. 1765708

ZONE (A)	CURRENT USE	INTERIM USE	ULTIMATE USE	ACREAGE
1	LANDFILL OPERATIONS	REGIONAL PARK/18-HOLE GOLF COURSE	REGIONAL PARK/18-HOLE GOLF COURSE	327 (B)
2	MULTIPLE USE TRAIL	MULTIPLE USE TRAIL	MULTIPLE USE TRAIL	294 (B)
3	NATIVE HABITAT AREAS	NATIVE HABITAT AREAS	NATIVE HABITAT AREAS	473 (C)
4	OPEN SPACE	LANDFILL OPERATIONS	REGIONAL PARK	36
5	OPEN SPACE	LA PATA CORRIDOR	LA PATA CORRIDOR	

**NOTES:**

- ( ) ALL OTHER AREAS NOT ACCOJNITED FOR IN ZONES 1-5 ARE USED FOR LANDFILL SUPPORT FACILITIES OR OPEN SPACE.
- ( ) ACREAGE INCLUDES REFUSE FOOTPRINT, CUT SLOPES AND PERIMETER ROADS/DRAINAGE FACILITIES
- ( ) REFUSE FOOTPRINT ACREAGES  
ZONE 1: 271 ACRES  
ZONE 4: 409 ACRES
- ( ) FINAL FUTURE LANDFILL OPERATIONS ACREAGE DOES NOT INCLUDE 19 ACRES OF PREVIOUS FILL AREA IN WMU 2 LOCATED BETWEEN ZONES 4 AND 5, NORTHEAST OF ZONE 5



**LEGEND**

- ZONE BOUNDARIES
- PROJECT SITE PROPERTY LINE
- CITY MULTIPLE USE TRAILS
- COUNTY REGIONAL RIDING AND HIKING TRAILS
- PROPOSED COUNTY CONNECTOR TRAIL
- CITY AND COUNTY JURISDICTIONAL BOUNDARY
- ▨ SHARED AREA FOR ZONES 4 AND 5 (SEE NOTE 5)

**ADDITIONAL NOTES:**

- ( ) SOURCE: CITY OF SAN JUAN CAPISTRANO (GLENDALE FEDERAL OPEN SPACE TRAILS MAP)
- ( ) SOURCE: COUNTY MASTER PLAN OF REGIONAL RIDING & HIKING TRAILS MAP (APPROVED OCTOBER 1993)
- ( ) SOURCE: CITY OF SAN CLEMENTE (FORSTER RANCH, PARK, TRAIL & BIKEWAY PLAN)
- ( ) TRAIL AROUND ZONE 4 TO BE TAKEN OUT OF SERVICE DURING ZONE 4 LANDFILL OPERATIONS.
- ( ) ZONES 4 AND 5 HAVE SHARED AREAS (WHICH ARE SHADED) FOR ENGINEERED FILLS REQUIRED FOR THE CONSTRUCTION OF EACH ZONE WHERE THOSE ZONES ABUT EACH OTHER. FIGURES 3-3A AND 3-3B SHOW THE TRUE BOUNDARIES FOR ZONE 5 OR ZONE 4, RESPECTIVELY, DEPENDING ON WHICH IS CONSTRUCTED FIRST.

**FIGURE 3**

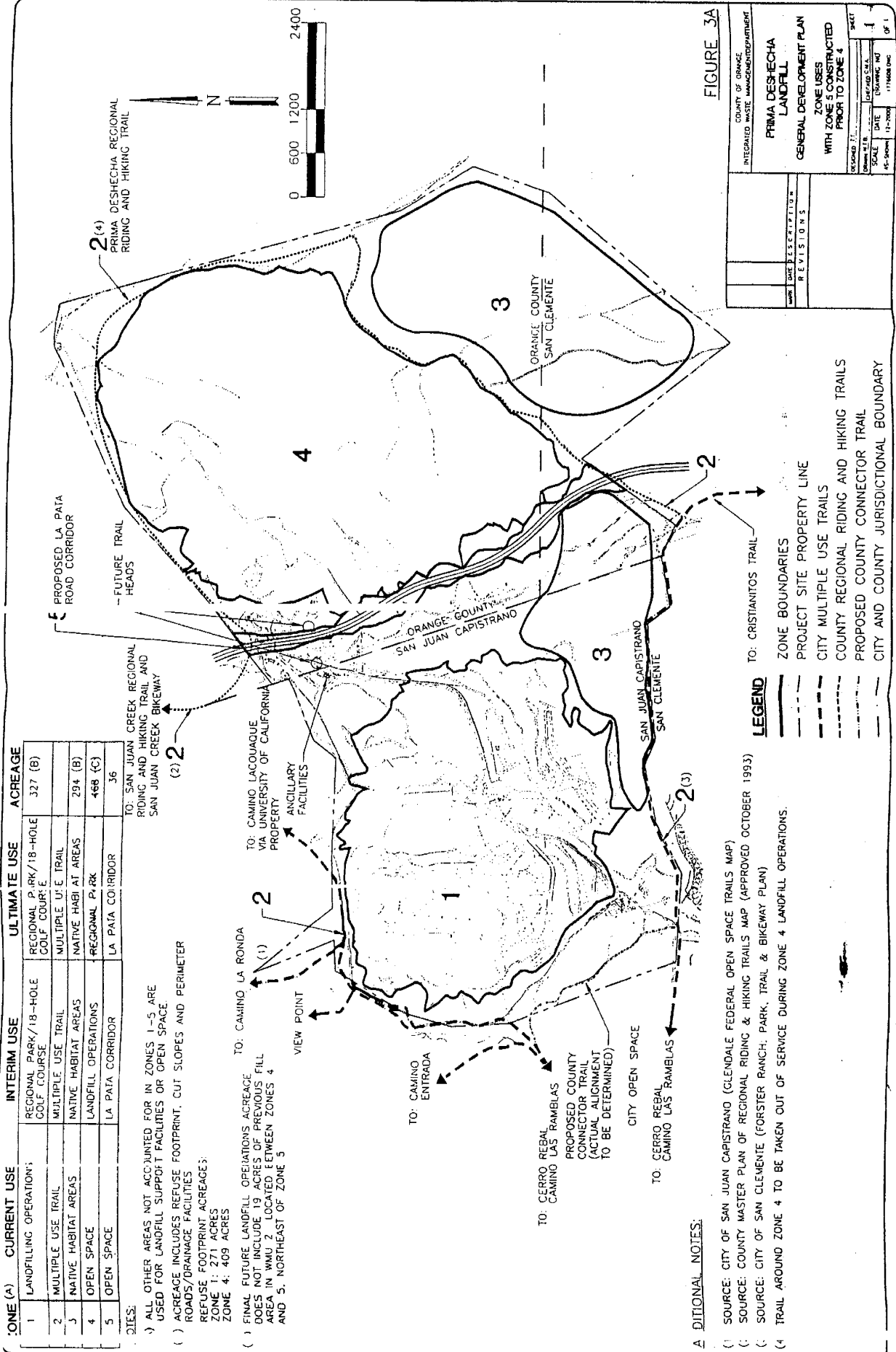
COUNTY OF ORANGE  
INTEGRATED WASTE MANAGEMENT DEPARTMENT

**PRIMA DESHECHA  
LANDFILL**

GENERAL DEVELOPMENT PLAN  
ZONE USES

DATE	DESCRIPTION	REVISIONS

PROJECT NO. 11-11-0000  
SCALE: AS SHOWN  
DATE: 7-2007  
DRAWN BY: [ ]  
CHECKED BY: [ ]  
DATE: [ ]  
BY: [ ]





ZONE (A)	CURRENT USE	INTERIM USE	ULTIMATE USE	ACREAGE
1	LANDFILLING OPERATIONS	REGIONAL PARK/18-HOLE GOLF COURSE	REGIONAL PARK/18-HOLE GOLF COURSE	327 (B)
2	MULTIPLE USE TRAIL	MULTIPLE USE TRAIL	MULTIPLE USE TRAIL	294 (B)
3	NATIVE HABITAT AREAS	NATIVE HABITAT AREAS	NATIVE HABITAT AREAS	473 (C)
4	OPEN SPACE	LANDFILL OPERATIONS	REGIONAL PARK	31
5	OPEN SPACE	LA PATA CORRIDOR	LA PATA CORRIDOR	

ALL OTHER AREAS NOT ACCOUNTED FOR IN ZONES 1-5 ARE USED FOR LANDFILL SUPPORT FACILITIES OR OPEN SPACE.

ACREAGE INCLUDES REFUSE FOOTPRINT, CUT SLOPES AND PERIMETER ROADS/DRAINAGE FACILITIES.

REFUSE FOOTPRINT ACREAGE:  
 ZONE 1: 271 ACRES  
 ZONE 4: 409 ACRES

FINAL FUTURE LANDFILL OPERATIONS ACREAGE DOES NOT INCLUDE 19 ACRES OF PREVIOUS FILL AREA IN WMMU 2 LOCATED BETWEEN ZONES 4 AND 5, NORTHEAST OF ZONE 5.

TO: SAN JUAN CREEK REGIONAL RIDING AND HIKING TRAIL AND SAN JUAN CREEK BIKEWAY (2)

TO: CAMINO LA RONDA (1)

TO: CAMINO LACOUAQUE VIA UNIVERSITY OF CALIFORNIA PROPERTY AND ANCILLARY FACILITIES

TO: CAMINO ENTRADA

TO: CERRO REBAL CAMINO LAS RAMBLAS

PROPOSED COUNTY CONNECTOR TRAIL (ACTUAL ALIGNMENT TO BE DETERMINED)

CITY OPEN SPACE

TO: CERRO REBAL CAMINO LAS RAMBLAS

VIEW POINT

TO: CRISTIANITOS TRAIL

TO: SAN JUAN CAPISTRANO SAN CLEMENTE

TO: SAN JUAN CAPISTRANO SAN CLEMENTE

TO: SAN JUAN CAPISTRANO SAN CLEMENTE

TO: SAN JUAN CAPISTRANO SAN CLEMENTE

TO: SAN JUAN CAPISTRANO SAN CLEMENTE

TO: SAN JUAN CAPISTRANO SAN CLEMENTE

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TO: SAN JUAN CAPISTRANO SAN CLEMENTE

TO: SAN JUAN CAPISTRANO SAN CLEMENTE

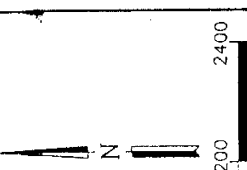
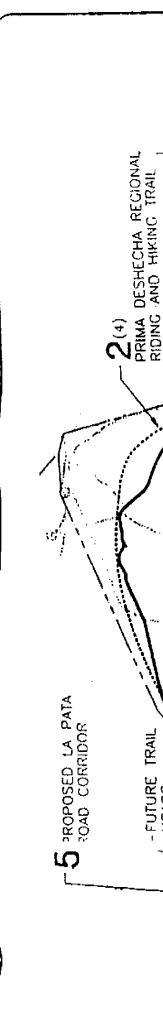
TO: SAN JUAN CAPISTRANO SAN CLEMENTE

TO: SAN JUAN CAPISTRANO SAN CLEMENTE

TO: SAN JUAN CAPISTRANO SAN CLEMENTE

TO: SAN JUAN CAPISTRANO SAN CLEMENTE

TO: SAN JUAN CAPISTRANO SAN CLEMENTE



ORANGE COUNTY  
SAN CLEMENTE

ORANGE COUNTY  
SAN JUAN CAPISTRANO

ORANGE COUNTY  
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SAN JUAN CAPISTRANO

ORANGE COUNTY  
SAN CLEMENTE

FIGURE 3B

COUNTY OF ORANGE  
INTEGRATED WASTE MANAGEMENT DEPARTMENT

PRIMA DESHECHA  
LANDFILL

GENERAL DEVELOPMENT PLAN  
WITH ZONE 4 CONSTRUCTED  
PRIOR TO ZONE 5

REVISIONS

DATE DESCRIPTION

REVISIONS

DESIGNED BY: [ ]  
 DRAWN BY: [ ]  
 CHECKED BY: [ ]  
 DATE: [ ]  
 SCALE: [ ]  
 SHEET NO: [ ]  
 OF: [ ]

LEGEND

TO: CRISTIANITOS TRAIL

ZONE BOUNDARIES

PROJECT SITE PROPERTY LINE

CITY MULTIPLE USE TRAILS

COUNTY REGIONAL RIDING AND HIKING TRAILS

PROPOSED COUNTY CONNECTOR TRAIL

CITY AND COUNTY JURISDICTIONAL BOUNDARY






ADDITIONAL NOTES:

( ) SOURCE: CITY OF SAN JUAN CAPISTRANO (GLENDALE FEDERAL OPEN SPACE TRAILS MAP)

( ) SOURCE: COUNTY MASTER PLAN OF REGIONAL RIDING & HIKING TRAILS MAP (APPROVED OCTOBER 1993)

( ) SOURCE: CITY OF SAN CLEMENTE (FORSTER RANCH, PARK, TRAIL & BIKEWAY PLAN)

( ) TRAIL AROUND ZONE 4 TO BE TAKEN OUT OF SERVICE DURING ZONE 4 LANDFILL OPERATIONS.

-  2005 Least Bell's Vireo Territories
-  Property Boundary
-  Impact Boundary, EIR 575
- Proposed Impact Boundary\***
-  Zone 1
-  Zone 4
-  Zone 5
-  Zone 4 Desilting Basins
-  Existing Biological Mitigation Areas (27.09 acres)
-  2001 GDP La Pata Avenue Alignment
-  Project Grading

\*Note: Areas of overlap between Zones 1/4 and 5 represent temporary disturbance only.

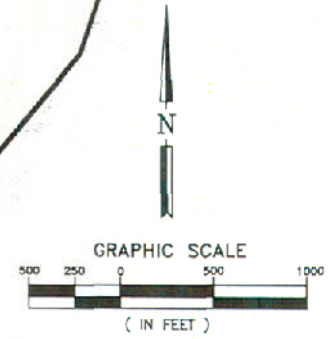
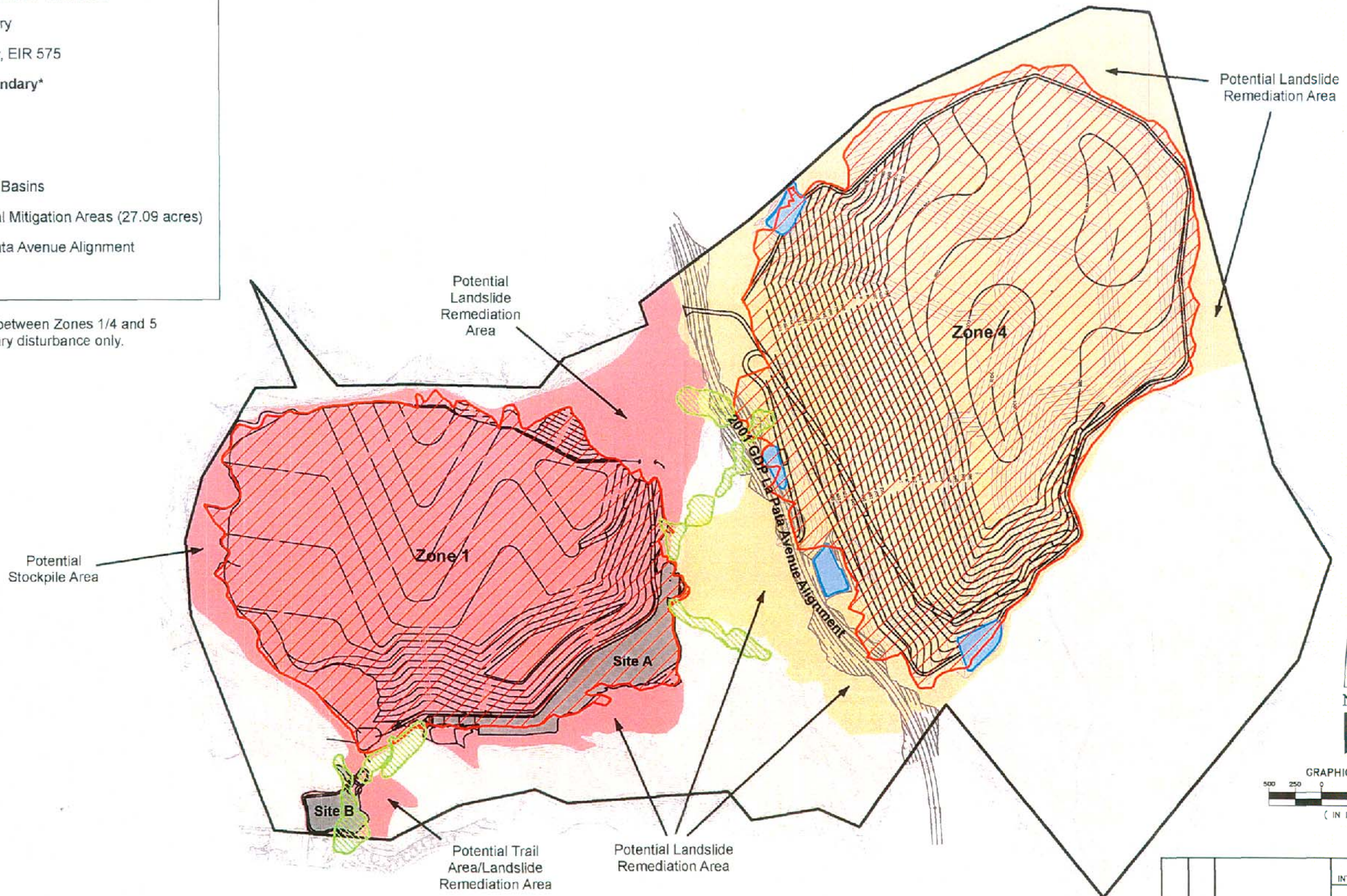



FIGURE 4

COUNTY OF ORANGE INTEGRATED WASTE MANAGEMENT DEPARTMENT															
<b>PRIMA DESHECHA LANDFILL</b>															
GENERAL DEVELOPMENT PLAN PROPOSED PROJECT															
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>MARK</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td colspan="3" style="text-align: center;">REVISIONS</td> </tr> </tbody> </table>	MARK	DATE	DESCRIPTION	REVISIONS			<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: center;">DESIGNED I.T.</td> <td rowspan="2" style="text-align: center;">SHEET <b>1</b> OF 1</td> </tr> <tr> <td style="text-align: center;">DRAWN M.T.B.</td> <td style="text-align: center;">CHECKED C.M.A.</td> </tr> <tr> <td style="text-align: center;">SCALE AS-SHOWN</td> <td style="text-align: center;">DATE 9-2000</td> <td style="text-align: center;">DRAWING NO. 1767908.DWG</td> </tr> </table>	DESIGNED I.T.		SHEET <b>1</b> OF 1	DRAWN M.T.B.	CHECKED C.M.A.	SCALE AS-SHOWN	DATE 9-2000	DRAWING NO. 1767908.DWG
MARK	DATE	DESCRIPTION													
REVISIONS															
DESIGNED I.T.		SHEET <b>1</b> OF 1													
DRAWN M.T.B.	CHECKED C.M.A.														
SCALE AS-SHOWN	DATE 9-2000	DRAWING NO. 1767908.DWG													
 <b>BRYAN A. STIRRAAT &amp; ASSOCIATES</b> CIVIL AND ENVIRONMENTAL ENGINEERS 1360 VALLEY VISTA DRIVE DIAMOND BAR, CA. 91765 (909) 860-7777															

D:\Projects\OCIM\WMD\002\EP\Project\_070705.plt

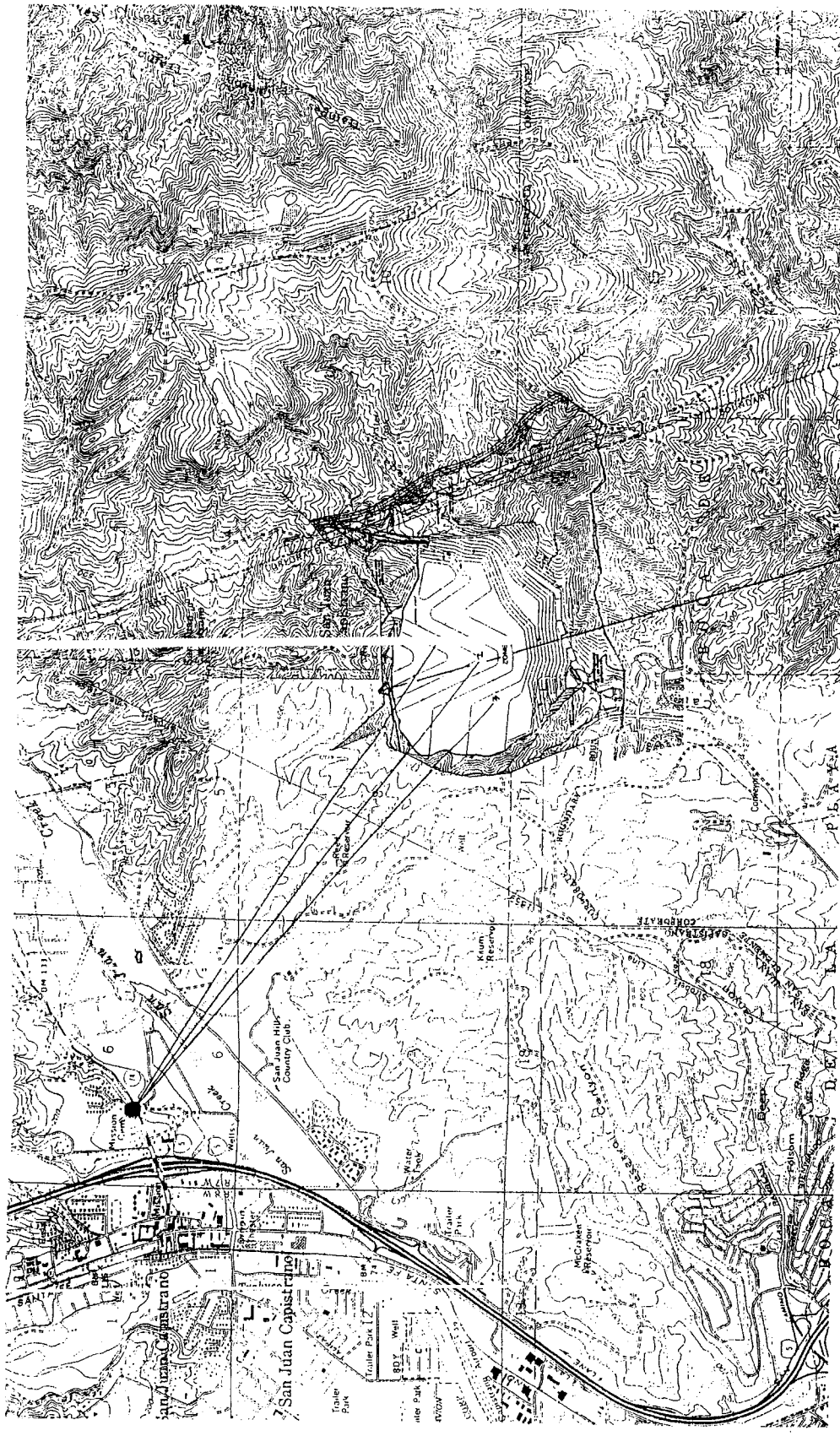



FIGURE 5

ORANGE COUNTY INTEGRATED WASTE MANAGEMENT	
PRIMA DESCECHA LANDFILL	
LINE OF SIGHT CROSS-SECTION LOCATION MAP	
DATE	DESCRIPTION
REVISIONS	
 <b>BAS</b> BRIAN A. STREIBEL & ASSOCIATES CIVIL AND ENVIRONMENTAL ENGINEERS 22500 CALIFORNIA STREET, SUITE 100 DRAWING BAR, CA 91765 (909) 860-7777	
SCALE	DATE
PROJECT NO.	DATE
DESIGNER	DATE
DRAWN	DATE
CHECKED	DATE
APPROVED	DATE

Line of sight from Truman Benedict Elementary School (approximately 9,500 feet from back redline)

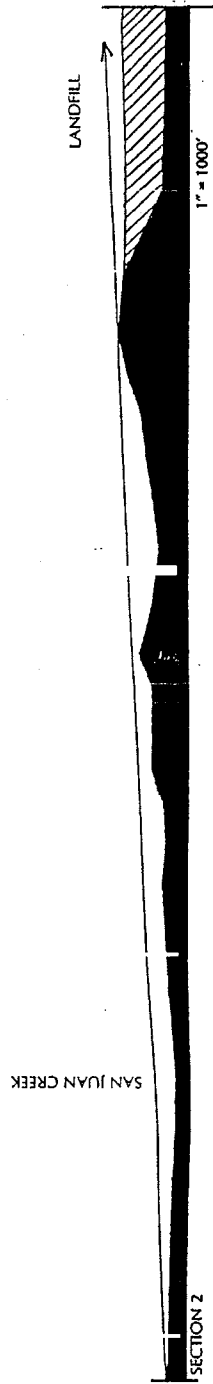


FIGURE 6

ORANGE COUNTY INTEGRATED WASTE MANAGEMENT		PRIMA DESCECHA LANDFILL	
LINE OF SIGHT CROSS-SECTIONS FOR SAN JUAN CAPSTRANO			
DATE	DESCRIPTION	SCALE	REVISIONS
BRYAN A. STIRRY & ASSOCIATES CIVIL AND ENVIRONMENTAL ENGINEERS 10000 BAYVIEW BLVD., SUITE 100 DANFORTH, CA 94526 (925) 860-7777		SCALE	REVISIONS
DATE	DESCRIPTION	SCALE	REVISIONS
DATE	DESCRIPTION	SCALE	REVISIONS

TRUMAN-BENEDICT ELEMENTARY SCHOOL

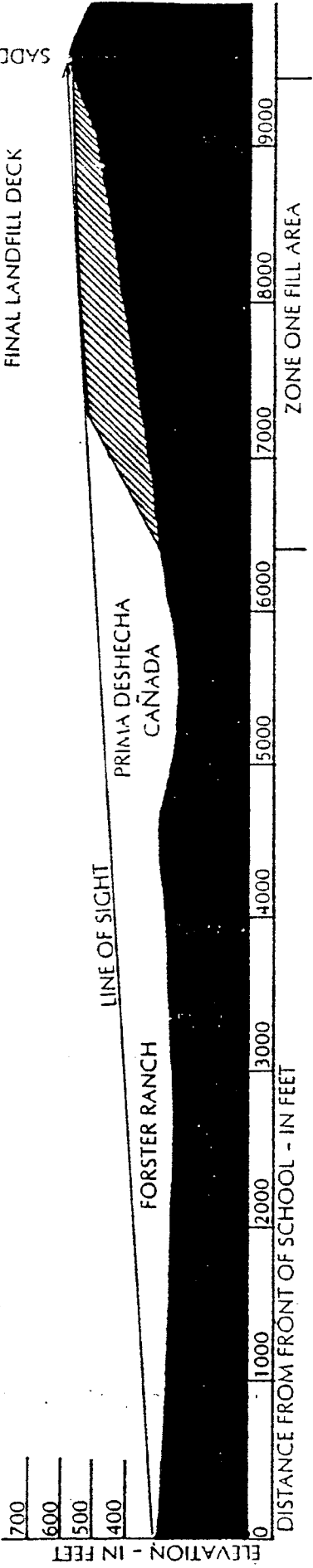


FIGURE 7

JOB NO	9645-91
DATE	3-98
DRAWN BY	GB
WNS IN	

PRIMA DESHECHA LANDFILL

LINE OF SIGHT CROSS-SECTION  
FOR SAN CLEMENTE



BRYAN A. STIRRAT & ASSOCIATES

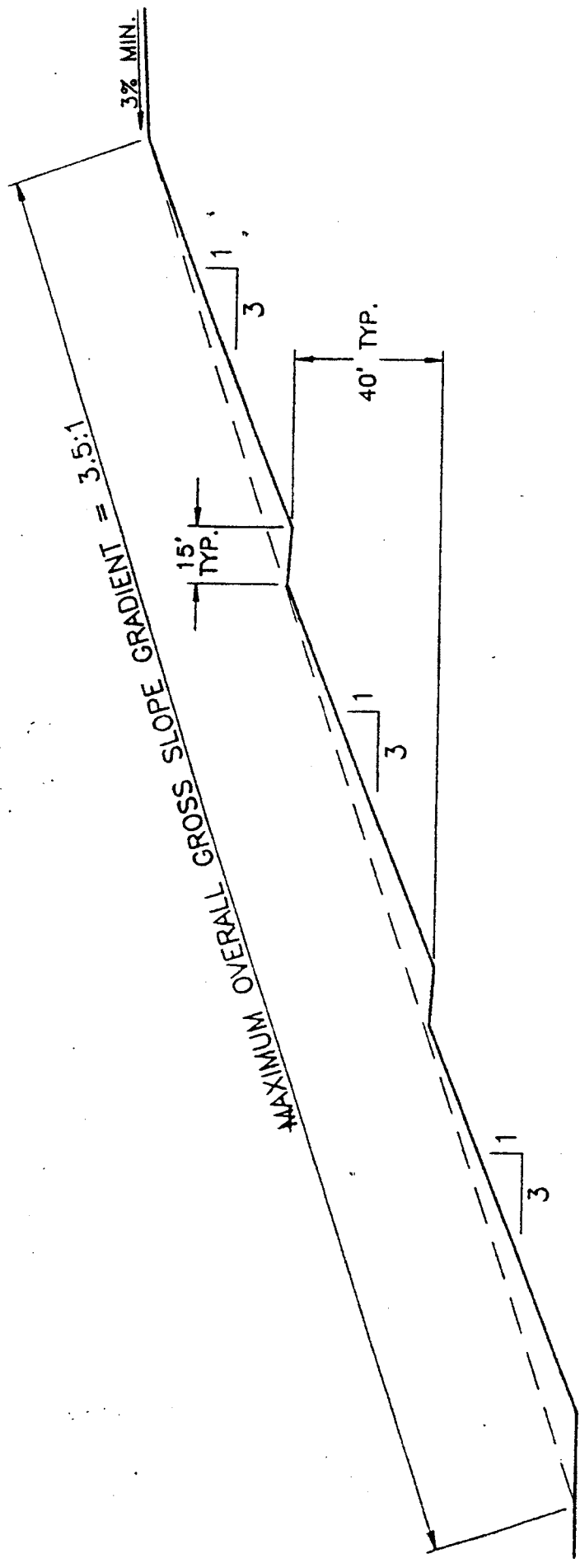
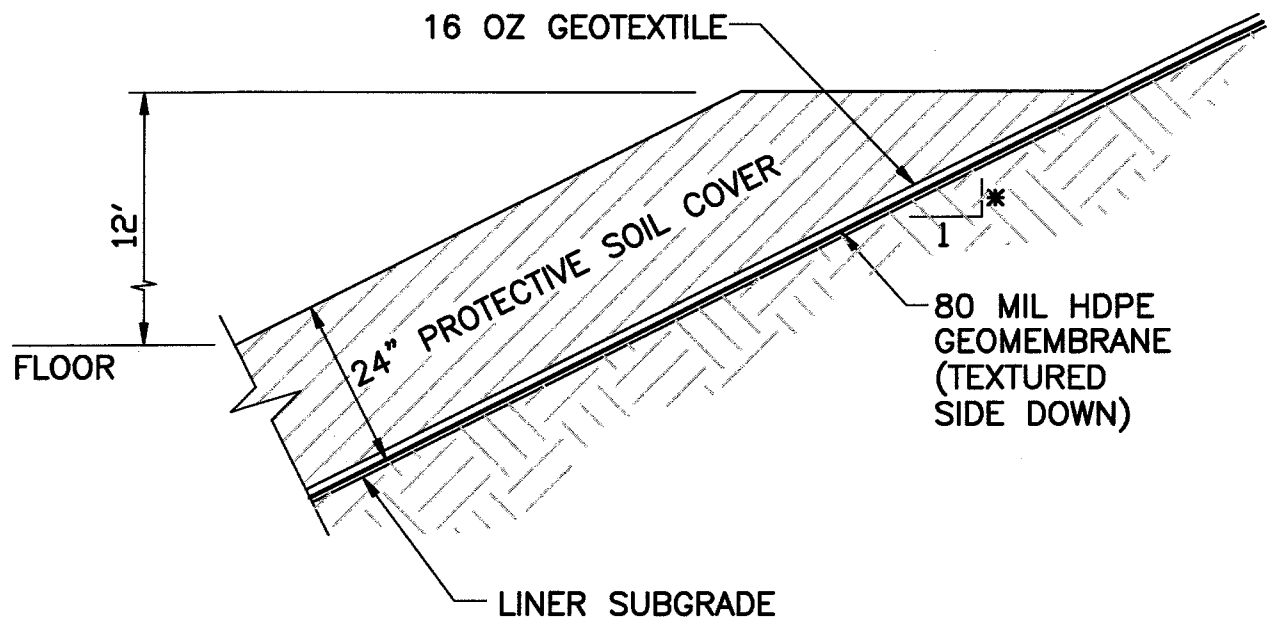
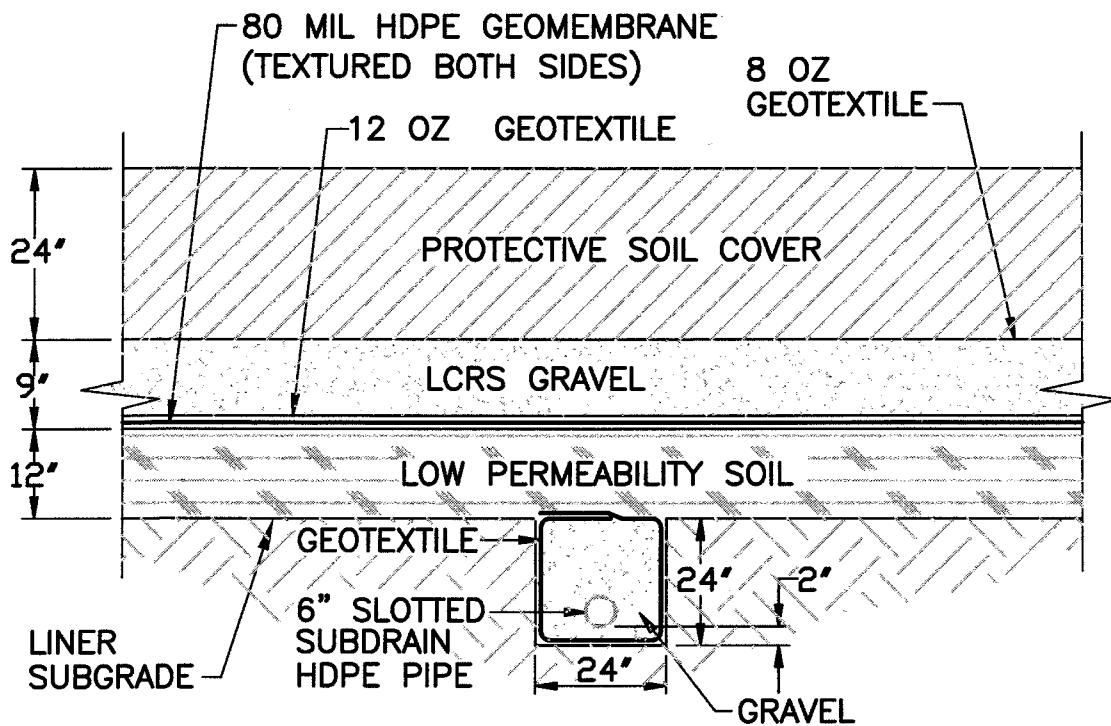


FIGURE 8

<p>(909) 860-1777</p> <p><b>BAS</b></p> <p><b>BRYAN A. STIRRAT &amp; ASSOCIATES</b>          CIVIL AND ENVIRONMENTAL ENGINEERS          1380 VALLEY DRIVE, DIAMOND BAR, CA 91765</p>	<p>PRIMA DESHECHA LANDFILL</p>	
	<p>GENERAL DEVELOPMENT PLAN          TYPICAL CROSS-SECTION OF FILL SLOPES</p>	
<p>JOB NO. 9845-91</p>	<p>DATE 3-98</p>	<p>DRAWN BY [Blank]</p>
<p>SCALE NO. DB</p>	<p>[Blank]</p>	



**SLOPE LINER SECTION**  
NTS



**BOTTOM FLOOR LINER SECTION**  
NTS

**FIGURE 9**

**BAS**  
 (909) 860-7777  
**BRYAN A. STIRRAT & ASSOCIATES**  
 CIVIL AND ENVIRONMENTAL ENGINEERS  
 1380 VALLEY VISTA DRIVE DIAMOND BAR, CA 91785

PRIMA DESHECHA LANDFILL  
**GENERAL DEVELOPMENT PLAN**  
**TYPICAL CROSS-SECTIONS**  
**OF LINER**

JOB NO. 2003.159-9
DATE 11-2005
DRAWN BY J.P.J.
DRAWING NO 175240B

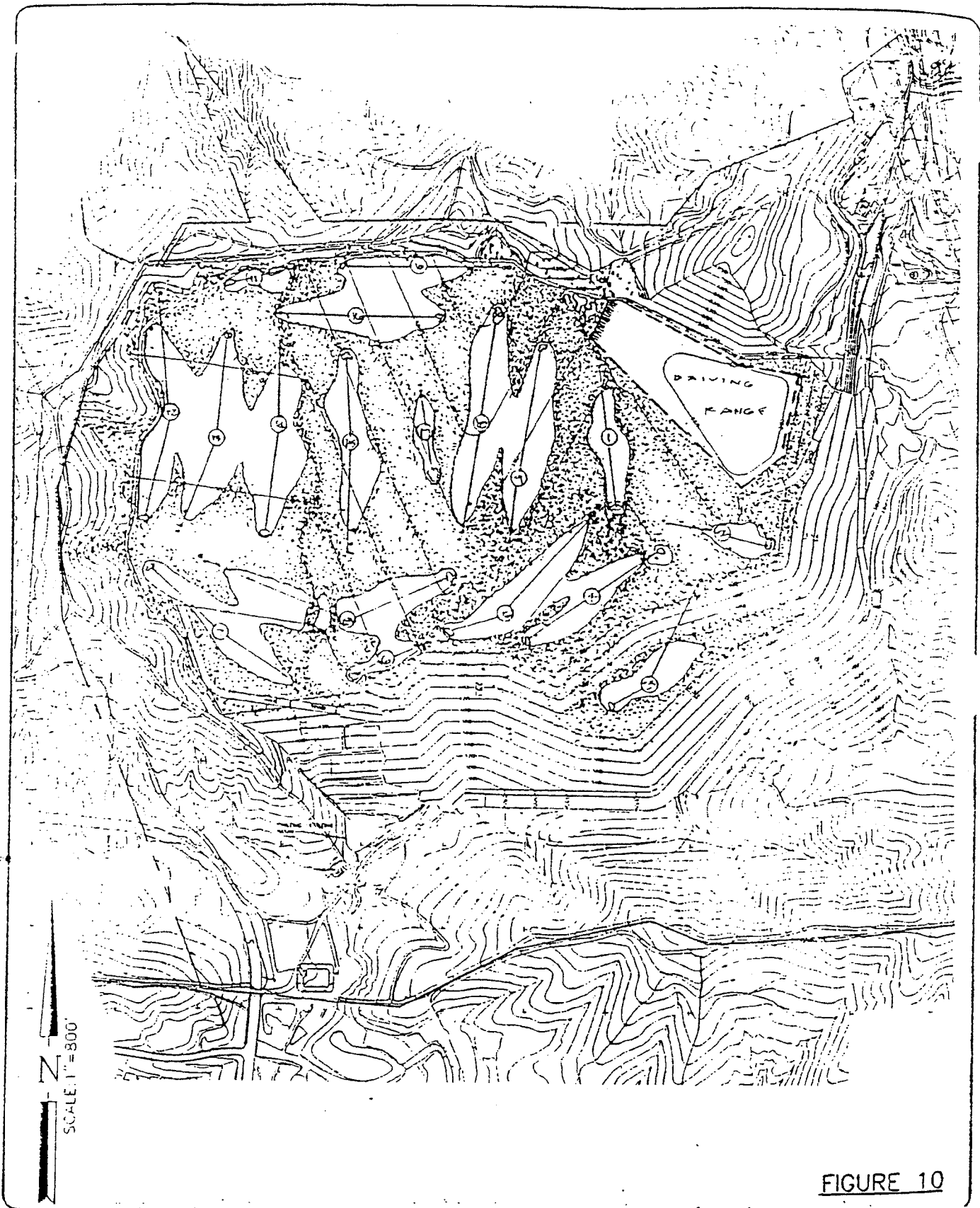


FIGURE 10



BRYAN A. STIRRAT & ASSOCIATES

PRIMA DESHECHA LANDFILL  
 GENERAL DEVELOPMENT PLAN  
 CONCEPTUAL GOLF COURSE  
 PLAN-ZONE 1

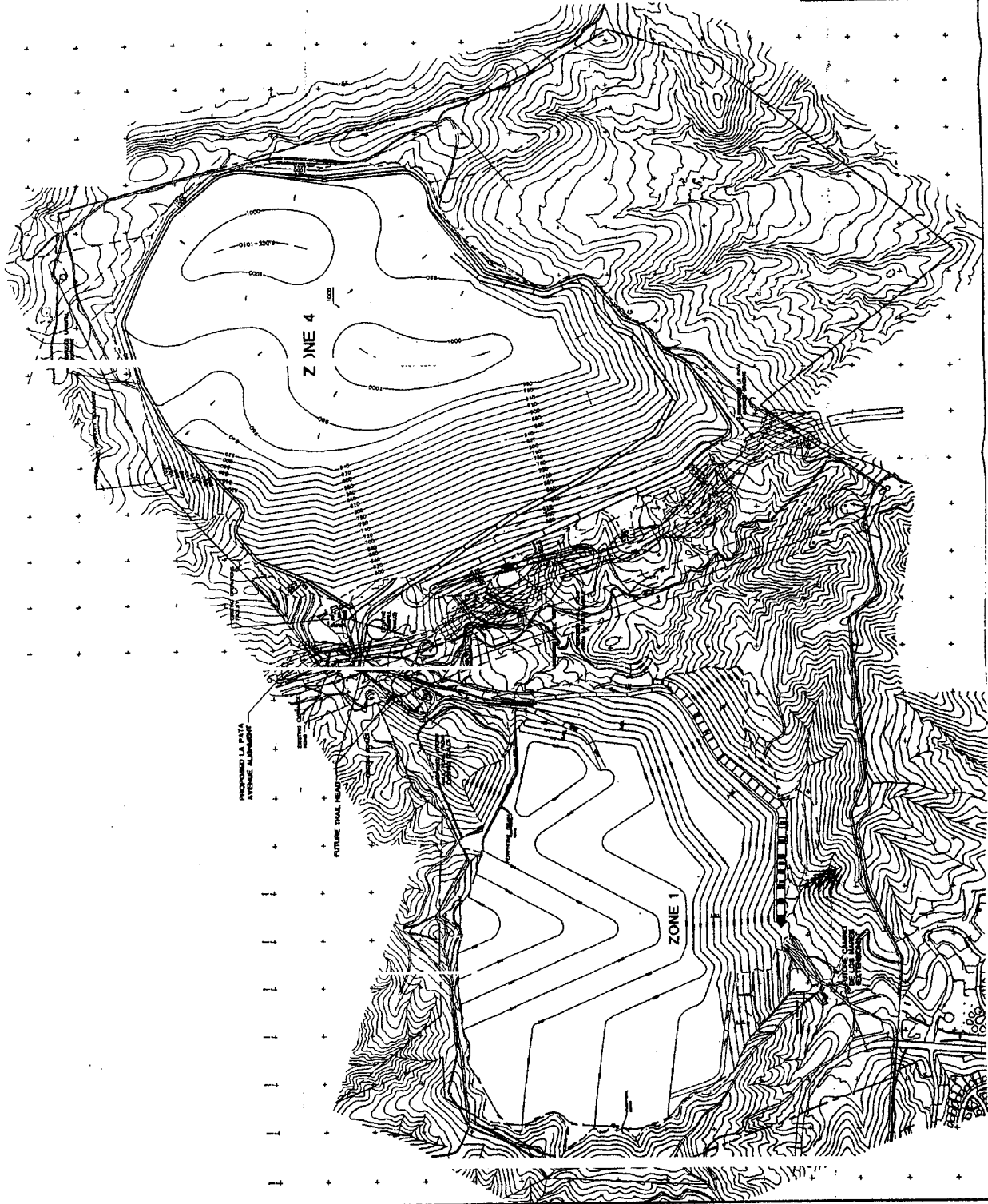
JOB NO  
 9645

DATE  
 9-2000

DRAWN BY  
 M.F.B.

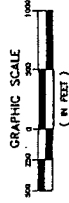
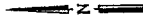
DRAWING NO.  
 1765408





**LEGEND**

- PROPOSED DRAINAGE IMPROVEMENTS
- 4:20 PROPOSED CONTOURS
- EXISTING CONTOURS
- DAYLIGHT LINE
- PROPERTY BOUNDARY
- EXISTING WATER COURSE
- 3:1 DIRECTION AND RATE OF SLOPE



**FIGURE 11**

COUNTY OF ORANGE INTEGRATED WASTE MANAGEMENT DEPARTMENT	
<b>PRIMA DESFECHA LANDFILL</b>	
<b>GENERAL DEVELOPMENT PLAN ON-SITE CONCEPTUAL CIRCULATION PLAN</b>	
DATE: 11/11/03	SCALE: 1" = 40'
DESIGNED BY: [Name]	DRAWN BY: [Name]
CHECKED BY: [Name]	DATE: 11/11/03
PROJECT NO: [Number]	SHEET NO: [Number]
<b>DAS</b> DRYAN A. STUBBINS & ASSOCIATES CIVIL AND ENVIRONMENTAL ENGINEERS 1340 VALLEY VISTA DRIVE GARDEN GROVE, CA 92640 (949) 860-7777	

N  
SCALE: 1"=1000'



FIGURE 12



(909) 860-7777

BRYAN A. STIRRAT & ASSOCIATES  
CIVIL AND ENVIRONMENTAL ENGINEERS  
1380 VALLEY VISTA DRIVE DIAMOND BAR, CA 91785

PRIMA DESHECHA LANDFILL

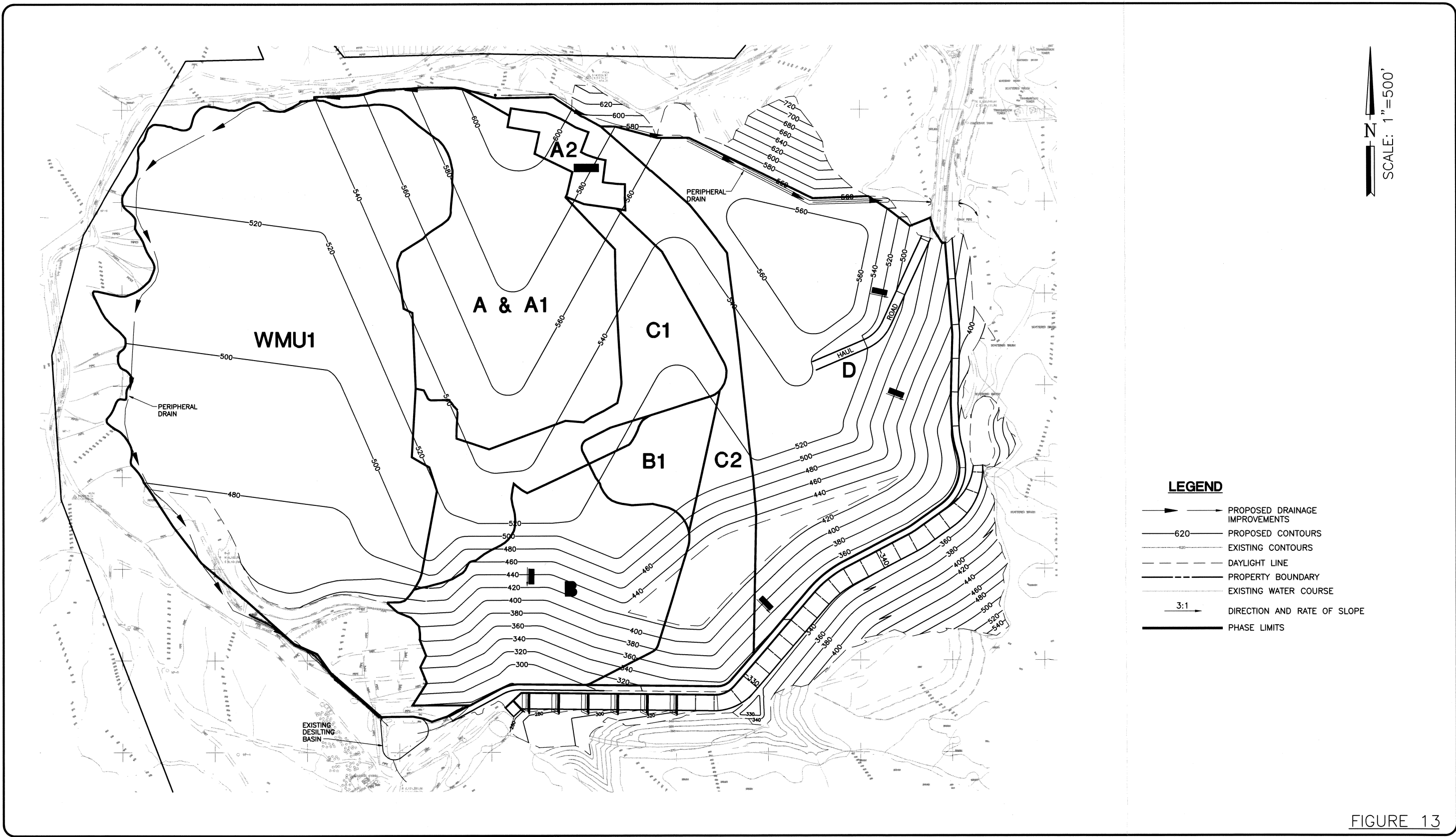
**GENERAL DEVELOPMENT PLAN  
EXCAVATION PHASING LIMITS-ZONE 1**

JOB NO.  
9645-91

DATE  
9-2000

DRAWN BY  
M.T.B.

DRAWING NO.  
17658DB.DWG



**BAS**  
 (909) 860-7777  
 BRYAN A. STIRRAT & ASSOCIATES  
 CIVIL AND ENVIRONMENTAL ENGINEERS  
 1360 VALLEY VISTA DRIVE DIAMOND BAR, CA 91765

PRIMA DESHECHA LANDFILL  
**GENERAL DEVELOPMENT PLAN**  
**FILL PHASING LIMITS - ZONE 1**

JOB NO.  
9645-91  
 DATE  
9-2000  
 DRAWN BY  
M.T.B.  
 FILE NAME:  
17887DB.DWG

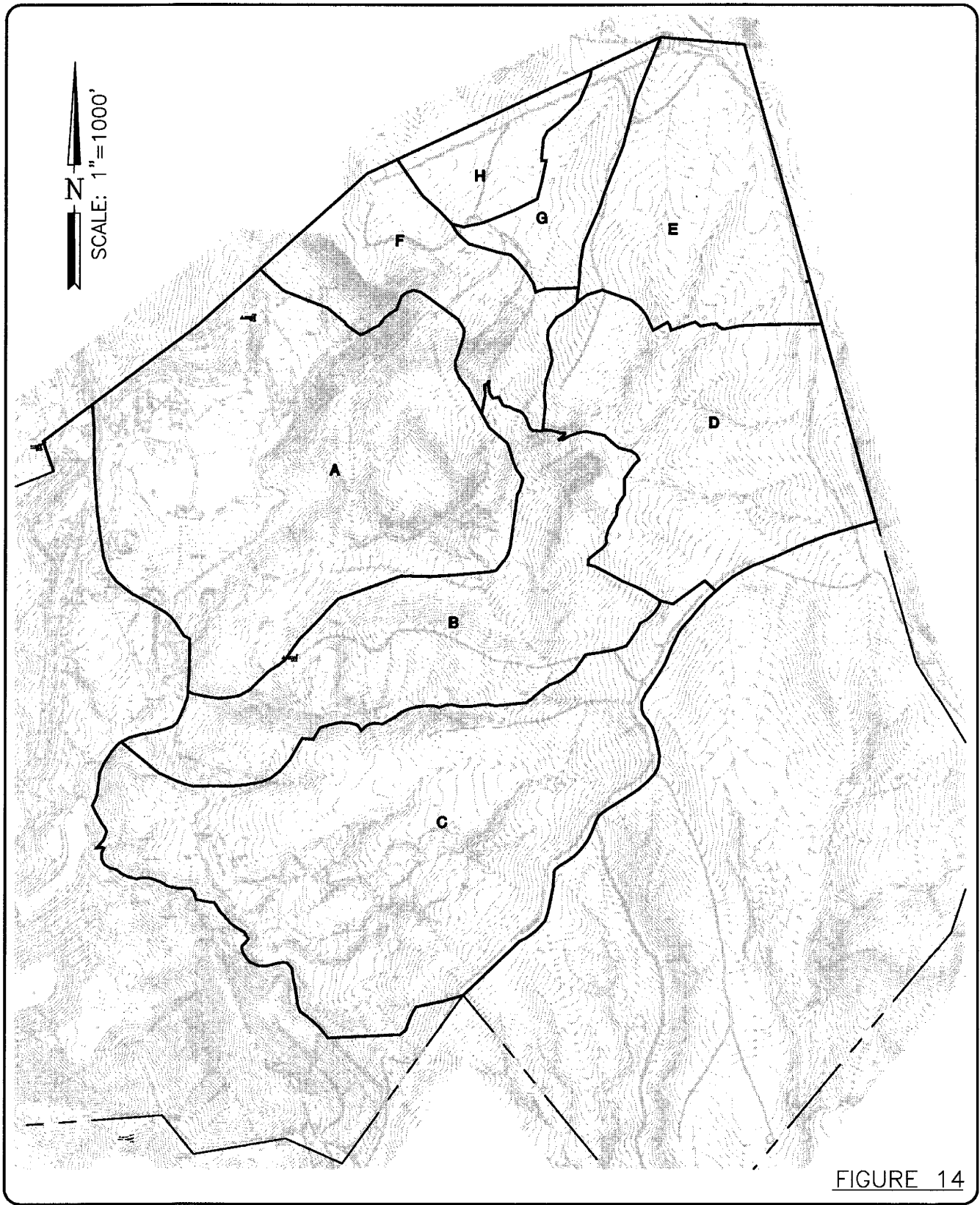



FIGURE 14

 <b>BRYAN A. STIRRAT &amp; ASSOCIATES</b> CIVIL AND ENVIRONMENTAL ENGINEERS 1360 VALLEY VISTA DRIVE DIAMOND BAR, CA 91765	(909) 860-7777	PRIMA DESHECHA LANDFILL	JOB NO. 9645-91
	<b>GENERAL DEVELOPMENT PLAN</b> <b>EXCAVATION PHASING LIMITS-ZONE 4</b>		DATE 4-2000
			DRAWN BY B.A.B.

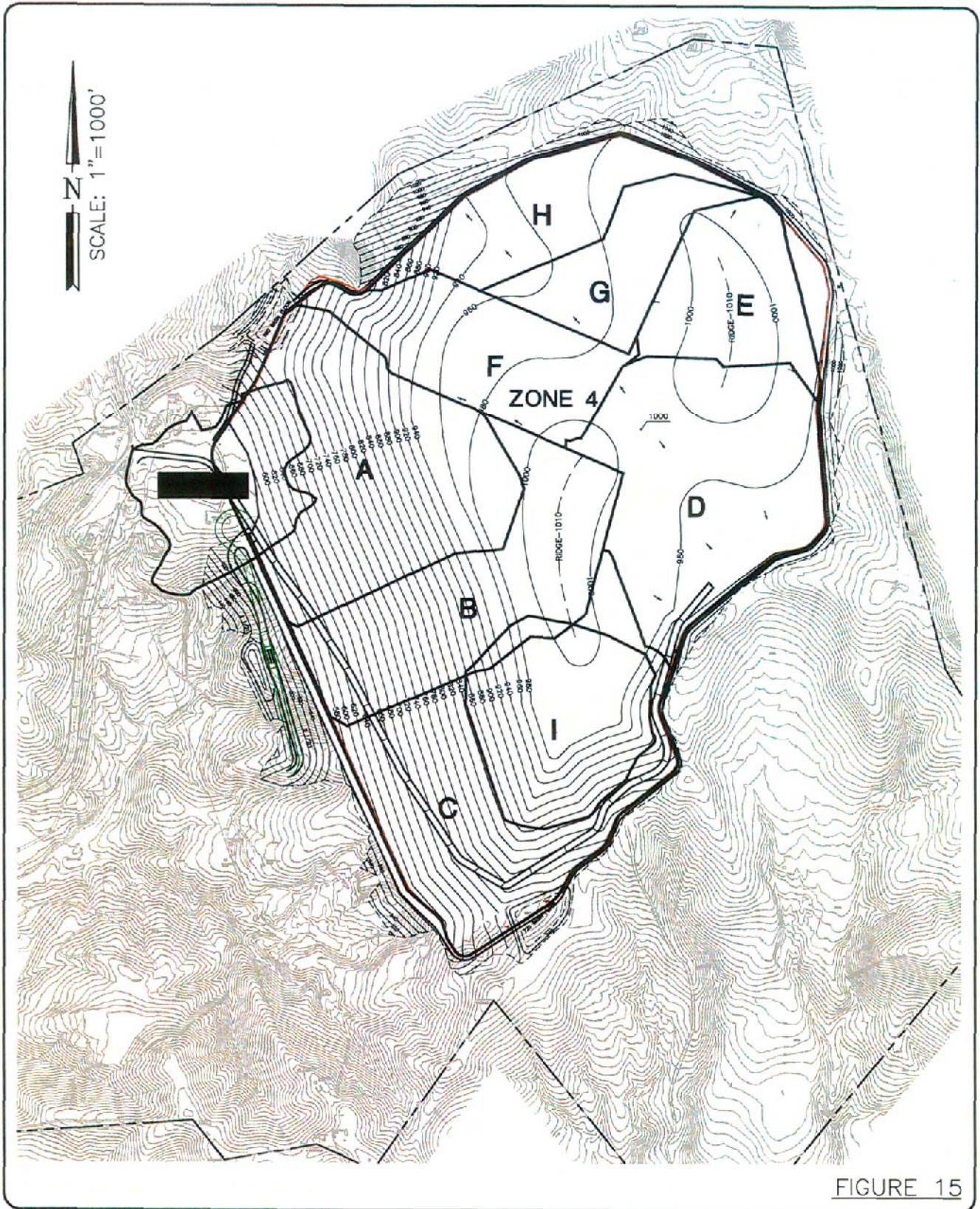



FIGURE 15

 <p>           (909) 860-7777  <b>BRYAN A. STIRRAT &amp; ASSOCIATES</b>            CIVIL AND ENVIRONMENTAL ENGINEERS            1360 VALLEY VISTA DRIVE    DIAMOND BAR, CA 91765         </p>	<b>PRIMA DESHECHA LANDFILL</b>		JOB NO. 9645-91
	<b>GENERAL DEVELOPMENT PLAN</b> <b>FILL PHASING LIMITS-ZONE 4</b>		DATE 4-2000 DRAWN BY B.A.B. FILE NAME 17678DB-2.DWG

## **APPENDIX C**

**Memorandum of Understanding between the City of  
San Clemente, the Orange County Flood Control  
District and the County of Orange regarding the Prima  
Deshecha Landfill  
and the**

**Memorandum of Understanding regarding the Prima  
Deshecha Landfill between the City of San Juan  
Capistrano and the County of Orange**

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MEMORANDUM OF UNDERSTANDING  
BETWEEN  
THE CITY OF SAN CLEMENTE  
THE ORANGE COUNTY FLOOD CONTROL DISTRICT  
AND  
THE COUNTY OF ORANGE  
REGARDING THE PRIMA DESHECHA LANDFILL

THIS MEMORANDUM OF UNDERSTANDING (MOU) is entered into on this 1st day of July, 1997, between the County of Orange herein after referred to as "COUNTY," and the Orange County Flood Control District, hereinafter referred to as "OCFCD," and the City of San Clemente, hereinafter referred to as the "CITY," through their respective legislative bodies.

RECITALS

The Prima Deshecha Landfill ("LANDFILL") is an active landfill owned and operated by the COUNTY, Integrated Waste Management Department (IWMD) as part of its landfill system.

COUNTY'S proposed General Development Plan (GDP) for the LANDFILL identifies two areas for refuse disposal on the LANDFILL property. They are designated as Zone 1 and Zone 4 (see Exhibit 1). COUNTY currently conducts refuse fill operations in the first canyon in Zone 1 and plans to continue operations into the second canyon in Zone 1. Proposed phasing would allow for the commencement of refuse filling in Zone 4, in the eastern portion of the LANDFILL, following the completion of refuse fill operations in Zone 1.

The LANDFILL has served since 1976 as the municipal solid waste disposal site for the City of San Clemente. The LANDFILL is visible primarily from areas developed since opening of the LANDFILL in 1976. The landfill will also be visible from areas planned for future development within the CITY. CITY is concerned with the preservation of ridgeline views from these areas. COUNTY is willing to balance the visual and other environmental concerns of CITY with COUNTY requirements to: 1) protect air, water, and land; 2) maximize landfill capacity; and, 3) charge comparable rates.

1 NOW, THEREFORE, THE PARTIES AGREE AS FOLLOWS:

2 **A. Preferred GDP Guidelines**

3 CITY and COUNTY agree that the following guidelines constitute design elements of a preferred  
4 alternative General Development Plan, and that COUNTY will present a project alternative including  
5 these guidelines, together with necessary environmental documentation pursuant to the California  
6 Environmental Quality Act, to the Orange County Board of Supervisors for consideration:

7 1. Grading and Height Limits

8 (a) The final grading elevation in Zone 1 to be at a height below the level of the  
9 ridgeline behind Zone 1 as viewed from Truman Benedict Elementary School located at 1251  
10 Sarmentoso, San Clemente, California 92673, as reflected in Exhibits 2-3, originals of which  
11 have been provided to the CITY.

12 (b) The final grading elevation of Zone 4 to be no higher than 1010 feet, thereby  
13 minimizing the visual impact to residents of CITY.

14 (c) It is understood that the side slopes of the LANDFILL may be steeper than what  
15 is reflected in EIR #548 as may be determined by COUNTY to be necessary to offset  
16 LANDFILL capacity lost due to the height limits described in this Paragraph A-1.

17 2. Zone Boundary Adjustments

18 (a) The boundaries of Zone 1 to be adjusted from the Zone 1 boundaries described  
19 in EIR #548, as reflected in Exhibit 2, with the understanding that additional boundary  
20 adjustments may be required for Zone 1 due to geotechnical conditions, drainage, and other  
21 environmental constraints provided such adjustment does not result in a final grading plan with  
22 a height limit greater than that specified in Paragraph A.1.(a).

23 (b) The boundaries of Zone 4 to be adjusted as may be determined by COUNTY to  
24 be necessary to offset LANDFILL capacity lost due to the height limits described in Paragraph  
25 A.1, provided that any additions to the LANDFILL resulting from the modification of the Zone  
26 4 boundaries are not visible from within the CITY limits.

27 //

28 //



1           3.       Landscape Treatment

2           (a)       Trees to be planted to screen LANDFILL in a location which has been approved  
3           by CITY. The design for the tree scape is described in plans and specifications titled "Prima  
4           Deshecha Landfill Mass Excavation Grading Plans for Zone 1 - Phase A, approved by  
5           COUNTY's Board of Supervisors on May 13, 1997. A copy of the "Tree Planting Plan  
6           contained in those plans and specifications dated March 23, 1997 is contained in Exhibit 4. A  
7           full size copy of the landscaping plan sheet has been provided to CITY.

8           (b)       Interim landscaping treatment to be provided consistent with erosion control  
9           measures required by current regulations.

10          (c)       Final landscaping for Zone 1 to be installed according to regulations in effect at  
11          the time of final closure.

12 **B.       COUNTY and CITY Commitments in Event COUNTY Approves GDP Consistent With**  
13 **Preferred GDP Guidelines**

14           If after completion of and consideration of environmental documentation, COUNTY approves  
15 a GDP consistent with the preferred GDP guidelines set forth in Paragraph A of this MOU and the other  
16 provisions of this MOU, CITY will not object to the GDP, to such subsequent actions of COUNTY as  
17 may be necessary to implement the GDP (including without limitation the development of zone specific  
18 plans for Zone 1 and 4, the master plan for the LANDFILL, the application for a Solid Waste Facility  
19 Permit, and the final grading plan), or to such modification of EIR #548 as COUNTY may determine  
20 to be necessary in order to adequately describe the environmental impacts of the project. In addition,  
21 at such time that COUNTY approves a GDP consistent with the preferred GDP guidelines set forth in  
22 Paragraph A of this MOU and the other provisions of this MOU, COUNTY commits that it shall comply  
23 with such preferred GDP guidelines and the other provisions of this MOU in its future development and  
24 use of the LANDFILL. Notwithstanding the foregoing, it is understood that CITY may continue to  
25 comment on COUNTY's development of more specific grading and landscaping plans consistent with  
26 the intent of this MOU.

27 //

28 //

1 **C. Flood Control/Drainage**

2 1. COUNTY will design all on-site drainage features for the LANDFILL to meet 100-year  
3 flood control standards as contained in federal, state, and local laws and regulations.

4 2. CITY, COUNTY and OCFCD agree to cooperate in the development of a joint feasibility  
5 study to determine the appropriate flood control infrastructure for the Prima Deshecha Canyon  
6 Watershed (MO1) from the LANDFILL to the Interstate 5 Freeway.

7 3. CITY, COUNTY and OCFCD agree to equally share the cost of this study (one-third  
8 each) with a not to exceed total of \$60,980. Any increase in this cost must receive written approval of  
9 all parties.

10 4. CITY, COUNTY, and OCFCD agree to collaboratively explore alternatives for the  
11 appropriate flood control infrastructure for the MO1 as a result of the joint feasibility study described  
12 in Section C (2, 3).

13 **D. Water Quality Issues**

14 1. Potable Water

15 In the future, if COUNTY wishes to purchase potable water from CITY, and if CITY  
16 wishes to sell potable water to COUNTY, COUNTY shall pay water connection fees at CITY's normal  
17 rate. CITY shall process COUNTY'S application and take final action on the application in a timely  
18 manner, in no event to exceed two (2) months after the date of request.

19 2. Reclaimed Water

20 In the future, if COUNTY wishes CITY to extend a reclaimed (non-domestic) water line  
21 to the LANDFILL, and if CITY wishes to complete the reclaimed water line construction, CITY will  
22 pay for all construction costs up to the LANDFILL boundary, and COUNTY will pay for any costs  
23 associated with on-site construction improvements, and CITY agrees to waive the connection fee for the  
24 reclaimed water line.

25 3. Leachate Collection and Control

26 COUNTY agrees to operate the LANDFILL in conformity with all applicable federal and  
27 state laws governing ground water protection including, but not limited to, those laws which prescribe  
28 liner, leachate collection, and disposal requirements for municipal solid waste landfills as determined

1 by the San Diego Regional Water Quality Control Board or such other regulatory agency exercising  
2 jurisdiction over the LANDFILL.

3 4. Bio-solids (Sewage Sludge)

4 (a) COUNTY agrees to accept CITY's digested, dewatered, secondary treated bio-  
5 solids at the LANDFILL in quantities permitted by the Solid Waste Facility Permit issued by the  
6 Local Enforcement Agency of the California Integrated Waste Management Board, and in  
7 accordance with applicable laws and regulations.

8 (b) During the LANDFILL five-year Solid Waste Facility Permit Review process, the  
9 COUNTY agrees to consult with the Aliso Water Management Agency/South East Regional  
10 Reclamation Authority (AWMA/SERRA) to determine South County jurisdiction needs for  
11 disposal of digested, dewatered, secondary treated bio-solids and to accommodate the disposal  
12 of South County bio-solids in accordance with applicable laws and regulations.

13 **E. Landfill Access**

14 1. COUNTY agrees that Camino de los Mares will not be used for access to or from the  
15 LANDFILL for refuse disposal vehicles.

16 2. Any contract COUNTY enters into permitting haulers to utilize the LANDFILL for the  
17 disposal of solid waste originating outside of Orange County (Out-of-COUNTY Waste) will require the  
18 hauler to utilize a designated access route to the LANDFILL. Any such access route utilizing San  
19 Clemente streets will be approved in advance by the CITY. In no event will said access route include  
20 Camino de los Mares.

21 3. If any contracts for Out-of-County Waste provide for an access route over CITY streets,  
22 then COUNTY will pay CITY no less than eighty-one cents (\$.81) per ton ("Host Fee") for each ton of  
23 Out-of-County Waste conveyed over CITY streets and deposited in the LANDFILL for as long as such  
24 Out-of-County Waste continues to be deposited in the LANDFILL. The Host Fee is mitigation for  
25 LANDFILL access only. It is not compensation for acceptance of solid waste and will be paid only to  
26 the city through which the waste is transported.

27 Payment of the Host Fee will be made quarterly within one (1) month of the close of collection  
28 for the quarter for all loads which are composed of Out-of-County Waste. A subsequent payment will

1 be made within twenty (20) days of receipt of origin of waste data from the hauler of any mixed loads  
2 composed of both Out-of-County Waste and In-County Waste. Mixed loads shall be prorated. Should  
3 the County's gate fee be changed after COUNTY begins providing disposal services for Out-of-County  
4 Waste, the Host Fee will be adjusted. The adjustment to the Host Fee will be made according to the  
5 following formula utilizing a floating decimal. The new adjusted Host Fee will be rounded to the  
6 nearest whole cent.

7 
$$N = C \times (A/B)$$

8 A = The new adjusted gate fee for Out-of-County Waste

9 B = The current gate fee for Out-of-County Waste

10 C = The current Host Fee for the CITY

11 N = The new Host Fee for the CITY

12 **F. County Expenditure of Funds**

13 To the extent this agreement obligates expenditures of COUNTY funds, other than OCFCDD  
14 funds, those expenditures are limited to the County of Orange. Integrated Waste Management  
15 Department Enterprise Fund, which must be used only for LANDFILL related purposes.

16 **G. Enforcement**

17 1. COUNTY will comply with all applicable regulations, restrictions, and statutes at the  
18 Federal, State, and local level, as well as all provisions in this MOU.

19 2. Any discretionary actions by COUNTY set forth in this MOU which are not covered by  
20 EIR #548 are subject to future California Environmental Quality Act (CEQA) compliance. By entering  
21 into this MOU COUNTY does not commit itself to adopt any specific project except as set forth in  
22 Paragraph B after the GDP is approved. If the GDP approved by COUNTY is inconsistent with the  
23 terms of this MOU, CITY and COUNTY may terminate this MOU with all parties bearing any costs  
24 incurred by them up to such date of termination. CITY reserves its rights to provide further input and  
25 comments on any areas not specifically covered in this MOU including final landscaping and future  
26 recreational uses for the site.

27 3. If the ownership of operating responsibilities of the LANDFILL are transferred or  
28 assigned to any other entity or agency, public or private, COUNTY shall ensure that the obligations

1 identified in this MOU will be assigned to and assumed by the transferee/assignee so that the terms of  
2 this MOU shall continue to be met.

3 **H. Notices**

4 1. Any notice required or permitted by this MOU shall be in writing and sufficiently given  
5 if delivered in person or sent by certified or registered mail, postage prepaid, to the notice address of the  
6 respective parties set forth in this MOU. Changes in the respective addresses to which such notices may  
7 be directed may be made from time to time by any party by notice to the other party. The present  
8 addresses of the parties are:

9 **COUNTY, IWMD:** County of Orange  
10 Integrated Waste Management Department  
11 Attention: Director, IWMD  
12 Mailing Address:  
13 320 North Flower Street, Suite 400  
14 Santa Ana, CA 92703

15  
16 **OCFCD:** Orange County Flood Control District  
17 Attention: Director, Public Facilities and Resources Department  
18 Mailing Address:  
19 P.O. Box 4048  
20 300 North Flower Street  
21 Santa Ana, CA 92702-4048

22  
23 **CITY:** City of San Clemente  
24 Attention: City Manager  
25 Mailing Address:  
26 100 Avenida Presidio  
27 San Clemente, CA 92672

28 //

1 **I. Amendments**

2 Amendments to this MOU may be considered at any time by mutual consent of CITY, OCFC  
3 and COUNTY.

4 IN WITNESS WHEREOF, the parties hereto have executed this Memorandum of Understanding on the  
5 dates opposite their respective signatures:

6  
7 COUNTY OF ORANGE, political subdivision of the  
8 State of California  
9 ORANGE COUNTY FLOOD CONTROL DISTRICT.  
A body corporate and politic in the State of California


10 Dated: JUL - 1 1997




11 Chairman of the Board of Supervisors of Orange County,  
California and Orange County Flood Control District

12  
13 SIGNED AND CERTIFIED THAT A COPY  
14 OF THIS DOCUMENT HAS BEEN DELIVERED  
TO THE CHAIRMAN OF THE BOARD


15 ATTEST

16   
17 DARLENE J. BLOOM  
18 Clerk of the Board of Supervisors  
of Orange County, California and  
Orange County Flood Control District

19  
20  
21 APPROVED AS TO FORM:  
22 LAURENCE M. WATSON, COUNTY COUNSEL

23   
24 By: Geoffrey K. Hunt, Deputy Dated: 5/28/97

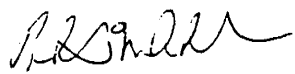
25 CONCUR:  
26 COUNTY, IWMD

27   
28 By: Vicki L. Wilson, Director Dated: 6/11/97  
County of Orange, Integrated Waste Management Department

1 CONCUR:  
2 ORANGE COUNTY FLOOD CONTROL DISTRICT

3  DATE: 6/11/97  
4 By: John W. Sibley, Director, Public Facilities and Resources Department

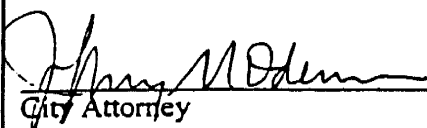
5 CITY OF SAN CLEMENTE

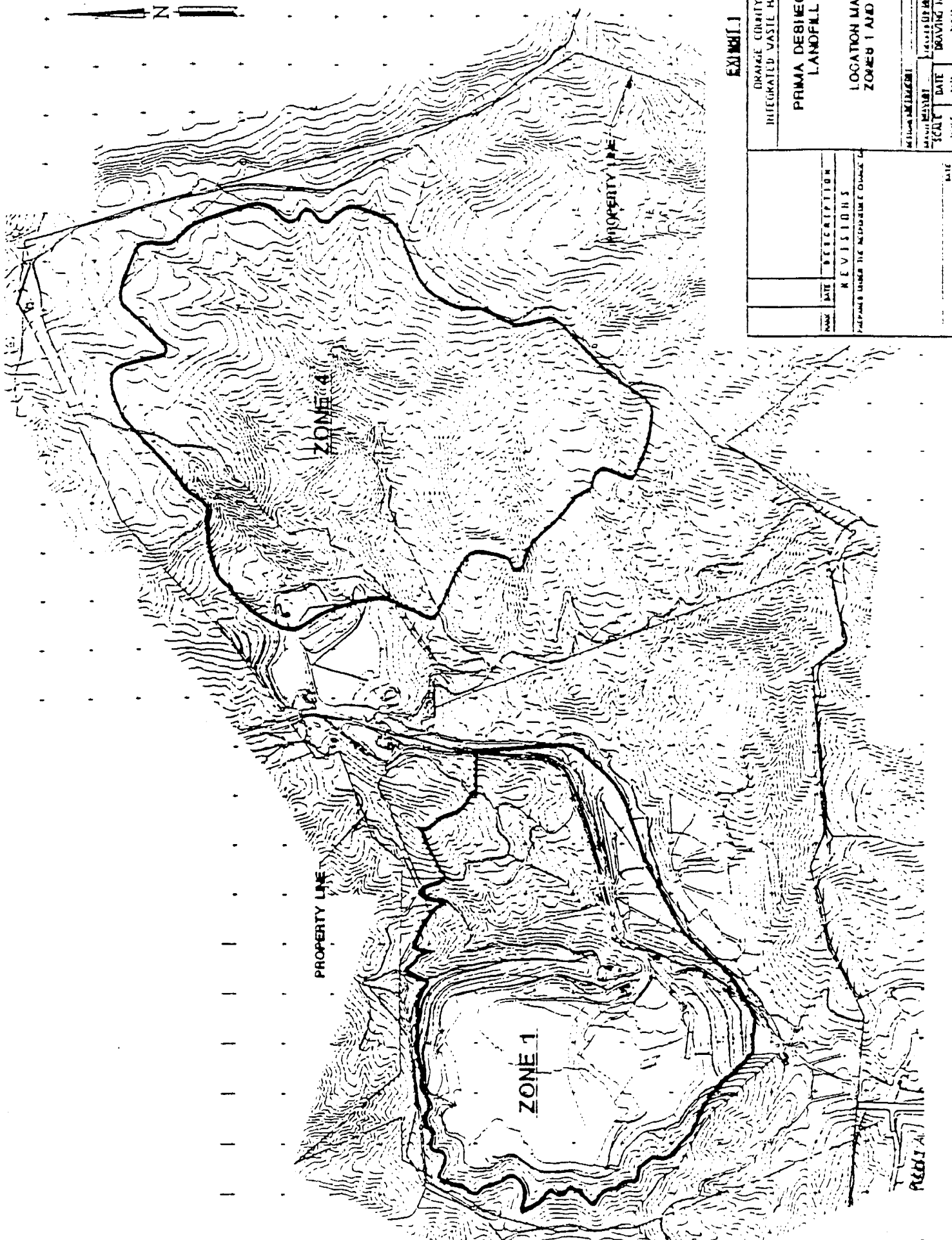
6 Dated: 6-4-97   
7 By: Mayor

8 ATTEST:

9  
10  Dated: 6/4/97  
11 City Clerk

12  
13 APPROVED AS TO FORM:

14  Dated: 6/4/97  
15 City Attorney



**EXHIBIT 1**

ORANGE COUNTY  
INTEGRATED WASTE MANAGEMENT

PRIMA DEBIECHIA  
LANDFILL

LOCATION MAP  
ZONES 1 AND 4

NO.	DATE	DESCRIPTION

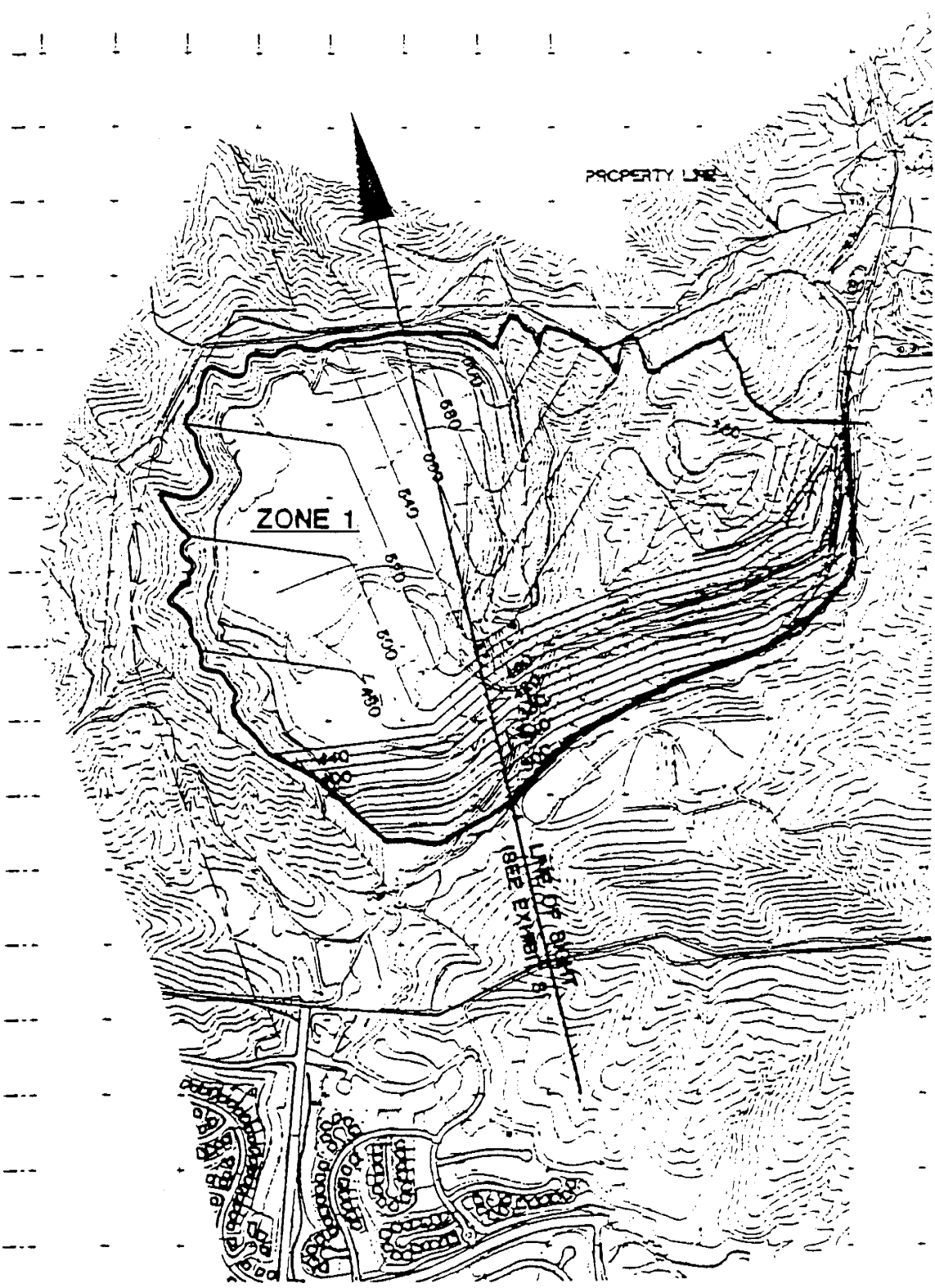
APPROVED UNDER THE NADP/EMC ORANGE COUNTY

SCALE	DATE	SCALE	DATE

DATE	ISSUED BY	DATE	ISSUED BY

DATE	ISSUED BY





**EXHIBIT 2**

ORANGE COUNTY  
INTEGRATED WASTE MANAGEMENT

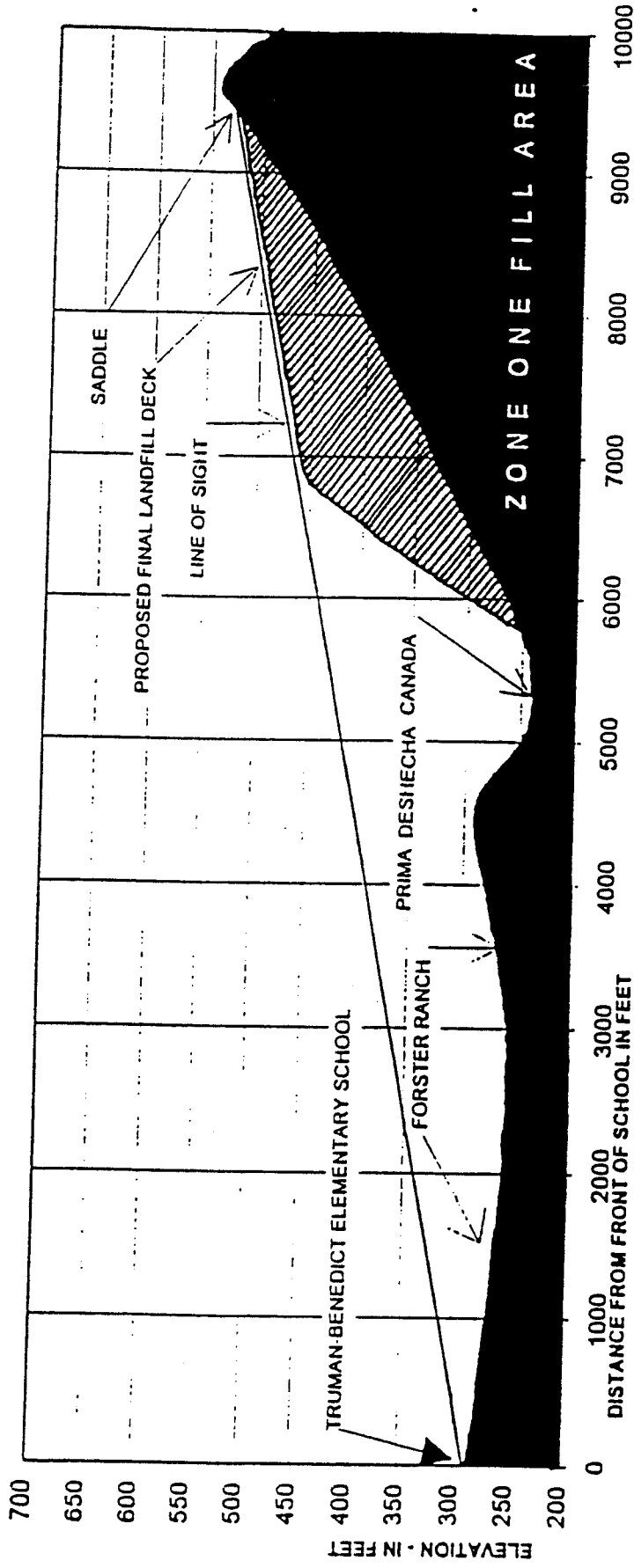
**PRIMA DESHECHA  
LANDFILL**

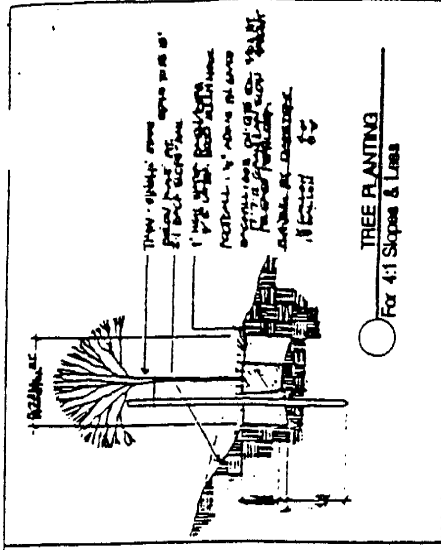
REVISED FINAL ELEVATION  
GRADING PLAN  
ZONE 1

NO.	DATE	DESCRIPTION
REVISIONS		
APPROVED UNDER THE RESPONSIBLE CHARGE OF		

LINE OF SIGHT  
STUDY CROSS-SECTION (LOOKING WEST)

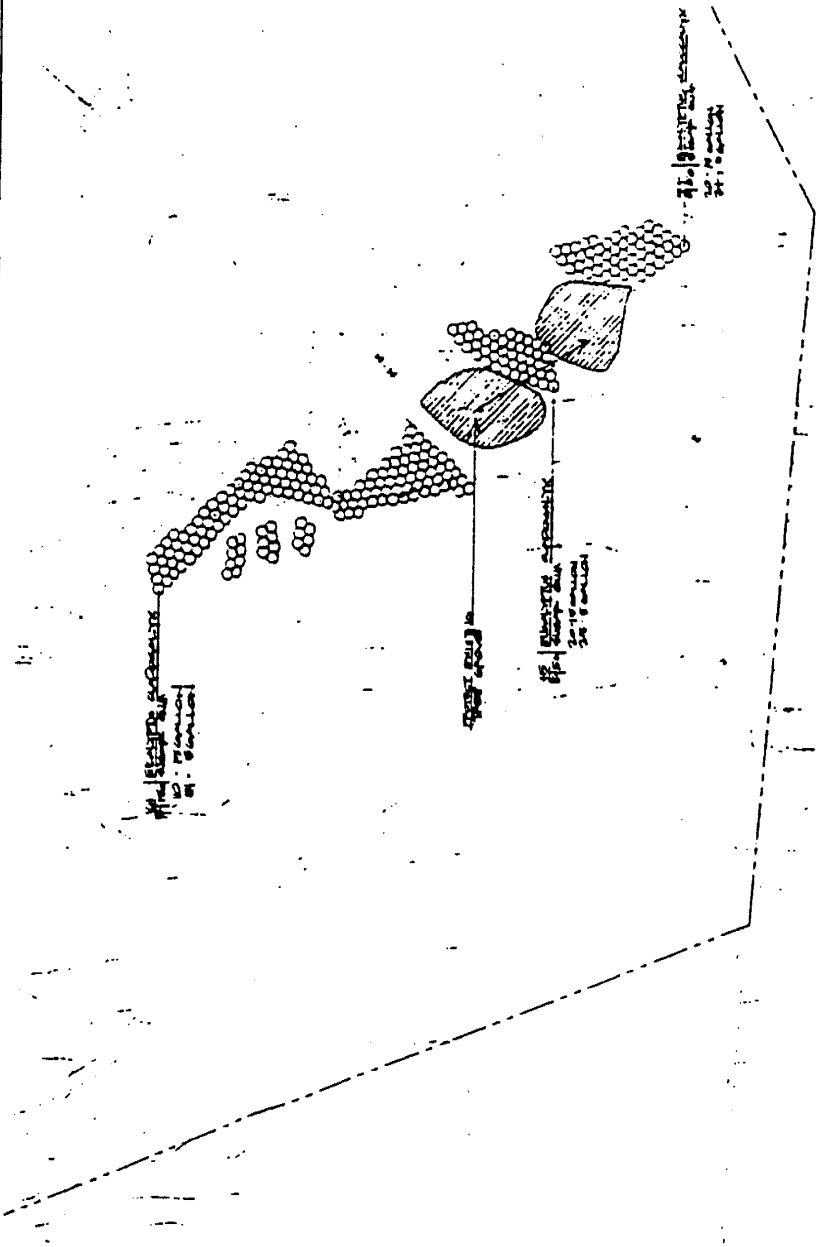
PRIMA DESHECHA LANDFILL





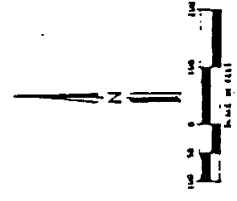
**NOTES:**

1. The tree shall be planted on the slope.
2. The tree shall be planted on the slope.
3. The tree shall be planted on the slope.
4. The tree shall be planted on the slope.
5. The tree shall be planted on the slope.
6. The tree shall be planted on the slope.



**Exhibit 4**

Grand Gulf		MILWAUKEE	
PRIMA DESERVA		LANDROLL	
<b>TREE PLANTING PLAN</b>			
Project Number	1000	Sheet Number	10
Scale	1" = 100'	Date	10/1/00
Author	J. J. ...	Checker	J. J. ...
Drawn	J. J. ...	Approved	J. J. ...



**MEMORANDUM OF UNDERSTANDING  
REGARDING  
THE PRIMA DESHECHA LANDFILL**

between

**THE CITY OF SAN JUAN CAPISTRANO**

and

**THE COUNTY OF ORANGE**

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**MEMORANDUM OF UNDERSTANDING  
BETWEEN THE CITY OF SAN JUAN CAPISTRANO  
AND THE COUNTY OF ORANGE REGARDING  
THE PRIMA DESHECHA LANDFILL**

This Memorandum of Understanding is made and entered into this \_\_\_\_\_ day of September, 1995, by and between the County of Orange, hereinafter referred to as the "COUNTY" and the City of San Juan Capistrano, hereinafter referred to as the "CITY."

**PREAMBLE**

The Prima Deshecha Landfill "LANDFILL" is one of the three active landfills owned and operated by the COUNTY as part of its landfill system. By COUNTY Ordinance, COUNTY may contract to provide solid waste disposal services to governmental entities and/or solid waste haulers for municipal solid waste originating outside of the COUNTY ("Out-of-County Waste") provided said contracts meet certain conditions specified in Orange County Codified Ordinance ("OCCO") § 4-3-116. The COUNTY is considering entering into contracts to accept Out-of-County Waste at the LANDFILL. It is the intent of the COUNTY to participate in the mitigation of any potential impacts on the CITY.

The purpose of this Memorandum of Understanding is to identify the understanding of the parties as to how the COUNTY will reasonably mitigate these impacts on the CITY.

The COUNTY is currently under a Stipulated Order of Compliance and Agreement in operating the LANDFILL. The present Solid Waste Facility Permit (SWFP) was authorized at a time when the LANDFILL was operating at a level of approximately seven hundred and fifty (750) tons per day. The COUNTY is currently accepting approximately eleven hundred (1,100) tons per day of the municipal solid waste at the LANDFILL and is presently submitting a request for a revised SWFP for authorization to operate the LANDFILL at a proposed four thousand (4,000) tons per day. Any contracts entered into for disposal services of Out-of-County Waste shall not cause the tonnage to exceed four thousand (4,000) tons per day.

**NOW, THEREFORE, THE PARTIES AGREE AS FOLLOWS:**

**SECTION I. GENERAL PLAN AMENDMENT/GENERAL DEVELOPMENT PLAN.**

CITY has received a payment of twenty thousand dollars (\$20,000) from COUNTY which represents the deposit for processing the COUNTY's application for General Plan Amendment. Any unused balance shall be refunded to COUNTY.

A. Road Improvements - If COUNTY begins accepting Out-of-County Waste at the LANDFILL, COUNTY shall be lead agency for design and construction of Antonio Parkway, a minimum four-lane roadway between Oso Parkway and Ortega Highway, by May 31, 1999. COUNTY shall be responsible for certification of an Environmental Impact Report ("EIR") by the Board of Supervisors, contribution of right-of-way from the property owners, setting aside sufficient funds for its design, construction, maintenance, drainage, slopes and environmental mitigation, including the cost of clearing any title obligations.

It is further agreed that in order to accept Out-of-County Waste at the LANDFILL that the following schedule of events must be met:

i. COUNTY Board of Supervisors shall set aside all funding for the design and construction of Antonio Parkway in accordance with the following schedule:

COUNTY shall accumulate gas tax funds over two (2) successive fiscal years beginning in 1995-96. COUNTY shall include with its adopting resolutions for its budget, a finding that the funding, design and expedited construction of Antonio Parkway between Oso Parkway and Ortega Highway is its highest priority capital project. In addition, this agreement, including this budget priority, shall be included as an executory contract to be assumed under any "Plan of Adjustment" to be filed by the Bankruptcy Court.

ii. COUNTY Board of Supervisors shall "Award Contract" for construction of Antonio Parkway by December 31, 1997.

iii. Start of construction to commence within 90 days of award of contract and be maintained as a continuous operation until completion, except for delays caused by acts of nature.

iv. Antonio Parkway to be completed not as a toll road and open for public use no later than May 31, 1999.

If the above stated schedule is not met, the COUNTY will cease acceptance of all Out-of-County Waste at the LANDFILL until said milestones have been met. The COUNTY shall hold CITY harmless from any claims that may arise due to other contractual agreements that COUNTY has with separate third parties related to the construction of Antonio Parkway. CITY agrees not to interfere with any contracts between COUNTY and third parties. Changes to the above schedule may be discussed as part of a thirty (30) day meet and confer period prior to the expiration of the above dates. Any extension of the above performance dates can only be authorized upon agreement of both COUNTY and CITY.

COUNTY will not submit an application for revision of SWFP No. 30-AB-0019 subsequent to the application for revision of SWFP No. 30-AB-0019 currently being reviewed by the staff of the Local Enforcement Agency ("LEA") and California Integrated Waste Management Board ("CIWMB") until a contract has been awarded for the construction of Antonio Parkway.

COUNTY agrees to incorporate the above construction schedule for Antonio Parkway as a mitigation measure in the EIR currently being prepared for the CITY's General Plan Amendment and the COUNTY's General Development Plan ("GDP") for the LANDFILL. Said mitigation measure shall be in full force and effect in accordance with the provision of the California Environmental Quality Act ("CEQA").

B. Ridgeline Preservation - The COUNTY will install and maintain final landfill grades which result in no silhouetting above and along the General Plan - designated "major ridgeline" which forms the northern and western edges of the LANDFILL site boundary such that no landfill operations or placement of landfill materials will visually encroach upon the designated General Plan ridgeline or be viewed from Ortega Highway.

C. Sound/Visual Berms - COUNTY agrees to construct an earthen berm per Exhibit A in order to buffer residential units from noise generated by vehicles travelling to LANDFILL on La Pata. Said berm shall be a minimum four to five (4 to 5) feet high, and nine hundred (900) feet long and be designed such that it may be constructed so as to not require the acquisition of any additional right-of-way by the COUNTY. Further, berm shall be designed to be accommodated by existing topography, without requiring retaining structures or significant grading. Construction should include hydroseeding or other method of erosion control. COUNTY agrees to repair berm as necessary. The berm is to be constructed prior to importation of Out-of-County Waste to LANDFILL in 1997.

D. Park Use Financing Plan - COUNTY agrees that the GDP will include a requirement that the ultimate recreational uses to be established on the site within CITY limits following closure of the landfill operations shall be mutually agreed upon by COUNTY and CITY. It is further agreed that the GDP will include a financial analysis and financial plan.

E. Traffic Circulation - Any agreement for Out-of-County Waste will require that Out-of-County Waste be delivered via I-5 Freeway to Ortega Highway to La Pata Avenue. Any other alternate route must be approved by the Director of Engineering and Building or his designee. CITY's approval shall not be unreasonably withheld.

Any agreement for Out-of-County Waste will require that Out-of-County Waste be delivered to the LANDFILL in transfer trailer vehicles, approximately twenty (20) tons of cargo, so as to reduce adverse traffic impacts unless approved in writing by City Manager or his designee.



## SECTION 2. SOLAG RELOCATION.

When an application is submitted, COUNTY will expedite review of conditional use permits within ninety (90) days excepting appeals for the relocation of Solag Disposal Company to property owned by the San Juan Company, a California limited partnership, and San Juan Partnership No. I, a California limited partnership, or any property whereby COUNTY has jurisdiction over the land use permit process or construction permit process, and COUNTY will not unreasonably withhold permits for such relocation.

## SECTION 3. HOST FEE.

The COUNTY will pay the CITY no less than eighty-one cents (\$.81) per ton for each ton of Out-of-County Waste deposited in the LANDFILL, regardless of whatever tip fee is finally negotiated, for as long as such Out-of-County Waste continues to be deposited in the LANDFILL ("Host Fee"). Said Host Fee is mitigation for LANDFILL access only and is not compensation for acceptance of solid waste.

Payment of the Host Fee will be made quarterly within one (1) month of the close of collection for the quarter for all loads which are composed of Out-of-County Waste. A subsequent payment will be made within twenty (20) days of receipt of origin of waste data from the hauler of any mixed loads composed of both Out-of-County Waste and In-County Waste. Mixed loads shall be prorated. Should the COUNTY's gate fee be increased after the COUNTY begins providing disposal services for Out-of-County Waste, the Host Fee will be adjusted. The adjustment to the Host Fee will be made according to the following formula utilizing a floating decimal. The new adjusted Host Fee will be rounded to the nearest whole cent.

$$N = C \times (A/B)$$

A = The new adjusted gate fee for Out-of-County Waste

B = The current gate fee for Out-of-County Waste

C = The current Host Fee for the CITY

N = The new Host Fee for the CITY

## SECTION 4. TONNAGE LIMITATIONS.

Landfill operation will be limited to a maximum of four thousand (4,000) tons per day of municipal solid waste for the length of time the LANDFILL is in operation.

Any SWFP issued by the State of California or LEA shall specifically stipulate a maximum daily tonnage limitation of four thousand (4,000) tons per day and an annual tonnage limitation (based

on three hundred and seven [307] operating days per year) of one million, two hundred and twenty-eight thousand (1,228,000) tons of municipal solid waste.

Importation shall begin January of 1997, and shall not exceed two thousand (2,000) tons per day for any day prior to completion of Antonio Parkway. Antonio Parkway shall not be constructed as a toll road. If construction of Antonio Parkway is not completed by May 31, 1999, COUNTY will discontinue use of LANDFILL for the disposal of Out-of-County Waste, and shall cease all LANDFILL operation above two thousand (2,000) tons per day of municipal solid waste of any kind, including In-County Waste. Said limitations shall remain in effect until Antonio Parkway is completed and open to public traffic.

#### SECTION 5. RECIPROCAL COOPERATION.

A. Processing General Development Plan - The CITY will proceed with processing the application submitted by the COUNTY for an amendment to its General Plan reflecting the interim landfill use of the site occupied by the LANDFILL and will present that amendment to the City Council no later than November 21, 1995. In order to meet this obligation, the COUNTY shall submit a draft EIR to the CITY no later than September 22, 1995. The CITY and COUNTY agree to the schedule and milestones for processing the General Plan Amendment contained in Exhibit B, attached and incorporated by this reference excepting appeals. If CITY fails to meet its milestones for processing General Plan Amendments, CITY shall not object to COUNTY obtaining extensions of Senate Bill (SB) 17 (Craven)(Stats. 1995, Chapter 4 uXX).

B. Cooperation on Antonio Parkway - CITY shall cooperate with COUNTY in providing necessary information and other actions required by the COUNTY in the preparation and certification of the EIR for both Antonio Parkway and the LANDFILL GDP and process any necessary permits, right of entry agreement, and applications involved in the funding and construction of the road.

C. Cooperation on Solid Waste Facilities Permit - The CITY will cooperate with the COUNTY by providing the COUNTY with any necessary documents or clearances required by the LEA or the CIWMB so as to enable the COUNTY to complete its pending permit revision application, including, but not limited to information required by Public Resources Code Section 50000.5. Once CITY has acted on the General Plan Amendment, CITY shall provide LEA and CIWMB with records of action.

#### SECTION 6. STATUS OF CITY AND INDEMNIFICATION.

The CITY and COUNTY desire to leave no doubt as to their respective roles, and that by entering into this Memorandum of Understanding, CITY is not thereby becoming an "Arranger" as that term is used in CERCLA § 107 (a)(3), and that it is the COUNTY, not the CITY, which is "Arranging For" the disposal of Out-of-County Waste in LANDFILL which may contain hazardous, toxic, harmful or corrosive substances.

COUNTY agrees to defend, indemnify and hold CITY, and its officers, employees and agents harmless for all claims, injury, death or damage to property resulting solely from the acts or omissions of the COUNTY, its officers, employees, agents for liability arising from any activity of the COUNTY, its officers, employees, agents taken pursuant to the provisions of this Memorandum of Understanding including liability arising due to delivery of Out-of-County Waste to the LANDFILL. CITY agrees to defend, indemnify and hold COUNTY, and its officers, employees and agents harmless for all claims, injury, death or damage to property resulting solely from the acts or omissions of the CITY, its officers, employees, agents for liability arising from any activity of the CITY, its officers, employees and agents taken pursuant to the provisions of this Memorandum of Understanding. If the CITY's negligence combines with the COUNTY's negligence to cause injury, the parties agree that liability will be apportioned as determined by a court of competent jurisdiction. Neither party shall request a jury apportionment.

#### **SECTION 7. REPORTS AND INFORMATION.**

The CITY reserves the right to inspect the records of the COUNTY and the right to audit and to recompute any amounts deemed payable under this Memorandum of Understanding. Any such audit must be at CITY expense and take place within thirty-six (36) months of the close of each of the fiscal years. Any additional amount due must be paid within thirty (30) days following written notice to the COUNTY by the CITY. This notice shall include a copy of the audit report.

#### **SECTION 8. BINDING EFFECT.**

Each covenant, obligation, and condition contained in this Memorandum of Understanding shall inure to the benefit of and be binding upon the parties to this Memorandum of Understanding. If LANDFILL is transferred by COUNTY, COUNTY will provide in any such agreement that subsequent operator will comply with all requirements of this Memorandum of Understanding, which apply to the operation of the LANDFILL.

#### **SECTION 9. EXHIBIT INCORPORATED.**

Exhibits "A" through "B" are attached to and incorporated in this Memorandum of Understanding by reference.

#### **SECTION 10. FORCE MAJEURE.**

Should the performance of the obligations of either party under this Memorandum of Understanding be interrupted or delayed by any occurrence not occasioned by the conduct of either party to this Memorandum of Understanding, whether that occurrence is an act of God, war, civil insurrection, fire, flood, storm, strikes, lockouts, or by any law, regulation, or order of any federal or state court, that party's performance under this Memorandum of Understanding shall be excused for whatever period of time after the occurrence is reasonably necessary to remedy the effects of that occurrence.

**SECTION 11. NOTICES.**

Any notice required or permitted by this Memorandum of Understanding shall be in writing and sufficiently given if delivered in person or sent by certified or registered mail, postage prepaid, to the notice address of the respective parties set forth in this Memorandum of Understanding. Changes in the respective addresses to which such notices may be directed may be made from time to time by any party by notice to the other party. The present addresses of the parties are:

COUNTY: County of Orange  
EMA/Integrated Waste Management Department  
Attn: Director

Location for Direct Deliveries and Certified Mail:  
320 North Flower Street, Suite 400  
Santa Ana, CA 92703

Mailing Address:  
P.O. Box 4048  
Santa Ana, CA 92702-4048

CITY : City of San Juan Capistrano  
Attn: City Manager

Mailing Address:  
32400 Paseo Adelanto  
San Juan Capistrano, CA 92675

**SECTION 12. AMENDMENTS.**

Neither this Memorandum of Understanding nor any provision hereof may be changed, modified, amended or waived except by written agreement duly authorized and executed by both parties.

IN WITNESS WHEREOF, the parties hereto have executed this Memorandum of Understanding on the dates opposite their respective signatures:

COUNTY OF ORANGE, a political subdivision of the State of California

DATED: 9-12-95

By: Gaddi Vasquez  
Gaddi Vasquez, Chairman of its Board of Supervisors

SIGNED AND CERTIFIED THAT A COPY OF THIS DOCUMENT HAS BEEN DELIVERED TO THE CHAIRMAN OF THE BOARD

Kathleen E. Goodno  
Kathleen E. Goodno, Acting Clerk of the Board of Supervisors of Orange County, California

APPROVED AS TO FORM:  
LAURENCE M. WATSON, CHIEF ASSISTANT COUNTY COUNSEL

Geoffrey K. Hunt DATED: 9/11/95  
Geoffrey K. Hunt, Deputy

CITY OF SAN JUAN CAPISTRANO

DATED: September 19, 1995

By: Carolyn Nash  
Carolyn Nash, Mayor

ATTEST:

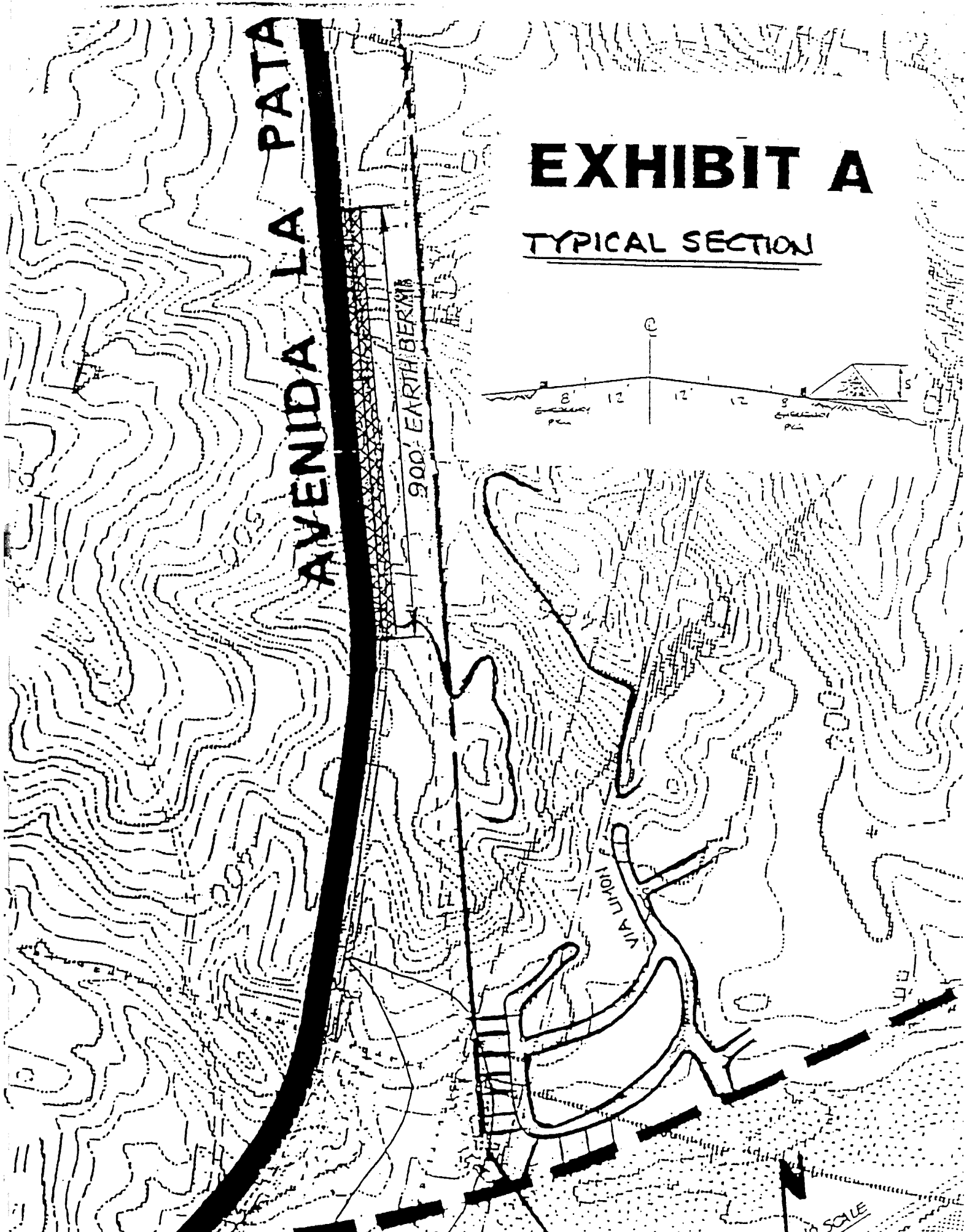
Cheryl Johnson  
Cheryl Johnson, City Clerk

APPROVED AS TO FORM:\*

Richard K. Denhalter DATED: 9/19/95  
Richard Denhalter, City Attorney of the City of San Juan Capistrano, California

# EXHIBIT A

## TYPICAL SECTION



## EXHIBIT B

### PRIMA DESHECHA LANDFILL MOU & EIR 548 PROJECT SCHEDULE

SEPTEMBER 5, 1995

- |    |  |  |
|----|--|--|
| A. | Prepare Revised Draft EIR -                | August 24 through September 15, 1995       |
| B. | City Council Execute MOU -                 | September 8, 1995                          |
|    | Board of Supervisors Execute MOU -         | September 12, 1995                         |
| C. | Print Revised Draft EIR -                  | September 15 through September 17, 1995    |
| D. | Distribution of Revised Draft EIR -        | September 18, 1995                         |
| E. | 45-Day Public Review Period <sup>1</sup> - | September 19 through November 2, 1995      |
| F. | Prepare Response to Comments -             | November 2 through November 7, 1995        |
| G. | City/County Commission(s) -                | Week of November 13th                      |
| H. | City Council/Certifies EIR/Adopts GPA -    | November 21, 1995                          |
|    | B/S Certifies EIR -                        | November 21, 1995 (Special Meeting needed) |
| I. | Permit Approval by CIWMB -                 | December 1995                              |

---

<sup>1</sup> The following items will begin during this period: staff reports, response to comments received early, mitigation monitoring and reporting program, findings of fact and statements of overriding consideration.

**SECTION 11. NOTICES.**

Any notice required or permitted by this Memorandum of Understanding shall be in writing and sufficiently given if delivered in person or sent by certified or registered mail, postage prepaid, to the notice address of the respective parties set forth in this Memorandum of Understanding. Changes in the respective addresses to which such notices may be directed may be made from time to time by any party by notice to the other party. The present addresses of the parties are:

COUNTY: County of Orange  
EMA/Integrated Waste Management Department  
Attn: Director

Location for Direct Deliveries and Certified Mail:  
320 North Flower Street, Suite 400  
Santa Ana, CA 92703

Mailing Address:  
P.O. Box 4048  
Santa Ana, CA 92702-4048

CITY : City of San Juan Capistrano  
Attn: City Manager

Mailing Address:  
32400 Paseo Adelanto  
San Juan Capistrano, CA 92675

**SECTION 12. AMENDMENTS.**

Neither this Memorandum of Understanding nor any provision hereof may be changed, modified, amended or waived except by written agreement duly authorized and executed by both parties.



IN WITNESS WHEREOF, the parties hereto have executed this Memorandum of Understanding on the dates opposite their respective signatures:

COUNTY OF ORANGE, a political subdivision of the State of California

DATED: 9-12-95

By: Gaddi Vasquez  
Gaddi Vasquez, Chairman of its Board of Supervisors

SIGNED AND CERTIFIED THAT A COPY OF THIS DOCUMENT HAS BEEN DELIVERED TO THE CHAIRMAN OF THE BOARD

Kathleen E. Goodno  
Kathleen E. Goodno, Acting Clerk of the Board of Supervisors of Orange County, California

APPROVED AS TO FORM:  
LAURENCE M. WATSON CHIEF ASSISTANT COUNTY COUNSEL

Geoffrey K. Hunt DATED: 9/11/95  
Geoffrey K. Hunt, Deputy

CITY OF SAN JUAN CAPISTRANO

DATED: September 19, 1995

By: Carolyn Nash  
Carolyn Nash, Mayor

ATTEST:

Cheryl Johnson  
Cheryl Johnson, City Clerk

APPROVED AS TO FORM:\*

Richard K. Denhalter DATED: 9/19/95  
Richard Denhalter, City Attorney of the City of San Juan Capistrano, California

FIRST AMENDMENT  
TO MEMORANDUM OF UNDERSTANDING BETWEEN  
THE CITY OF SAN JUAN CAPISTRANO AND  
THE COUNTY OF ORANGE REGARDING  
THE PRIMA DESHECHA LANDFILL

This First amendment is made and entered into this 21 day of Nov, 1995, by and between the County of Orange, hereinafter referred to as "COUNTY", and the City of San Juan Capistrano, hereinafter referred to as "CITY", and is made to the Memorandum of Understanding between the parties dated September 12, 1995, hereafter collectively referred to as the MOU.

NOW, THEREFORE, THE PARTIES AGREE AS FOLLOWS:

1. The Sound/Visual Berms Section, is amended by deleting Paragraph, Section 1. C Sound/Visual Berms in its entirety, and substituting the following:

Paragraph I. C. - Sound/Visual Berm

CITY and COUNTY agree to cooperate in the construction of an earthen berm per Exhibit A in order to buffer residential units from noise and view of vehicles traveling to LANDFILL on La Pata. Said berm shall be approximately eight (8) feet high, and nine hundred (900) feet long. Berm shall be designed in a manner to minimize the need for extra right-of-way and to accommodate existing topography as much as possible. CITY and COUNTY shall agree on technical specifications of berm design prior to its construction. Should additional right-of-way be needed, CITY and COUNTY agree to cooperate in negotiations with appropriate landowner (s).


If the California Integrated Waste Management Board receives a letter from the City of San Juan Capistrano by November 27, 1995, which satisfies the General Plan Consistency requirements of Public Resources Code Section 50000, COUNTY shall pay total cost of said berm, including but not limited to, engineering and design, right of way acquisition and construction costs. Construction shall include hydroseeding or similar method of erosion control. COUNTY agrees to repair berm as necessary. Construction shall be completed within one (1) year of permit issuance. If General Plan Consistency finding pursuant to Section 50000 is not sent by City to the CIWMB by November 27, 1995, COUNTY's share of total cost shall be \$45,000 and construction shall begin at a date mutually agreed to by CITY and COUNTY.

All other terms and conditions of the agreement remain unchanged.


IN WITNESS WHEREOF, the parties hereto have executed this First Amendment to the Memorandum of Understanding on the date's opposite their respective signatures:

COUNTY OF ORANGE, a political subdivision of the State of California

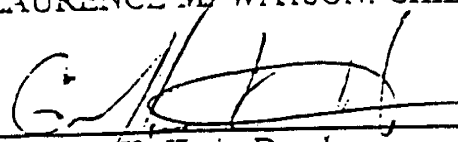
DATED: NOV 21 1995

By:   
Roger Stanton, Chairman of the Board of Supervisors

SIGNED AND CERTIFIED THAT A COPY OF THIS DOCUMENT HAS BEEN DELIVERED TO THE CHAIRMAN OF THE BOARD

  
Kathleen E. Goodno, Acting Clerk of the Board of Supervisors of Orange County, California

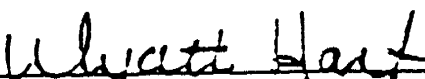
APPROVED AS TO FORM:  
LAURENCE M. WATSON, CHIEF ASSISTANT COUNTY COUNSEL

  
Geoffrey K. Hunt, Deputy


DATED: 11/22/95

CITY OF SAN JUAN CAPISTRANO

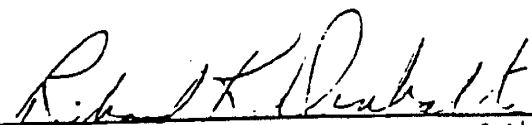
DATED: January 2, 1996

By:   
Wyatt Hart, Mayor

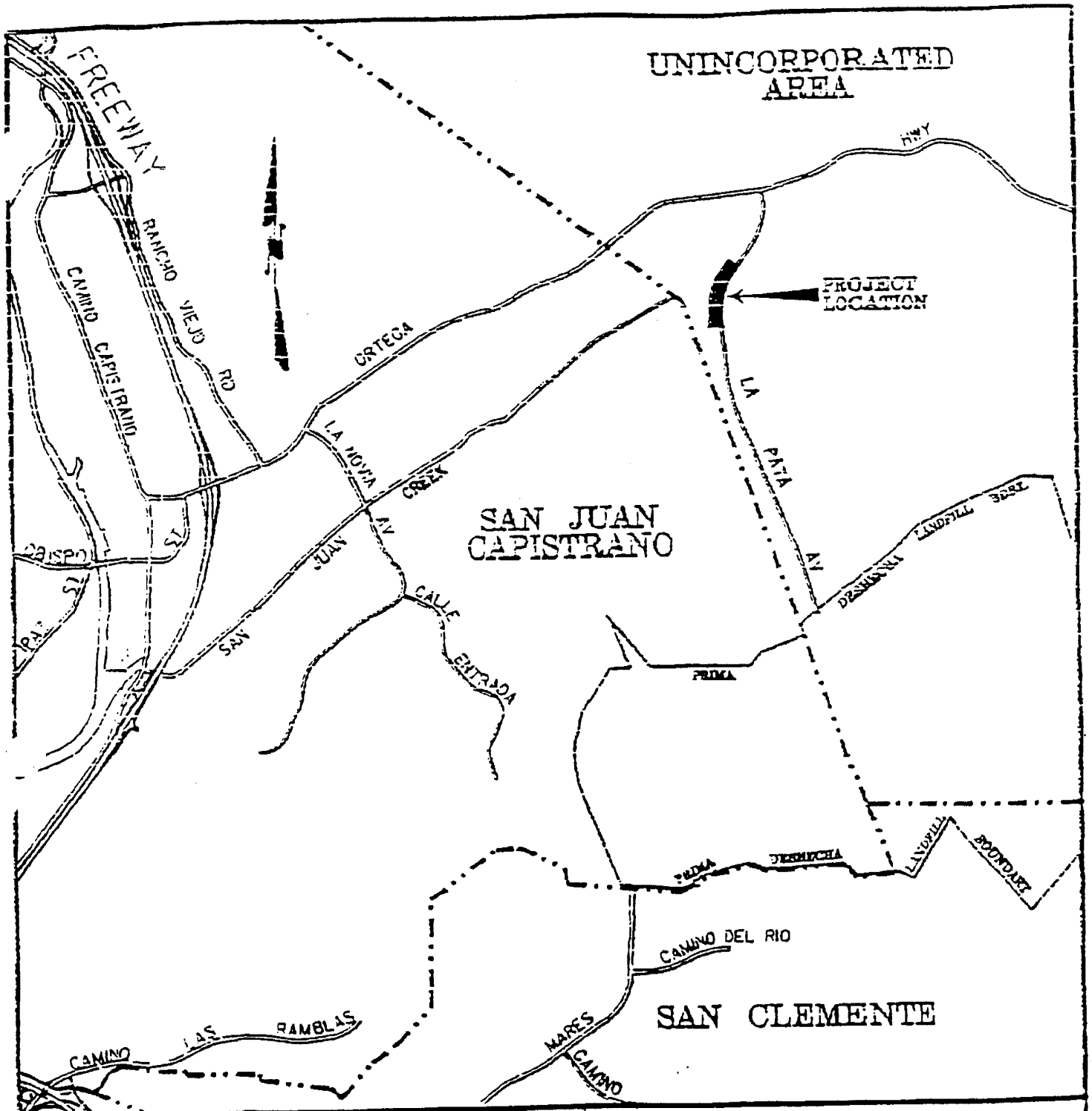
ATTEST:

  
Cheryl Johnson, City Clerk

APPROVED AS TO FORM:

  
Richard Denhalter, City Attorney of the City of San Juan Capistrano, California

DATED: 1/2/96



LOCATION MAP

ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY

PROPOSED SOUND BERM @ LA PATA AVENUE

SCALE : 1" = 3000' THOMAS GUIDE : 97L14 - 952H5

# **APPENDIX D**

## **Amendment No. 1 to the GDP**

ORANGE COUNTY BOARD OF SUPERVISORS  
MINUTE ORDER  
October 22, 2002

Submitting Agency/Department: INTEGRATED WASTE MANAGEMENT DEPARTMENT

Approve settlement agreement and covenant & declaration of restrictions; approve amended 2001 Prima Deshecha General Development Plan; and make California Environmental Quality Act and other findings - District 5

**The following is action taken by the Board of Supervisors:**

APPROVED AS RECOMMENDED  OTHER

Unanimous  (1) SMITH: X (2) SILVA: Y (3) SPITZER: Y (4) COAD: X (5) WILSON: Y

Vote Key: Y=Yes; N=No; A=Abstain; X=Excused; B.O.=Board Order

Documents accompanying this matter:

- Resolution(s)
- Ordinances(s)
- Contract(s)

Item No. 14

Special Notes:

Copies sent to:

CFO  
IWMD - Janice V. Goss  
Barbara Love  
Chris Cruz

Auditor

11/01/02



I certify that the foregoing is a true and correct copy of the Minute Order adopted by the Board of Supervisors, Orange County, State of California.  
DARLENE J. BLOOM, Clerk of the Board

By: \_\_\_\_\_  
Deputy

**SETTLEMENT AGREEMENT**

This Settlement Agreement (“Agreement”) is made effective as of this 22 day of October 2002 (“Effective Date”), by and between the County of Orange (“County”) and DMB San Juan Investment North, LLC, a Delaware limited liability company (“DMBSJIN”), San Juan Partnership No. I, a California limited partnership (“SJP I”), and San Juan Partnership No. IV, a California limited partnership (“SJP IV”). DMBSJIN, SJP I and SJP IV are referred to collectively herein as “RMV.” County and RMV are referred to collectively as the “Parties” and individually as a “Party.”

**RECITALS**

- A. The 1,530 acre Prima Deshecha Landfill site (“PDL”) is located in south Orange County and is operated by County’s Integrated Waste Management Department (“IWMD”).
- B. RMV owns certain real property situated adjacent to the eastern and northern boundaries of the PDL, which is part of a larger block of land commonly referred to as “Rancho Mission Viejo.” Rancho Mission Viejo is comprised of approximately 25,000 contiguous acres of currently undeveloped land that RMV and its affiliated entities continue to own in south Orange County.
- C. In 1979, the County approved the first General Development Plan (“1979 GDP”) for the PDL. The 1979 GDP authorized the County to engage in certain landfilling and ancillary activities on approximately 1,000 acres of the PDL.
- D. In 2001, the County proposed a new General Development Plan (“2001 GDP”) to replace the 1979 GDP. The 2001 GDP divides the PDL into five zones and designates certain uses for each zone. Specifically, Zones 1 and 4 are designated for landfilling, Zone 5 is

designated for regional circulation, and Zones 2 and 3 are designated for recreational trails/open space. In addition, the 2001 GDP anticipates that Zones 1 and 4 will be converted into a regional park and/or used for recreational purposes, once these areas have reached landfill capacity and landfilling activities have ceased.

E. In conjunction with the 2001 GDP, the County prepared draft Environmental Impact Report No. 575 (“DEIR No. 575”), which assessed the potential environmental impacts associated with the new development plan. DEIR No. 575 was circulated for public review and comment on February 5, 2001.

F. Following the close of the written comment period, the County prepared final Environmental Impact Report No. 575 (“FEIR No. 575”) and held two public hearings to solicit additional public input concerning the adequacy of FEIR No. 575 and the proposed adoption of the 2001 GDP. The first hearing was held before the Orange County Planning Commission on October 24, 2001; the second hearing was held before the Orange County Board of Supervisors on November 6, 2001. At the close of the second hearing, the Board of Supervisors passed and adopted Resolution No. 01-380 (“Resolution No. 01-380,” a copy of which is attached hereto as Attachment 5) whereby the Board of Supervisors (i) certified FEIR No. 575 as having been completed in accordance with the provisions of the California Environmental Quality Act (“CEQA”) and (ii) approved and adopted the 2001 GDP. As used herein, “EIR No. 575” shall mean FEIR No. 575, together with any mitigation measures, amendments, or conditions required in connection therewith, as certified by the Board of Supervisors on November 6, 2001.

G. During the written comment period and at both public hearings, RMV submitted comments in which it asserted that FEIR No. 575 was inadequate and objected to approval of the 2001 GDP. Among other things, RMV asserted that FEIR No. 575 failed to adequately consider



the potential impacts of the 2001 GDP on RMV's anticipated future use of its property adjacent to the PDL.

H. Subsequent to approval of the 2001 GDP by the Board of Supervisors, RMV also asserted that the new development plan was inconsistent with the terms and conditions of the Prior Agreement (defined below).

I. There currently is a controversy and dispute between the County and RMV concerning (i) the adequacy of EIR No. 575, (ii) the impact of the 2001 GDP on RMV's anticipated future use of its adjacent property, and (iii) the consistency of the 2001 GDP with the Prior Agreement. As set forth more fully below, the Parties desire to fully settle, compromise, and resolve this controversy and dispute, as well as any and all related issues and concerns.

#### **AGREEMENT**

**NOW, THEREFORE**, in consideration of the mutual terms, covenants, conditions, promises, and benefits contained herein, and for other good and valuable consideration, the Parties agree as follows:

1. **Definitions.** For the purposes of this Agreement, the following terms shall have the meanings set forth below:

1.1. **Burdened Property.** The term "Burdened Property" shall mean the portion of the PDL defined as the Burdened Property in the County Restrictive Covenant (defined below) and more particularly described and depicted on Exhibits "A" and "B" of the County Restrictive Covenant.

1.2. **County Restrictive Covenant.** The term "County Restrictive Covenant" shall mean the Covenant and Declaration of Restrictions entered into concurrently herewith

pursuant to Section 3 hereof between the Parties in the form of Attachment “1” to this Agreement.

1.3. County’s Successors-in-Interest. The term “County’s Successors-in-Interest” shall mean any person or entity that acquires all or a portion of the Burdened Property.

1.4. Landfill Operations. The term “Landfill Operations” shall mean: (i) the storing, collecting, transporting, treating, processing, recycling, reusing, converting, disposing, transferring, placing, burying, relocating or otherwise handling in any manner whatsoever any solid, semi-solid, liquid or gas waste of any type; (ii) all activities and operations related to closure and/or post-closure of the landfill; (iii) the construction, use, operation, maintenance, repair and/or replacement of buildings, structures, improvements, environmental monitoring and control systems, property and equipment in connection with the activities and operations identified in subsections (i) and (ii) above; (iv) all site grading, cutting, filling and other earth movement work performed in connection with the activities and operations identified in subsections (i), (ii) or (iii) above; and (v) the construction, use, operation, maintenance, repair and/or replacement of roads, paths, trails and accessways (whether temporary or permanent) used in connection with the activities and operations identified in subsections (i), (ii), (iii) and (iv) above.

1.5. Landfill Operations Area. The term “Landfill Operations Area” shall mean that portion of the Burdened Property defined as the Landfill Operations Area in the County Restrictive Covenant and more particularly delineated on Exhibit “B” of the County Restrictive Covenant.

1.6. No-Build Area. The term “No-Build Area” shall mean that portion of the RMV Benefitted Property more particularly delineated on Attachment “2” to this Agreement.

1.7. Prior Agreement. The term "Prior Agreement" shall mean the Purchase and Option Agreement executed between the County and RMV's predecessors-in-interest on June 13, 1973, a copy which is attached to this Agreement as Attachment "3," pursuant to which the County acquired the Burdened Property from RMV's predecessors-in-interest.

1.8. Restricted Area. The term "Restricted Area" shall mean that portion of the Burdened Property defined as the Restricted Area in the County Restrictive Covenant and more particularly delineated on Exhibit "B" of the County Restrictive Covenant.

1.9. RMV Benefitted Property. The term "RMV Benefitted Property" shall mean that real property adjacent to the eastern and northern boundaries of the Burdened Property and more particularly described and depicted on Attachment "4" to this Agreement.

1.10. RMV's Successors-in-Interest. The term "RMV's Successors-in-Interest" shall mean: (i) any person or entity that acquires ten percent (10%) or more of the assets of DMBSJIN, SJP I, or SJP IV, provided that such assets include all or a portion of the Benefitted Property; (ii) any division, subsidiary, operating company or wholly-owned entity of DMBSJIN, SJP I, or SJP IV; (iii) any person or entity that acquires ten percent (10%) or more of DMBSJIN's, SJP I's, or SJP IV's interest in the Benefitted Property; and (iv) lineal descendants of Marguerite O'Neill (and/or each of their estate planning trusts or entities) provided such persons acquire fee interests in all or a portion of the Benefitted Property. Except for any person expressly identified in the preceding sentence, RMV's Successors-in-Interest shall not include any individual consumer or purchaser of one or more residential units within the RMV Benefitted Property or any association (including any homeowners' association), as such term is defined in California Civil Code Section 1351.

2. **Amendment of Prior Agreement.** As of the Effective Date of this Agreement, the provisions of Section I.C.5 of the Prior Agreement shall no longer be of any force and effect, it being the intention of the Parties hereto that this Agreement shall supercede those provisions of the Prior Agreement. Notwithstanding the preceding sentence, the Parties agree that in the event this Agreement is held by a court of competent jurisdiction to be invalid, void or unenforceable, then upon recordation of a certified copy of such holding (or a short form memorandum of the same) in the Official Records of County by either Party or by the court (provided such recorded document shall refer to the title, instrument number and recording date of the County Restrictive Covenant): (i) the County Restrictive Covenant shall automatically become invalid, void or unenforceable and (ii) the provisions of Section I.C.5 of the Prior Agreement shall again become effective.

3. **Execution of County Restrictive Covenant.** As a material inducement for RMV to enter into this Agreement, the County agrees to execute, record and comply with the County Restrictive Covenant, the terms of which are hereby incorporated into this Agreement as if set forth in full herein. Any violation of the County Restrictive Covenant shall be a violation of this Agreement. The County shall cause the County Restrictive Covenant to be recorded in the official records of Orange County within five (5) days of the date hereof.

4. **RMV's Use of Restricted Area.**

4.1. **Grazing.** RMV has requested a license to enter and use the Restricted Area to conduct livestock grazing for a period of 15 years. The County agrees to grant RMV such a license, subject to such terms and conditions as are reasonably acceptable to the County and, if applicable, the completion of any necessary CEQA documentation. Any such license shall be set forth in a separate written agreement that is approved and executed by both Parties.

Any such license shall be free of charge to RMV except that County may require that RMV reimburse County for any direct, out-of-pocket costs incurred by County in connection therewith.

4.2. NCCP Mitigation.

4.2.1 Right of First Refusal. The Parties acknowledge that the Restricted Area may be used to conduct habitat mitigation or other similar operations (including remedial grading and revegetation) pursuant to any approved Natural Community Conservation Plan, Habitat Conservation Plan or other similar plan of conservation (collectively "NCCP"), and that the County may seek to sell or otherwise transfer its rights to do the same either through a sale of the land or through sales of mitigation units or credits (as used herein, any such land, units, credits or other mitigation rights are referred to as "NCCP Credits"). County hereby grants to RMV a right of first refusal for any NCCP Credits on the following terms and conditions. Before County may sell or transfer all or any NCCP Credits to any third party, County must first offer to sell or transfer the same to RMV by giving written notice of the specific price, terms and conditions on which County is willing to sell or transfer (and the proposed transferee is willing to purchase) the NCCP Credits. RMV will have thirty (30) days after receiving County's notice within which to notify County in writing that RMV elects to purchase the subject NCCP Credits on the same terms and conditions contained in County's notice; in the event RMV fails to notify County in the above time period, RMV shall be deemed to have not elected to purchase the subject NCCP Credits. If RMV timely elects to purchase the subject NCCP Credits, then County shall sell the subject NCCP Credits to RMV pursuant to the terms of the County's notice, provided (i) in no event shall the closing occur in less than thirty (30) days from the date of RMV's election to purchase and

(ii) RMV shall have the right to pay money in lieu of any non-cash consideration described in County's notice. If RMV elects not to purchase the subject NCCP Credits (whether actively or passively), County may sell or transfer the same at the price and upon the terms contained in County's notice. The obligations of this Section shall survive throughout the term of this Agreement and shall be binding upon County and County's Successors-in-Interest.

4.2.2 Cooperation. The Parties acknowledge that due to the size and adjacency of the No-Build Area and the Restricted Area, certain benefits may be realized in jointly coordinating, planning and/or implementing an NCCP on the No-Build Area and/or the Restricted Area. In order to realize such benefits of any NCCP, the Parties agree to reasonably cooperate with respect to the creation and/or implementation of any NCCP on the Restricted Area and/or the No-Build Area; provided, however, that neither Party shall be obligated to subject their respective lands to an NCCP.

5. RMV's Use of No-Build Area.

5.1. Restriction on Habitable Buildings. RMV hereby agrees not to construct or allow construction of any habitable buildings within the No-Build Area for a period of thirty (30) years following closure of the Landfill Operations Area.

5.2. Further Documentation. If, in the future, RMV transfers all or any portion of the No Build Area to another entity or third-party, then RMV shall include in the deed or other document effectuating such transfer a restrictive covenant against the No-Build Area consistent with the restrictions set forth in Section 5.1 or shall otherwise obligate such transferee to comply with Section 5.1 pursuant to a written agreement reasonably acceptable to the County. Similarly, if, in the future, RMV seeks to obtain any development or entitlement rights for the No-Build

Area, then the County shall have the right to require RMV to execute and record a restrictive covenant against the No-Build Area consistent with the restrictions set forth in Section 5.1 or to otherwise make such rights conditioned upon RMV's compliance with Section 5.1.

5.3. Further Restrictions. RMV agrees not to protest or otherwise object to the imposition and/or recordation of a restrictive covenant against the No-Build Area pursuant to Sections 5.1 and 5.2. Further, RMV agrees not to assert any action or claim (including, but not limited to, an action or claim for inverse condemnation) against the County based on the imposition of the restrictions against the No-Build Area set forth in Section 5.1. County agrees not to seek any restrictions on RMV's use of the No Build Area for any of the purposes set forth in Section 5.4 in connection with the impacts or effects of County's Landfill Operations on the Burdened Property.

5.4. RMV's Retained Rights. Apart from the specific restrictions set forth in this Agreement, RMV shall retain all other rights and privileges relating to the development and use of the RMV Benefitted Property (including the No-Build Area). Except as provided in Section 5.5 and without limiting the generality of the preceding sentence, nothing in this Agreement prohibits RMV from: (i) constructing water, sewer, gas, telecommunication, electric or other utilities and appurtenances within the No-Build Area; (ii) constructing non-habitable structures, trails or paths within the No-Build Area; (iii) conducting grading activities or otherwise altering the elevations of the No-Build Area (provided such grading activities do not diminish the soil stability of the Burdened Property, and provided further, that in the event any such activities alter the existing elevations as identified on Attachment 2, then any provisions herein respecting visual impacts shall be based upon the existing elevations and not such altered elevations); (iv) seeking entitlements and development approvals (including those associated

with residential units) for the No-Build Area prior to expiration of the thirty (30)-year period specified in Section 5.1; (v) using the No-Build Area in connection with, or for the benefit of, an NCCP or otherwise in furtherance of habitat and/or species protection and/or preservation; (vi) constructing a habitable structure on those portions of a lot that are outside of the No-Build Area, where such lot is only partially within the No-Build Area; (vii) using the No-Build Area for agriculture and/or grazing purposes; and (viii) using any and all land within the No-Build Area: (a) to satisfy the requirements of any public agency (including the County) in regards to general open space requirements or environmental or land use related mitigation and/or restoration measures, commitments or conditions with respect to development within the Rancho Mission Viejo or any portion thereof; (b) for the purpose of transferring any and all development rights pertaining to the No-Build Area for use in other portions of Rancho Mission Viejo; and/or (c) for the purpose of receiving tax benefits, for example, by placing a conservation easement over the No-Build Area in favor of, or transferring the title in the No-Build Area to, an appropriate non-profit entity. This Agreement shall not, nor shall it be construed to, apply to or in any way restrict RMV's use of or activities in areas outside the boundaries of the No-Build Area.

5.5. Compliance with Laws. RMV agrees to obtain all necessary permits and approvals, and to comply with all applicable laws (including, without limitation, compliance with health and safety laws, regulations and permit conditions which require certain construction materials, methods or processes be utilized on account of the proximity to the Landfill Operations), in conjunction with any use of the No Build Area for the purposes set forth in Section 5.4 and any other uses not otherwise restricted by this Agreement but allowed on and within the No-Build Area. Furthermore, RMV shall not engage in any such use of the No Build



Area if doing so would materially conflict or otherwise interfere with the restrictions set forth in Section 5.1 or the County's rights pursuant to Sections 5.2 and 5.3.

5.6. Obligations Run with Land. The restrictions and obligations set forth in this Section 5 shall run with and be binding upon the No-Build Area for the benefit of the Burdened Property.

6. County's Use of Landfill Operations Area. The County shall conduct its Landfill Operations within the Landfill Operations Area in accordance with: (i) the restrictions and provisions set forth in the County Restrictive Covenant; and (ii) the provisions set forth Sections 6.1 through 6.6 below.

6.1. Phasing of Landfill Activities. As of the date hereof, the County anticipates that Landfill Operations within the Landfill Operations Area will occur in phases moving in a west to east progression, and that the placement of refuse within the easterly portion of the Landfill Operations Area will not commence until after the year 2025. Beginning two (2) years prior to commencement of Landfill Operations in the Landfill Operations Area and continuing until such time as the RMV Benefitted Property is fully developed, the County shall provide annual reports to RMV that describe the County's then current plans for the phasing of its Landfill Operations within the Landfill Operations Area. In the event that the County anticipates materially altering the general west-to-east phasing scheme described above, the County shall provide written notice of the same to RMV and shall meet and confer with RMV about such alterations. County shall, in good faith, consider any alternatives or suggestions tendered by RMV prior to materially altering the general west-to-east phasing scheme.

6.2. Sampling and Monitoring of Landfill Gas. The County shall conduct gas sampling and monitoring as needed to confirm that no landfill gas migrates from the Landfill

Operations Area onto the RMV Benefitted Property. Such sampling and monitoring shall commence no later than the first day upon which refuse is placed within 1,000 feet of the RMV Benefitted Property (or such greater distance if required by applicable laws) and shall be conducted at least semi-annually thereafter for a period of at least 30 years following closure of the PDL. The results of such sampling and monitoring shall be transmitted at no cost to RMV upon its request.

6.3. Implementation of Mitigation Measures. The County shall conduct its Landfill Operations in the Landfill Operations Area in accordance with the 2001 GDP and EIR No. 575, and any adopted mitigation measures specified in or required by the 2001 GDP and EIR No. 575. However, if any subsequent, supplemental or additional development plans and/or environmental documents are prepared and approved for the PDL after the date of execution of this Agreement, then such plans and documents, and any adopted mitigation measures specified in or required by such plans and documents, that are in conflict or inconsistent with those established by the 2001 GDP or EIR No. 575 shall take precedence over the 2001 GDP and EIR No. 575. Notwithstanding the above, the County shall not be permitted to implement such plans or documents or any adopted mitigation measures specified in or required by such plans or documents if such implementation would result in materially greater (or materially less effective mitigation of the) impacts of the Landfill Operations on the RMV Benefitted Property (including, without limitation, any visual impacts on account of the height of the landfill) than specified in or required by the 2001 GDP and EIR No. 575.

6.4. Implementation of Viewshed Protection and Landscaping Plan. Pursuant to Condition No. 5 of Resolution No. 01-380 (which condition is set forth on page 5 thereof), County is required to conduct a viewshed analysis with respect to the impacts of Zone 4's

development on the RMV Benefitted Property, and, if needed, prepare and implement a viewshed protection and landscaping plan (“VPL Plan”). If required pursuant to Condition No. 5 of Resolution No. 01-380, the VPL Plan shall be designed to provide noise, visual, litter and dust screening between Landfill Operations in the Landfill Operations Area and the RMV Benefitted Property. The County shall confer with RMV in developing the specific details of the VPL Plan; further, the County shall obtain RMV’s approval of any VPL Plan where the impacts of the same reasonably affect RMV Benefitted Property (including material visual, noise and odor impacts).

6.5. Control of Vectors. The County shall adopt and implement policies and procedures designed to control, to the extent practicable, the growth and spread of non-native invasive plants and animals both within the Landfill Operations Area and from the Landfill Operations Area onto the RMV Benefitted Property. Notwithstanding the above, the County may use non-native plants and trees for screening purposes and erosion control as part of any VPL Plan required pursuant to Section 6.4. Records of any vector inspections conducted at any location within the Landfill Operations Area and any actions resulting from such inspections shall be made available at no cost to RMV upon its request. In addition to any other vector control efforts, the County shall investigate the feasibility of using falcons to reduce the potential impact of birds on off-site property.

6.6. County’s Retained Rights. Apart from the specific restrictions set forth in this Agreement (including, without limitation, those set forth in the County Restrictive Covenant), the County shall retain all other rights and privileges relating to the development and use of the Burdened Property (including the Restricted Area) and the implementation of the 2001 GDP, including but not limited to the right to use soil fill or other engineering methods to minimize the capacity loss resulting from any design adjustments required by the restrictions,

covenants and limitations set forth in this Agreement (including, without limitation, those set forth in the County Restrictive Covenant). This Agreement shall not, nor shall it be construed to, apply to or in any way restrict the County's use of or activities in areas outside the boundaries of the Burdened Property.

7. **La Pata Avenue.**

7.1. **Nomenclature.** The road commonly known as La Pata Avenue currently consists of an approximately 1.5-mile long, three-lane road that provides access to the PDL between the northerly limits of the PDL and Ortega Highway. The Orange County Transportation Authority ("OCTA") Master Plan of Arterial Highways ("MPAH") and the County's Circulation Plan identify a proposed future primary arterial highway with a conceptual alignment from Ortega Highway to Avenida Pico in the City of San Clemente, with the portion to the north of the PDL to Ortega Highway generally following the existing access road for the PDL from Ortega Highway. This conceptual alignment is referred to in various documents as "Avenida La Pata." For purposes of this Agreement, "La Pata Avenue" shall mean only those portions of said proposed future primary arterial highway that extend from Ortega Highway to the southerly limits of the PDL at the San Clemente/Orange County border.

7.2. **Construction/Reconstruction Costs.** The County believes that La Pata Avenue meets landfill access needs to the PDL. Notwithstanding, if the County, the OCTA, or any other party chooses to improve, widen, realign, reconstruct or extend La Pata Avenue (or any portion thereof to meet primary arterial highway standards), then County will be responsible for seven and two-tenths percent (7.2%) of the applicable project costs. The Parties agree that said percentage constitutes the County's fair share of such costs in that the same represents the parties' estimate of the percentage of estimated passenger car-equivalent, average daily trips

generated by or associated with Landfill Operations at the PDL (i.e., at current maximum permitted daily tonnage) relative to the total estimated passenger car-equivalent, average daily trips of build-out traffic on La Pata Avenue. If, subsequent to the Effective Date of this Agreement, County obtains approval to increase the maximum permitted daily tonnage, then County's fair share percentage shall be recalculated based on the increased daily tonnage.

7.3. Maintenance and Repair Costs. County is and shall continue to be responsible for all maintenance and repair of La Pata Avenue.

7.4. Disclaimer of Intent. This Agreement is not intended to be, nor shall it be construed as, a commitment by the County to make any improvements or changes to Existing La Pata as currently constructed. Notwithstanding anything to the contrary expressed or implied in this Agreement, County's obligations to fund its fair share of costs set forth in Section 7.2 above relate to County's obligations regarding La Pata solely with respect to the Landfill Operations at the PDL; this Agreement is not intended nor shall it be construed to limit or preclude: (i) other agreements between the County, RMV and/or other parties that may further define or delineate the sharing of costs associated with the improvement, widening, realignment, reconstruction, construction, extension, use, maintenance and repair of La Pata Avenue not related to use of La Pata Avenue for access to the PDL, or (ii) County's, RMV's or any other person's obligations to contribute to the construction costs of La Pata Avenue.

7.5. License to Use La Pata Avenue. RMV and certain other persons currently use La Pata Avenue to access portions of the Rancho Mission Viejo for agricultural and other purposes. RMV is hereby granted an irrevocable license to continue using La Pata Avenue for these purposes, subject to the County's continuing right to specify and/or approve of the locations of and reasonable conditions for such access. This license is granted to and inures

solely to the benefit of RMV, RMV's Successor-in-Interests and/or RMV's affiliates and may not be transferred to any other party without the County's prior written approval, which may be withheld at the County's sole discretion. Further and except for those users identified in the following sentence, RMV shall not license, permit or in any other manner allow any other party under its authority, direction and/or control to use La Pata Avenue for any reason without the County's prior written approval, which may be withheld at the County's sole discretion. The parties acknowledge that in addition to RMV the following persons currently gain access to Rancho Mission Viejo via La Pata Avenue: (i) Tierra Verde Industries (dba La Pata Greenwaste); (ii) Freddie Love's stables; (iii) Orange County Fire Authority; (iv) public utility companies servicing existing facilities (including Santa Margarita Water District, Southern California Edison, San Diego Gas and Electric and Kinder Morgan (aka SFPP)); (v) Sierra Soils; and (vi) Rancho Mission Viejo, LLC and its affiliated entities (including, without limitation, those affiliates for whom Rancho Mission Viejo, LLC acts or serves as agent and/or manager).

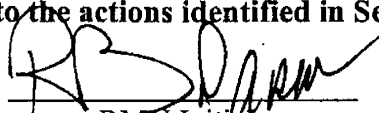
8. **Release of Claims.**

8.1. **RMV's Release of Claims Relating to EIR 575 and Approval of 2001 GDP.** Except for the obligations provided herein, RMV hereby unconditionally releases, remises, acquits and forever discharges the County from claims or causes of action, including any and all administrative or judicial hearings or appeals, or any other litigation in a court of law, either at law or in equity, of any kind, nature and description, presently known or unknown and whether presently existent or nonexistent, relating to: (i) the County's certification of EIR No. 575 and/or the approvals relating to the 2001 GDP granted on or about November 6, 2001; and (ii) any subsequent actions taken by the County to implement the 2001 GDP, so long as said actions are consistent with the terms of this Agreement.

8.2. Waiver of California Civil Code Section 1542. RMV agrees that the release contained in Section 8.1 extends to all claims of any kind or nature relating to the County's certification of EIR No. 575 and/or the approvals relating to the 2001 GDP granted on or about November 6, 2001, whether known or unknown, suspected or unsuspected, and in that regard RMV acknowledges that it has read, been advised by counsel concerning, and considered and understands the full nature, extent and import of the provisions of Section 1542 of the Civil Code of California, which reads as follows:

**A general release does not extend to claims which the creditor does not know or suspect to exist in his favor at the time of executing the release, which if known by him must have materially affected his settlement with the debtor.**

RMV further declares that it knowingly and willingly enters into this Agreement notwithstanding the provisions of Section 1542 of the Civil Code of California. **To the fullest extent allowed by law, RMV hereby expressly, knowingly, and voluntarily waives and relinquishes any and all rights and benefits that it now has or may have in the future under California Civil Code Section 1542 with respect to the actions identified in Section 8.1 above.**

  
-RMV Initials

8.3. County's Release of Claims Relating to EIR 575 and Approval of 2001 GDP. Except for the obligations provided herein, County hereby unconditionally releases, remises, acquits and forever discharges RMV from claims or causes of action, including any and all administrative or judicial hearings or appeals, or any other litigation in a court of law, either at law or in equity, of any kind, nature and description, presently known or unknown and whether presently existent or nonexistent, relating to: (i) RMV's assertions that the County's certification of EIR No. 575 and/or the approvals relating to the 2001 GDP granted on or about

November 6, 2001 were inadequate; and (ii) any subsequent actions taken by the RMV in connections with such assertions, so long as said actions are consistent with the terms of this Agreement.

9. **Indemnification.**

9.1. **County's Obligations.** The County shall save, protect, defend, indemnify and hold harmless RMV, and all of their officers, directors, shareholders, partners, members, agents, representatives, managers and employees from and against any actions, causes of actions, claims, liabilities, losses, costs, damages, fees and expenses of whatever kind (including, without limitation, attorneys' fees and costs) caused by, relating to or arising from the County's breach of this Agreement, including, without limitation, any breach of the County Restrictive Covenant.

9.2. **RMV's Obligations.** In addition to any indemnification required pursuant to Section 10 below, each constituent entity of RMV (as such entities are identified in the introductory paragraph hereof) (the "Indemnifying Entity") shall save, protect, defend, indemnify and hold harmless the County, the other constituent entities of RMV, and each and all of their respective elected and appointed officials, officers, directors, agents, representatives, consultants, managers, staff and employees from and against any actions, causes of actions, claims, liabilities, losses, costs, damages, fees and expenses of whatever kind (including, without limitation, attorneys' fees and costs) caused by, relating to or arising from the Indemnifying Entity's breach of this Agreement.

10. **Right of Inspection.** RMV shall, at all reasonable times, have the right to enter the Burdened Property to inspect the Landfill Operations in order to confirm the County's compliance with this Agreement. In connection with any such entry, RMV shall comply with County's reasonable notification requirements and other rules and regulations concerning entry



on the Burdened Property. Furthermore, the Indemnifying Entity (as defined in Section 9.2 above) agrees to save, protect, defend, indemnify and hold harmless the County, the other constituent entities of RMV, and each and all of their respective elected and appointed officials, officers, directors, agents, representatives, consultants, managers, staff and employees from and against any and all actions, causes of action, claims, liabilities, losses, costs, damages and expenses of whatever kind (including, without limitation, attorneys' fees and costs) ("Claims"), caused by, relating to or arising from the Indemnifying Entity's entry onto the Burdened Property in connection with RMV's inspection of landfill operations; provided, however, that RMV shall have no obligation under this section to indemnify County or any other person to the extent such Claims result from the negligence or misconduct of County or any of its elected officials, officers, directors, agents, representatives, consultants, managers, staff and employees.

11. **Right of Enforcement.**

11.1. **Notice and Cure.** In the case of breach of any obligation hereunder, a Party shall not be deemed to be in default of this Agreement if such Party cures such a breach within ninety (90) days of receiving notice from the other Party of such breach; provided, however, that if such breach is not capable of being cured within said period, no default shall be deemed to have occurred so long as the Party receiving the notice of default has taken material affirmative steps to cure such breach within said period and thereafter diligently and continuously prosecutes the same to conclusion.

11.2. **Parties Entitled to Enforce Agreement.** This Agreement inures to the benefit of RMV, RMV's Successors-in-Interest, the County and the County's Successors-in-Interest, each of which shall have the exclusive right to enforce by proceedings at law or in equity, any and all of the rights, covenants and obligations now or hereafter imposed by the

provisions of this Agreement or any amendment thereto, including, without limitation, (i) the right to prevent the violation of any provisions hereof and (ii) the right to recover damages for such violation. No other person or entity shall have, nor may they be assigned, the right to enforce this Agreement.

11.3. No Waiver; Cumulative Remedies. Failure by a Party to enforce any right, covenant or obligation in any certain instance or on any particular occasion shall not be deemed a waiver of such right, covenant or obligation on any future breach of the same or any other right, covenant or obligation by the other Party. All rights, options and remedies under this Agreement are cumulative; and no one of them shall be exclusive of any other; and each Party shall have the right to pursue any one or all of such rights, options and remedies or any other remedy or relief which may be provided by law, whether or not stated in this Agreement.

12. Miscellaneous Provisions.

12.1. No Prior Assignments. The Parties hereto represent and warrant that they have not heretofore assigned or transferred or purported to assign or transfer to any other person, entity, firm or corporation whatsoever, any claim, debt, liability, demand, obligation, expense, action or causes of action herein released.

12.2. Binding Effect. This Agreement and its terms shall be binding upon (i) RMV, RMV's Successors-in-Interest, and their officers, directors, shareholders, partners, members, agents, representatives, managers, staff and employees, and (ii) the County, the County's Successors-in-Interest, and their elected and appointed officials, officers, directors, shareholders, partners, members, agents, representatives, consultants, managers, staff and employees, as though they were Parties hereto, wherever they may be located. Notwithstanding any other provision to the contrary contained herein, upon any sale or transfer of a Party's entire

interest in the Burdened Property or the RMV Benefitted Property, then the transferring Party shall be entirely freed and relieved of all liability under any and all of its covenants and obligations contained in or derived from this Agreement arising out of any act, occurrence or omission occurring after the consummation of such sale or transfer. The transferee of such interest shall be deemed, without any further agreement or instrument, to have assumed and agreed to carry out any and all covenants and obligations of the transferring Party arising out of any act, occurrence or omission occurring after the consummation of such sale or transfer. Further, in the event that the transferee of such interest agrees in writing to assume any and all covenants and obligations of the transferring Party arising out of any act, occurrence or omission occurring prior to the consummation of such sale or transfer, then the transferring Party shall be entirely freed and relieved of all liabilities under any and all of its covenants and obligations contained or derived from this Agreement whatsoever.

12.3. Settlement of Disputed Claims. The Parties hereto understand and agree that this Agreement is a settlement and compromise of disputed claims, and that no Party's actions under this Agreement shall be construed as an admission of liability.

12.4. Entire Agreement. This writing constitutes the entire agreement among the Parties with respect to the subject matter hereof, and no modification of this Agreement shall be valid unless executed in writing by the Parties hereto. The Parties intend and agree that, except as expressly set forth in this Agreement, the Prior Agreement shall not be affected, amended or altered by this Agreement. Further, none of the Parties to this Agreement shall be bound by any representations, warranties, promises, statements, or information unless expressly set forth herein.

12.5. Factual Investigation. Each Party has conducted its own factual investigation, is not relying on any other Party, and assumes the risk that there are material unknown facts or that facts are other than as is presumed. The Parties further acknowledge that they are aware that they may hereafter discover material facts in addition to or different from those which they now know or believe to be true with respect to the subject matter of this Agreement, and further acknowledge that there may be future events, circumstances, or occurrences materially different from those they know or believe likely to occur, but that it is their intention to enter into and be bound by this Agreement.

12.6. Agreement May Be Pleaded as a Defense. In connection with any demand or cause of action related to a matter released in Sections 8.1 and 8.2, inclusive, this Agreement may be pleaded as a defense by the Parties hereto and shall operate to effect a dismissal of such demand or cause of action.

12.7. Captions. The captions of the various sections in this Agreement are for convenience and organization only, and are not intended to be any part of the body of this Agreement, nor are they intended to be referred to in construing the provisions of this Agreement.

12.8. Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of California.

12.9. Severability. If any terms or provisions of this Agreement or the application of any term(s) or provision(s) of this Agreement to a particular situation, is (are) held by a court of competent jurisdiction to be invalid, void or unenforceable, the remainder of this Agreement or the application of this Agreement to other situations shall remain in full force and effect unless amended or modified by mutual consent of the Parties; provided that, if the

invalidation, voiding or unenforceability would deprive any Party of material benefits derived from this Agreement, or make performance under this Agreement unreasonably difficult, then the Parties shall meet and confer and shall make good faith efforts to amend or modify this Agreement in a manner that is mutually acceptable to the Parties. In the event that the Parties are not able to agree upon such amendments or modification, then this Agreement shall be terminated in its entirety and the parties shall have all rights, obligations and remedies available as of the Effective Date as if this Agreement had not been entered into.

12.10. Notices, Demands and Communications Between the Parties. Formal written notices, demands, correspondence and communications between the Parties shall be sufficiently given if delivered personally (including delivery by private courier), dispatched by certified mail, postage prepaid and return receipt requested, or delivered by nationally recognized overnight courier service, or by electronic facsimile transmission followed by delivery of a “hard” copy to the offices of the Parties indicated below. Such written notices, demands, correspondence and communications may be sent in the same manner to such persons and addresses as any Party may from time-to-time designate in writing at least fifteen (15) days prior to the name and/or address change and as provided in this Section 12.10.

If to RMV:                      Rancho Mission Viejo, LLC  
28811 Ortega Highway  
San Juan Capistrano, CA 92675  
Attn: V.P. –Planning & Entitlement  
Facsimile: (949) 488-2676

With copy to:                      Brobeck, Phleger & Harrison LLP  
38 Technology Drive  
Irvine, CA 92661  
Attn: Drew Jones, Esq.  
Facsimile: (949) 790-6301

If to County: County of Orange  
Integrated Waste Management Department  
320 North Flower Street, Suite No. 400  
Santa Ana, CA 92703  
Attn: Director of IWMD  
Facsimile: (714) 834-4183

With a copy to: County of Orange  
Office of the County Counsel  
10 Civic Center Plaza, 4<sup>th</sup> Floor  
P.O. Box 1379  
Santa Ana, CA 92702  
Attn: County Counsel  
Facsimile: (714) 834-2359

Notices personally delivered shall be deemed to have been received upon delivery. Notices delivered by certified mail, as provided above, shall be deemed to have been given and received on the first to occur of (i) actual receipt by any of the addressees designated above as the Party to whom notices are to be sent, or (ii) within five (5) days after a certified letter containing such notice, properly addressed, with postage prepaid, is deposited in the United States mail. Notices delivered by nationally recognized overnight courier service (such as Federal Express) as provided above shall be deemed to have been received twenty-four (24) hours after the date of deposit. Notices delivered by electronic facsimile transmission shall be deemed received upon receipt of sender of electronic confirmation of delivery, provided that a "hard" copy is delivered by overnight courier as provided above.

12.11. Counterparts. This Agreement may be executed in one or more counterparts, and all the counterparts shall constitute but one and the same agreement, notwithstanding that all Parties hereto are not signatories to the same or original counterpart.

12.12. Nonwaiver. Unless otherwise expressly provided in this Agreement, no waiver by a Party of any provision hereof shall be deemed to have been made unless expressed

in writing and signed by such Party. No delay or omission in the exercise of any right or remedy accruing to any Party upon any breach under this Agreement shall impair such right or remedy or be construed as a waiver of any such breach theretofore or thereafter occurring. The waiver by a Party of any breach of any term, covenant or condition herein stated shall not be deemed to be a waiver of any other term, covenant or condition.

12.13. Authority. The persons signing below represent that they: (i) have the authority to bind their respective Parties to this Agreement; and (ii) have obtained any and all necessary approvals required to executed this Agreement.

12.14. Understanding of Terms. The Parties each hereby affirm and acknowledge that they have read this Agreement, that they know and understand its terms, and have signed it voluntarily and on the advice of counsel. The Parties have had a full and unhindered opportunity to consult with their attorneys, accountants, financial advisors and such other consultants, as they may have desired prior to executing this Agreement.

12.15. Construction. The Parties acknowledge that each Party and its counsel have reviewed this Agreement and that the normal rule of construction to the effect that any ambiguities are to be resolved against the drafting party shall not be employed in the interpretation of this Agreement or any amendment or exhibits hereto.

12.16. Attachments. All attachments attached hereto shall be incorporated herein by reference as if set forth herein in full.

12.17. No Third Party Beneficiaries. The Parties agree that no third party beneficiary to this Agreement exists and that nothing contained herein shall be construed as giving any other person or entity third party beneficiary status.

12.18. Further Assurances. The Parties shall promptly perform, execute and/or deliver or cause to be performed, executed and/or delivered any and all acts, deeds and assurances, including the delivery of any documents, as either Party may reasonably require in order to carry out the intent and purpose of this Agreement.

12.19. Recordation of Memorandum of Agreement. Neither Party shall record this Agreement nor a short form hereof. However, the County Restrictive Covenant referenced in Section 3 shall be recorded in accordance with the provisions of Section 3.

12.20. Attorneys' Fees. In the event any action shall be instituted in connection with this Covenant, the party prevailing in such action shall be entitled to recover from the other party all of its costs and expenses incurred therein, including, without limitation, reasonable attorneys' fees and costs.



IN WITNESS WHEREOF, the Parties hereto have executed one or more copies of this

Agreement as of the date first set forth above.

Date: ~~October 16~~, 2002  
*November*

COUNTY OF ORANGE

By: *Janice V. Goss*  
Janice V. Goss, Director  
Integrated Waste Management Department

Date: October 17, 2002

SAN JUAN PARTNERSHIP NO. I,  
a California limited partnership

SAN JUAN PARTNERSHIP NO. IV,  
a California Limited Partnership

By: O'NEILL PROPERTIES, LLC,  
a Delaware limited liability company,  
its General Partner

By: O'NEILL PROPERTIES, LLC,  
a Delaware limited liability company,  
its General Partner

By: *Anthony R. Moiso*  
Anthony R. Moiso  
Manager

By: *Anthony R. Moiso*  
Anthony R. Moiso  
Manager

DMB SAN JUAN INVESTMENT NORTH,  
LLC, a Delaware limited liability company,

By: Rancho Mission Viejo, LLC,  
a Delaware limited liability company,  
its authorized agent and manager


By: *Donald L. Vodra*  
Donald L. Vodra  
Chief Operating Officer

By: *Richard Broming*  
Richard Broming  
Vice President

APPROVED AS TO FORM:

Dated: October 17, 2002

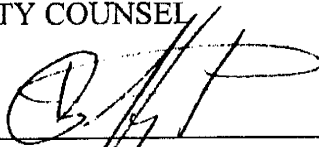
BROBECK, PHLEGER & HARRISON LLP

By:   
C. Jeff Branton

Attorneys for DMB SAN JUAN  
INVESTMENT NORTH and SAN JUAN  
PARTNERSHIP Nos. I and IV

Dated: October 23, 2002

COUNTY COUNSEL

By:   
Geoffrey K. Hunt  
Deputy County Counsel

Attorneys for COUNTY OF ORANGE

**ATTACHMENT 1**

**County Restrictive Covenant**

COPY

RECORDING REQUESTED BY AND  
WHEN RECORDED MAIL TO:

Rancho Mission Viejo, LLC  
28811 Ortega Highway  
San Juan Capistrano, California 92675  
Attn: Vice President - Operations

---

FOR RECORDER'S OFFICE USE ONLY

**COVENANT  
AND DECLARATION OF RESTRICTIONS**

THIS COVENANT AND DECLARATION OF RESTRICTIONS ("Covenant") is made and entered into this 22nd day of October 2002, by and between the COUNTY OF ORANGE, a political subdivision of the State of California ("County"), DMB SAN JUAN INVESTMENT NORTH, LLC, a Delaware limited liability company ("DMBSJIN"), SAN JUAN PARTNERSHIP NO. I, a California limited partnership ("SJP I") and SAN JUAN PARTNERSHIP NO. IV, a California limited partnership ("SJP IV"). DMBSJIN, SJP I and SJP IV are referred to collectively herein as "RMV".

**RECITALS**

A. The County owns approximately 1,530 acres in southern Orange County, California on which the County operates the Prima Deshecha Landfill (the "PDL"). Prior to the date hereof, the County purchased the real property described on Exhibit "A" attached hereto and depicted on Exhibit "B" attached hereto (the "Burdened Property") from RMV's predecessors-in-interest; the Burdened Property comprises approximately 945 acres of the PDL's 1,530 acres.

B. The current general development plan for the PDL (known as the "2001 GDP") was approved by the County Board of Supervisors on November 6, 2001. The 2001 GDP

divides up the PDL into five (5) zones and designates specific uses for such zones: Zones 1 and 4 are designated for landfilling. The environmental impacts for the 2001 GDP were addressed by Final Program EIR 575 ("FEIR 575").

C. RMV owns fee title to those certain real properties situated in the County of Orange, State of California that are contiguous with the Burdened Property, as more particularly described in Exhibit "C" attached hereto and incorporated herein by this reference (collectively the "Benefitted Property").

D. Pursuant to that certain Settlement Agreement executed by RMV and County dated concurrent herewith, County has agreed to certain limitations and restrictions on: (i) the Landfill Operations (defined in Section 2 below) conducted on those portions of the Burdened Property delineated and described as the "Landfill Operations Area" on Exhibit "B" attached hereto (the "Landfill Operations Area"), and (ii) the development and use of those portions of the Burdened Property delineated and described as the "Restricted Area" on Exhibit "B" attached hereto (the "Restricted Area"), all as set forth in this Covenant for the benefit of RMV and the Benefitted Property. The Landfill Operations Area together with the Restricted Area constitute all of the Burdened Property.

E. The parties desire to record this Covenant to put future owners, lessees and users on notice of the restrictions, conditions, covenants and reservations now or hereafter imposed by the provisions of this Covenant (collectively the "Restrictions").

## AGREEMENT

NOW, THEREFORE, County hereby covenants, agrees and declares that the Burdened Property shall be used, operated, held, conveyed and transferred subject to the following Restrictions:

1. **Amendment of Prior Agreement.** Once this Covenant has been duly executed and recorded in the official records of the County, the provisions of Section I.C.5 of that certain Purchase and Option Agreement executed between the County and RMV's predecessors-in-interest on June 13, 1973 and referenced in that certain deed recorded in Book 10776, Page 926 of the official records of the County (pursuant to which the County purchased the Burdened Property from RMV's predecessors-in-interest) shall no longer be of any force or effect. Notwithstanding the preceding sentence, in the event that (i) the settlement agreement referenced in Recital D above is held by a court of competent jurisdiction to be invalid, void or unenforceable, and (ii) the holding of said court (or a short form memorandum of the same) in which the recording information of this Covenant is specifically referenced is recorded in the official records of County by any party to said agreement or by said court, then this Covenant shall terminate and be of no further force or effect and the provisions of Section I.C.5 of said Purchase and Option Agreement shall be revived and reinstated and again become effective.

2. **Restrictions On County Landfill Operations At PDL.** County hereby promises, covenants and agrees that it will conduct its Landfill Operations on the Burdened Property in accordance with the requirements set forth in this Section 2 (including Sections 2.1 through 2.5). As used herein, the term "Landfill Operations" shall mean: (i) the storing, collecting, transporting, treating, processing, recycling, reusing, converting, disposing, transferring, placing, burying, relocating or otherwise handling in any manner whatsoever any

solid, semi-solid, liquid or gas waste of any type; (ii) all activities and operations related to closure and/or post-closure of the landfill; (iii) the construction, use, operation, maintenance, repair and/or replacement of buildings, structures, improvements, environmental monitoring and control systems, property and equipment in connection with the activities and operations identified in subsections (i) and (ii) above; (iv) all site grading, cutting, filling and other earth movement work performed in connection with the activities and operations identified in subsections (i), (ii) or (iii) above; and (v) the construction, use, operation, maintenance, repair and/or replacement of roads, paths, trails and accessways (whether temporary or permanent) in connection with the activities and operations identified in subsections (i), (ii), (iii) and (iv) above.

2.1. Limitation on Location of Landfill Operations. Except as provided in Section 3.2 below, all of the Landfill Operations occurring on the Burdened Property shall be conducted exclusively within Landfill Operations Area.

2.2. Further Limitation on Placement of Refuse. Notwithstanding any other provision of this Covenant to the contrary, the County shall not place any waste or refuse on any portion of the Burdened Property that is located outside of the Landfill Operations Area. Furthermore, the height of any waste or refuse placed within the Landfill Operations Area shall not exceed one thousand and ten (1,010) feet above mean sea level unless and until appropriate measures (including any measures required by Applicable Laws (defined below)) are taken to screen from view any portion of such waste or refuse that is visible from the Benefitted Property.

2.3. Design of Landfill. The County shall adjust the design of any landfill within the Burdened Property and/or take such other steps as may be necessary to prevent or

mitigate any landfill-related costs and impacts on the Benefitted Property. Furthermore, to the extent it may legally do so, the County shall take any and all steps necessary to prevent any landfill-related mitigation measures (including, without limitation, any buffer zones) from being imposed on the Benefitted Property. However, if landfill-related mitigation measures are prescribed by the County (or any agency thereof) or by any other governmental agency (whether generally or in connection with land use decisions affecting the Benefitted Property), then the County shall adjust the design of the landfill or otherwise modify its Landfill Operations within the Landfill Operations Area so as to eliminate the need for such mitigation measures. Nothing contained in this Section 2.3 shall restrict the County from imposing any landfill-related fees or taxes so long as such fees or taxes (i) are applied in a non-discriminatory manner to all users of the PDL and (ii) are not applicable solely to new development and/or construction.

2.4. Practices and Procedures To Be Employed on Burdened Property. The County shall conduct its Landfill Operations on the Burdened Property in accordance with: (i) all applicable federal, state and local laws, regulations, codes and standards (collectively “Applicable Laws”), and (ii) applicable industry standards for landfill and waste management facilities located within southern California (provided, however, that County shall not be obligated to retroactively implement any such industry standards unless required to do so by Applicable Laws. Whether or not necessary to comply with the obligations set forth in the preceding sentence, the County shall, at a minimum, employ the following practices and procedures in connection with its Landfill Operations on the Burdened Property:

2.4.1. Litter, Waste and Dust Control. The County shall take all commercially reasonable steps to eliminate the migration of litter, waste, dust and other similar substances or materials from the Burdened Property to the Benefitted Property, including,



without limitation: i) controlling and containing debris, wastes and litter from being blown from the Burdened Property, ii) constructing and maintaining a four foot high or higher litter fence, or its equal, around the working face of the landfill, and iii) utilizing such other measures as required to aid in preventing dust and litter migration beyond the landfill areas within the Burdened Property.

2.4.2. Litter and Waste Removal. The County shall be responsible for the removal of litter, waste and other similar substances originating in the landfill and migrating onto the Benefitted Property, provided that RMV, or the then owner of such land, grants the County reasonable access as necessary.

2.4.3. Ridge Line Buffer. So as to maintain a buffer zone and natural barrier to minimize viewing, noise, dust, litter, and other effects, if any, of Landfill Operations on the Benefitted Property, the height and natural contour of the existing ridge lines most immediately contiguous to the boundary line between the Burdened Property and the Benefitted Property shall not be materially modified by the County; provided, nothing in this provision shall preclude the installation and maintenance of landscaping along said ridge line.

2.4.4. Vector Controls. Vector control for rats, flies, birds, noxious insects, and larva shall be provided so that no significant increase in populations of said species occurs on off-site property due to Landfill Operations. A minimum of 6 inches of soil or other appropriate cover material shall be placed on the top of each day's deposit of refuse.

2.4.5. Gas Controls. An adequate gas control and monitoring program shall be initiated upon start of Landfill Operations to prevent gas migration onto the Benefitted Property.

2.4.6. Drainage. Adequate surface drainage and subdrainage systems shall be installed to prevent entry of rainfall runoff and groundwater into the solid waste fill. Further, all Landfill Operations shall be engineered, constructed, operated and maintained such that surface and ground water from the landfill does not adversely impact the Benefitted Property.

2.4.7. Hours of Operation. The County shall limit Landfill Operations (including, without limitation, the use of mechanized equipment) to the hours between 6:00 A.M. and 6:00 P.M., except in the case of emergency or other unusual situations.

2.4.8. Construction of Perimeter Fence. The County shall construct and maintain a second fence around the entire Burdened Property (but at least six (6) feet below the ridge lines described in Section 2.4.3 above) consisting of five strands of barbed wire, or equal, for a total height of approximately six (6) feet.

2.4.9. Restrictive Access. The County shall implement reasonable access controls to restrict access to designated areas and times for the landfills within the Burdened Property. All gates in landfill fences are to be kept closed and locked during hours when the respective landfill is not open.

2.5. La Pata Avenue Requirements.

2.5.1. Maintenance and Repair. As of the date hereof, the County has constructed La Pata Avenue which provides access to the PDL from Ortega Highway ("La Pata Avenue"). The County shall maintain La Pata Avenue in good condition and repair.

2.5.2. Dust and Litter Controls. The County shall take commercially reasonable steps to control any dust and litter along La Pata Avenue resulting from Landfill Operations. The County shall implement a commercially reasonable litter collection plan, which shall provide for litter collection not less than once each week. The County shall be responsible for the removal of litter, waste and other similar substances originating from users accessing the PDL via La Pata Avenue and migrating onto the Benefitted Property, provided that RMV, or the then owner of such land, grants the County reasonable access as necessary.

3. Restrictions on Restricted Area.

3.1. Grant of Restrictive Covenant. Except as provided in Section 3.2 below, County hereby promises, covenants and agrees to: (i) keep, manage and maintain the Restricted Area in its natural, undeveloped state, (ii) not to conduct any Landfill Operations within the Restricted Area, or (iii) not to construct any buildings, structures or other improvements upon the Restricted Area.

3.2. Permitted Uses. Subject to any Restrictions set forth elsewhere in this Agreement, including, without limitation, those set forth in Section 2 above, the County is hereby permitted to use the Restricted Area for the following purposes (“Permitted Uses”):

3.2.1. Roads. To install, operate, maintain, repair and/or replace public and privately owned and maintained trails and roads in the Restricted Area.

3.2.2. Grazing. To permit livestock grazing.

3.2.3. Utilities; Public Improvements. To install, operate, maintain, repair and/or replace (and to grant easements or licenses to third-parties to do the same) public

utility lines and associated improvements within the Restricted Area, including, without limitation, above-ground and below-ground electrical transmission facilities, fuel and gas pipeline facilities, water, water reservoirs and pipelines, sewer, and hard-wired telephone, video and data transmission facilities; provided, however, that in no event shall any such facilities be located above ground if the same is or would be visible from any portion of the Benefitted Property. To the extent permitted by law, the rights permitted in this Section 3.2.3 expressly exclude the right to install, operate or maintain any wireless telecommunication facilities within the Restricted Area which serve the general public or are operated as a commercial, for-profit use (provided, nothing contained in this Section 3.2.3 shall restrict the County from installing, operating or using wireless telecommunication facilities within the Restricted Area for the County's own, internal use).

3.2.4. Existing Easements. To continue the use of the Restricted Area for any purposes provided for in any easements of record existing as of the date hereof and to exercise any rights to consolidate and/or relocate any such easements.

3.2.5. Flood Control. To install, operate, maintain, repair and/or replace flood control, drainage facilities and ancillary and appurtenant facilities.

3.2.6. Hiking and Riding Trails; Other Recreational Uses. Provided that any necessary permits or other regulatory approvals are first obtained, to install, operate, maintain, repair and/or replace one or more regional and/or community hiking and/or equestrian trails, parks and related improvements and/or to engage in any other recreational uses; provided, however, that any such trails, improvements and/or uses shall be located at an elevation that is at

least ten (10) feet below and to the south and west of the existing ridgeline located on or near the boundary line between the Burdened Property and the Benefitted Property.

3.2.7. Prescribed Fires; Access. To conduct prescribed fires in accordance with the requirements, direction, authorization or recommendation of the local fire authority for purposes of the health and/or safety of surrounding properties and populations and otherwise to have any and all access to the Restricted Area in order to fight or otherwise mitigate fires.

3.2.8. Scientific Research. To conduct scientific research.

3.2.9. Grading. To perform remedial grading with revegetated slopes utilizing native species.

3.2.10. Mitigation. To comply with the requirements of any public agency relating to environmental, geological, hydrological, archaeological, paleontological, aesthetic and/or any other environmental or similar land use related mitigation and/or restoration measures, commitments and conditions (collectively, "Mitigation Actions") with respect to the implementation of the 2001 GDP (and any and all other such mitigation measures and activities that may so burden the Restricted Area).

3.2.11. Regulatory Compliance. To conduct any and all activities and operations as may be necessary to comply with Applicable Laws in connection with the landfill's closure and post-closure activities, including, but not limited to, the installation, operation, maintenance, repair and/or replacement of probes, monitoring wells and fences; provided, however, that to the extent such activities and operations can be conducted within the Landfill

Operations Area, then such activities and operations shall be conducted within Landfill Operations Area. Further, the County may install, operate, maintain, repair and/or replace such probes, monitoring wells and fences within the Restricted Area as may be necessary to comply with Applicable Laws in connection with the Landfill's operations; provided, however, that to the extent such activities and operations can be conducted within the Landfill Operations Area, then such activities and operations shall be conducted within Landfill Operations Area.

3.2.12. Biological Mitigation. To conduct habitat and species mitigation, conservation or other similar operations pursuant to any approved Natural Community Conservation Plan, Habitat Conservation Plan or other similar plan of conservation.

3.2.13. Landfill Site Grading and/or Soil Filling. To perform site grading and/or soil filling (to maximize capacity) in support of Landfill Operations so long as the same are not visible from the Benefitted Property. Such activities shall not, nor shall they be construed to, include or permit the placement of any waste or refuse within the Restricted Area.

3.3. Access. All activities and uses within the Restricted Area shall be accessed through the Burdened Property; nothing contained herein shall permit the County to access the Restricted Area by means of the RMV Benefitted Area without the express written approval of the then owner or owners of the portions of the RMV Benefitted Area over which access is desired.

4. Costs of Compliance. The County shall have all responsibility and shall bear all costs and liabilities of any kind related to the County's compliance with this Covenant and the Restrictions contained herein.

5. **Amendment.** This Covenant may only be modified or amended by a document recorded in the official records of Orange County, California, and signed by County (or its successor) and by those having at least 67% of the voting rights of the fee owners of the Benefitted Property. For purposes of the preceding sentence, each owner of the Benefitted Property shall have one (1) vote for each full five (5) acres of land within the Benefitted Property owned by such person (and no voting rights shall be attributed to any remainder portions of land); voting rights shall be determined on the overall acreage within the Benefitted Property owned by a single person or entity, whether such acreage consists of one or more, contiguous or non-contiguous, parcels of land. For example purposes only, if an owner owns six (6) acres within the Benefitted Property, such owner shall only be entitled to one (1) vote, and if another owner owns four and nine-tenths (4.9) acres, such owner shall not be entitled to any votes.

6. **Enforcement.**

6.1. **Notice and Cure.** In the case of a breach of any obligation hereunder, the County shall not be deemed to be in default of this Covenant if County cures such breach within ninety (90) days of receiving notice from RMV (or any other person is entitled to enforce this Covenant) of such breach; provided, however, that if such breach is not capable of being cured within said period, no default shall be deemed to have occurred so long as County has taken material affirmative steps to cure such breach within said period and thereafter diligently and continuously prosecutes the same to conclusion.

6.2. **Parties Entitled to Enforce Covenant.** Only persons or entities who own at least five (5) acres of land within the Benefitted Property (with said acreage threshold being satisfied individually by a single owner or collectively by a group of owners) shall have the right

to enforce by proceedings at law or in equity, any and all of the Restrictions now or hereafter imposed by the provisions of this Covenant or any amendment hereto, including, without limitation, (i) the right to prevent the violation of any Restrictions, and (ii) the right to recover damages for such violation. Notwithstanding the preceding sentence, in no event shall an "association," as such term is defined in California Civil Code Section 1351 (as the same may be amended from time to time), have the right to enforce any or all of the Restrictions or this Covenant.

6.3. Non-Binding Mediation. Any dispute or claim between or among the parties with respect to this Covenant (a "Dispute") shall be subject first to a non-binding mediation prior to any party instituting litigation with regard to such Dispute. The party instituting the Dispute shall submit the Dispute to mediation pursuant to the mediation procedures adopted by the JAMS-Endispute (Orange County division) or any successor thereto or to any other independent entity providing similar services upon which the parties to the Dispute may mutually agree. No person shall serve as a mediator in any Dispute in which such person has a financial or personal interest in the result of the mediation, except by the written consent of all parties to the Dispute. Prior to accepting any appointment, the prospective mediator shall disclose any circumstances likely to create a presumption of bias or to prevent a prompt commencement of the mediation process. Within ten (10) days of the selection of the mediator, each party to the Dispute shall submit a brief memorandum setting forth its position with regard to the issues to be resolved. The mediation shall commence within ten (10) days following submittal of the memoranda to the mediator and shall conclude within fifteen (15) days from the commencement of the mediation unless the parties to the Dispute mutually agree to extend the mediation period. The mediation shall be held in Orange County or such other



place as is mutually acceptable by the parties to the Dispute. The mediation shall be non-binding upon the parties, and the mediator does not have the authority to impose a settlement on any party to the Dispute. Any admissions, offers of compromise or settlement negotiations or communications at the mediation shall be excluded in any subsequent dispute resolution forum. All of the mediation costs and expenses shall be borne equally by the parties to the Dispute unless agreed to otherwise.

6.4. No Waiver; Cumulative Remedies. Failure by RMV (or any other party entitled to enforce any Restrictions) to enforce any Restriction in any certain instance or on any particular occasion shall not be deemed a waiver of such right on any future breach of the same or any other Restriction by County. All rights, options and remedies of RMV under this Covenant are cumulative; and no one of them shall be exclusive of any other; and RMV shall have the right to pursue any one or all of such rights, options and remedies or any other remedy or relief which may be provided by law, whether or not stated in this Covenant.

7. Captions. The captions used herein are for convenience only and are not a part of this Covenant and do not in any way limit or amplify the terms and provisions hereof.

8. Governing Law and Venue. This Covenant shall be governed by and construed under the laws of the State of California. In the event of any legal action to enforce or interpret this Covenant, the sole and exclusive venue shall be a court of competent jurisdiction located in Orange County; California, and County shall submit to the jurisdiction of such court.

9. Severability. In the event that any portion of this Covenant shall become invalid, void, unenforceable or against public policy, for any reason, or shall be held by any court of competent jurisdiction to be invalid, void, unenforceable or against public policy, the remaining

portions of this Covenant shall not be affected thereby and shall remain in force and effect to the full extent permissible by law; provided, however, that if the invalidity, voiding or unenforceability would deprive any party of material benefits derived from this Covenant, then the parties shall meet and confer and shall make good faith efforts to amend or modify this Covenant in a manner that is mutually acceptable to the parties.

10. **Gender and Number.** In this Covenant (unless the context requires otherwise), the masculine, feminine and neuter genders and the singular and the plural include one another.

11. **Covenants to Run with the Land; Term.** The Burdened Property shall be held, developed, conveyed, hypothecated, encumbered, leased, rented, used and occupied subject to the Restrictions. The Restrictions are intended and shall be construed as covenants and conditions running with and binding upon the Burdened Property and equitable servitudes thereupon and every part thereof; and all and each of the Restrictions shall be binding upon and burden all persons having or acquiring any right, title or interest in the Burdened Property (during their ownership of such interest), or any part thereof, and their successors and assigns. Subject to the limitations on enforcement set forth in Section 6.2 above, the Restrictions shall inure to the benefit of the Benefitted Property, the owners thereof and their successors and assigns; and the Benefitted Property shall be deemed the dominant tenement for purposes of the Restrictions.

12. **Notices, Demands and Communications Between the Parties.** Formal written notices, demands, correspondence and communications between the parties shall be sufficiently given if delivered personally (including delivery by private courier), dispatched by certified mail, postage prepaid and return receipt requested, or delivered by nationally recognized overnight

courier service, or by electronic facsimile transmission followed by delivery of a "hard" copy to the offices of the parties indicated below. Such written notices, demands, correspondence and communications may be sent in the same manner to such persons and addresses as any party may from time-to-time designate in writing at least fifteen (15) days prior to the name and/or address change and as provided in this Section 11.

If to RMV:                      Rancho Mission Viejo, LLC  
28811 Ortega Highway  
San Juan Capistrano, CA 92675  
Attn: Vice President - Operations  
Facsimile: (949) 248-1763

If to County:                      County of Orange  
Integrated Waste Management Department  
320 N. Flower, Suite 400  
Santa Ana, CA 92703  
Attn: Director of IWMD  
Facsimile: (714) 834-4183

Notices personally delivered shall be deemed to have been received upon delivery. Notices delivered by certified mail, as provided above, shall be deemed to have been given and received on the first to occur of (a) actual receipt by any of the addressees designated above as the party to whom notices are to be sent, or (b) within five (5) days after a certified letter containing such notice, properly addressed, with postage prepaid, is deposited in the United States mail. Notices delivered by nationally recognized overnight courier service (such as Federal Express) as provided above shall be deemed to have been received twenty-four (24) hours after the date of deposit. Notices delivered by electronic facsimile transmission shall be deemed received upon receipt of sender of electronic confirmation of delivery, provided that a "hard" copy is delivered by overnight courier as provided above.

13.     Effect of Covenant. This Covenant is made for the purposes set forth in the Recitals to this Covenant and RMV makes no warranties or representations, express or implied,

as to the binding effect or enforceability of all or any portion of this Covenant, or as to the compliance of any of these provisions with public laws, ordinances and regulations applicable thereto.

14. **Rights of Mortgagees.**

14.1. **No Impairment.** The breach of any covenants, conditions or restrictions herein contained shall not defeat, invalidate nor impair the obligation or priority of any mortgage or deed of trust now or hereafter executed and constituting a lien upon the Burdened Property or any portion thereof which is made in good faith and for value; provided, however, that any party, including the holder of the mortgage or deed of trust, who acquires title through private or judicial foreclosure, trustee's sale or deed in lieu of foreclosure (a "Foreclosure-Purchaser") and all successors and assigns of such Foreclosure-Purchaser shall take title subject to all of the covenants, conditions and restrictions contained in this Covenant with respect to such Burdened Property.

14.2. **Foreclosure-Purchaser.** A Foreclosure-Purchaser shall not be liable for damages arising from the breach of any Restrictions performed or which were to have been performed prior to the time such Foreclosure-Purchaser acquires title to all or any portion of the Burdened Property; provided, such Foreclosure-Purchaser shall have six (6) months after acquisition of title to all or a portion of the Burdened Property to repair or replace any improvements which were constructed in violation of any of the requirements under the Covenant.

15. **Authority.** Each party represents and warrants to the other party that it has full right, power and authority to make, enter into and perform its obligations under this Covenant; that the making and entering into this Covenant and the performance thereof will not violate any laws, ordinances, restrictive covenants or other agreements under which such party is bound; and that the undersigned officers/agents are duly authorized to execute this Covenant and to bind the party for which he/she signs.

16. **Understanding of Terms.** The parties each hereby affirm and acknowledge that they have read this Covenant, that they know and understand its terms, and have signed it voluntarily and on the advice of counsel. The parties have had a full and unhindered opportunity to consult with their attorneys, accountants, financial advisors and such other consultants, as they may have desired prior to executing this Covenant.

17. **Construction.** The parties acknowledge that each party and its counsel have reviewed this Covenant and that the normal rule of construction to the effect that any ambiguities are to be resolved against the drafting party shall not be employed in the interpretation of this Covenant or any amendment or exhibits hereto.

18. **Exhibits.** All exhibits attached hereto shall be incorporated herein by reference as if set forth herein in full.

19. **No Third Party Beneficiaries.** The parties agree that no third party beneficiary to this Covenant exists and that nothing contained herein shall be construed as giving any other person or entity third party beneficiary status.

20. **Further Assurances.** The parties shall promptly perform, execute and/or deliver or cause to be performed, executed and/or delivered any and all acts, deeds and assurances, including the delivery of any documents, as either party may reasonably require in order to carry out the intent and purpose of this Covenant.

IN WITNESS WHEREOF, the parties have caused this Covenant to be executed as of the day and year first written above.

Date: October \_\_, 2002

COUNTY OF ORANGE

By: Janice V. Goss  
Janice V. Goss, Director  
Integrated Waste Management Department

APPROVED AS TO FORM:

COUNTY COUNSEL  
By: Geoffrey K. Hunt  
Geoffrey K. Hunt  
Deputy County Counsel

Date: October 17, 2002

SAN JUAN PARTNERSHIP NO. I,  
a California limited partnership

By: O'NEILL PROPERTIES, LLC,  
a Delaware limited liability company,  
its General Partner

By: Anthony R. Moiso  
Anthony R. Moiso  
Manager

SAN JUAN PARTNERSHIP NO. IV,  
a California Limited Partnership

By: O'NEILL PROPERTIES, LLC,  
a Delaware limited liability company,  
its General Partner

By: Anthony R. Moiso  
Anthony R. Moiso  
Manager

DMB SAN JUAN INVESTMENT NORTH, LLC,  
a Delaware limited liability company,

By: Rancho Mission Viejo, LLC,  
a Delaware limited liability company,  
its authorized agent and manager

By: Donald L. Vodra  
Donald L. Vodra  
Chief Operating Officer

By: Richard Broming  
Richard Broming  
Vice President

# CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

State of California

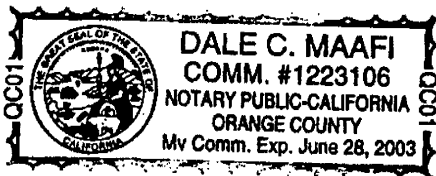
County of Orange

} ss.

On 10-24-02, before me, Dale C. Maafi, Notary Public  
Date Name and Title of Officer (e.g., "Jane Doe, Notary Public")

personally appeared Janice V. Soss  
Name(s) of Signer(s)

- personally known to me  
 proved to me on the basis of satisfactory evidence



to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Dale C. Maafi  
Signature of Notary Public

Place Notary Seal Above

## OPTIONAL

*Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.*

### Description of Attached Document

Title or Type of Document: \_\_\_\_\_

Document Date: \_\_\_\_\_ Number of Pages: \_\_\_\_\_

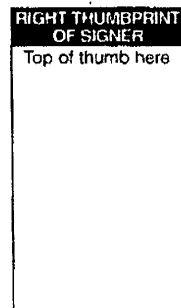
Signer(s) Other Than Named Above: \_\_\_\_\_

### Capacity(ies) Claimed by Signer

Signer's Name: \_\_\_\_\_

- Individual  
 Corporate Officer — Title(s): \_\_\_\_\_  
 Partner —  Limited  General  
 Attorney in Fact  
 Trustee  
 Guardian or Conservator  
 Other: \_\_\_\_\_

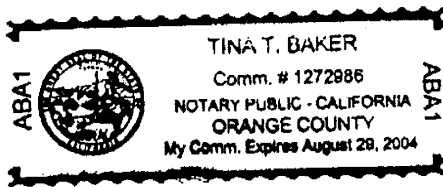
Signer Is Representing: \_\_\_\_\_



STATE OF CALIFORNIA  
COUNTY OF ORANGE

On OCTOBER 17, 2002, before me, TINA T. BAKER, a Notary Public in and for said state, personally appeared ANTHONY R. MOISO as Manager for SAN JUAN PARTNERSHIP NO. I, personally known to me to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument, the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.



Tina T Baker  
Signature of Notary

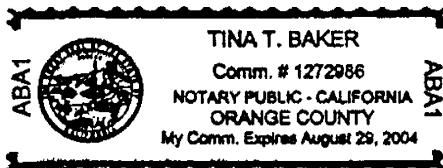
State of California

My Commission Expires:  
August 29, 2004

STATE OF CALIFORNIA  
COUNTY OF ORANGE

On OCTOBER 17, 2002, before me, TINA T. BAKER, a Notary Public in and for said state, personally appeared ANTHONY R. MOISO as Manager for SAN JUAN PARTNERSHIP NO. IV, personally known to me to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument, the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.



Tina T Baker  
Signature of Notary

State of California

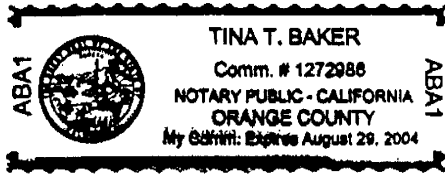
My Commission Expires:  
August 29, 2004



STATE OF CALIFORNIA  
COUNTY OF ORANGE

On October 17, 2002, before me, TINA T. BAKER, a Notary Public in and for said state, personally appeared DONALD L. VODRA as Chief Operating Officer and RICHARD BROMING as Vice President for DMB SAN JUAN INVESTMENT NORTH, LLC, personally known to me to be the persons whose names are subscribed to the within instrument and acknowledged to me that they executed the same in their authorized capacities, and that by their signatures on the instrument, the persons, or the entity upon behalf of which the persons acted, executed the instrument.

WITNESS my hand and official seal.



*Tina T. Baker*

Signature of Notary

State of California

My Commission Expires:  
August 29, 2004

**EXHIBIT "A"**

**Burdened Property Legal Description**

(see following page)

## **EXHIBIT "A"**

### **Burdened Property Legal Description**

All that real property situated in the unincorporated territory of Orange County, California more particularly described as follows:

#### **Parcel A**

All that real property described in that certain Grant Deed in favor of said County recorded on June 29, 1973 in Book 10776, Pages 926 through 941, inclusive, of the Official Records of said County;

EXCEPTING THEREFROM those portions of the above-described property that were granted as temporary construction easements in said Grant Deed.

#### **Parcel B**

All that real property described in that certain Grant Deed in favor of said County recorded on July 1, 1974 in Book 11185, Pages 15 through 19, inclusive, of the Official Records of said County.

#### **Parcel C**

All that real property described in that certain Grant Deed in favor of said County recorded on August 6, 1975 in Book 11476, Pages 200 through 203, inclusive, of the Official Records of said County.

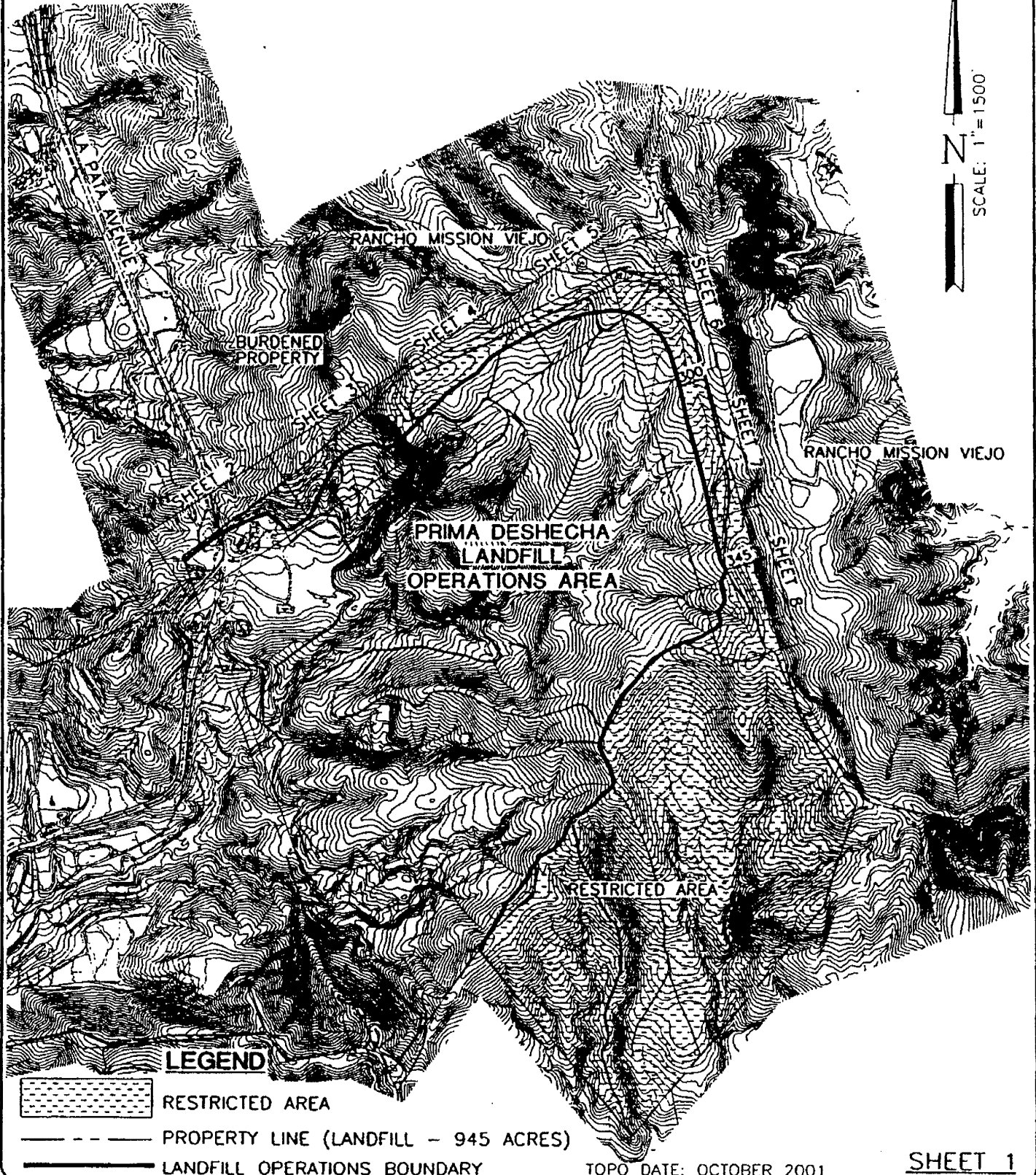
**EXHIBIT "B"**

**County Burdened Property**

**(see following 8 pages)**

# EXHIBIT B

## COUNTY BURDENED PROPERTY



### LEGEND

- RESTRICTED AREA
- PROPERTY LINE (LANDFILL - 945 ACRES)
- LANDFILL OPERATIONS BOUNDARY

TOPO DATE: OCTOBER 2001

**SHEET 1**



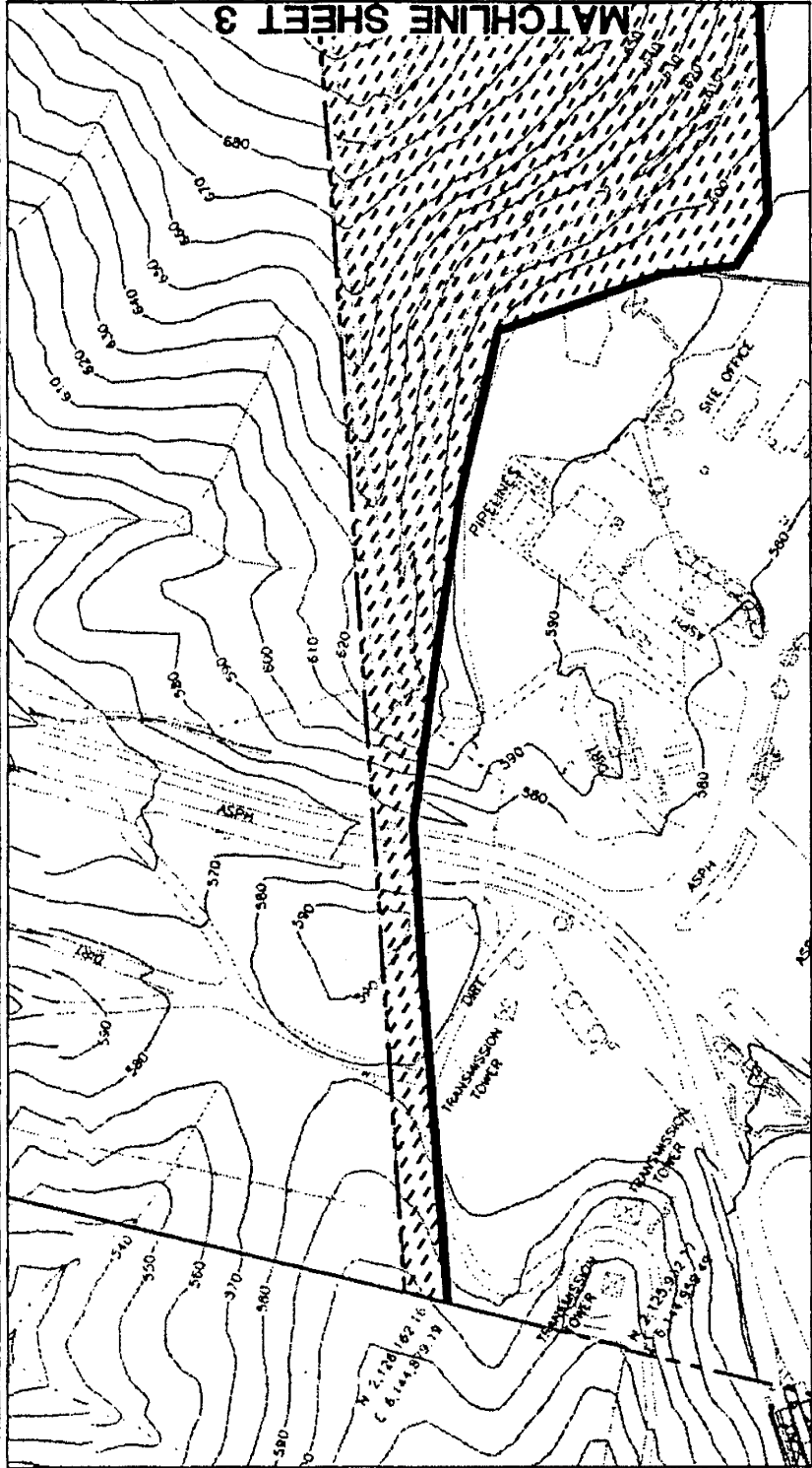
(909) 860-7777

BRYAN A. STIRRAT & ASSOCIATES  
CIVIL AND ENVIRONMENTAL ENGINEERS  
1360 VALLEY VISTA DRIVE DIAMOND BAR, CA 91765




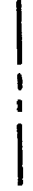
PRIMA DESHECHA LANDFILL

## COUNTY BURDENED PROPERTY INDEX SHEET

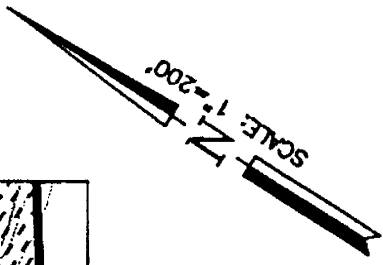
JOB NO. 9787-406
DATE 6-2002
DRAWN BY M.T.B.
FILE NAME 171233DB.DWG




**LEGEND**

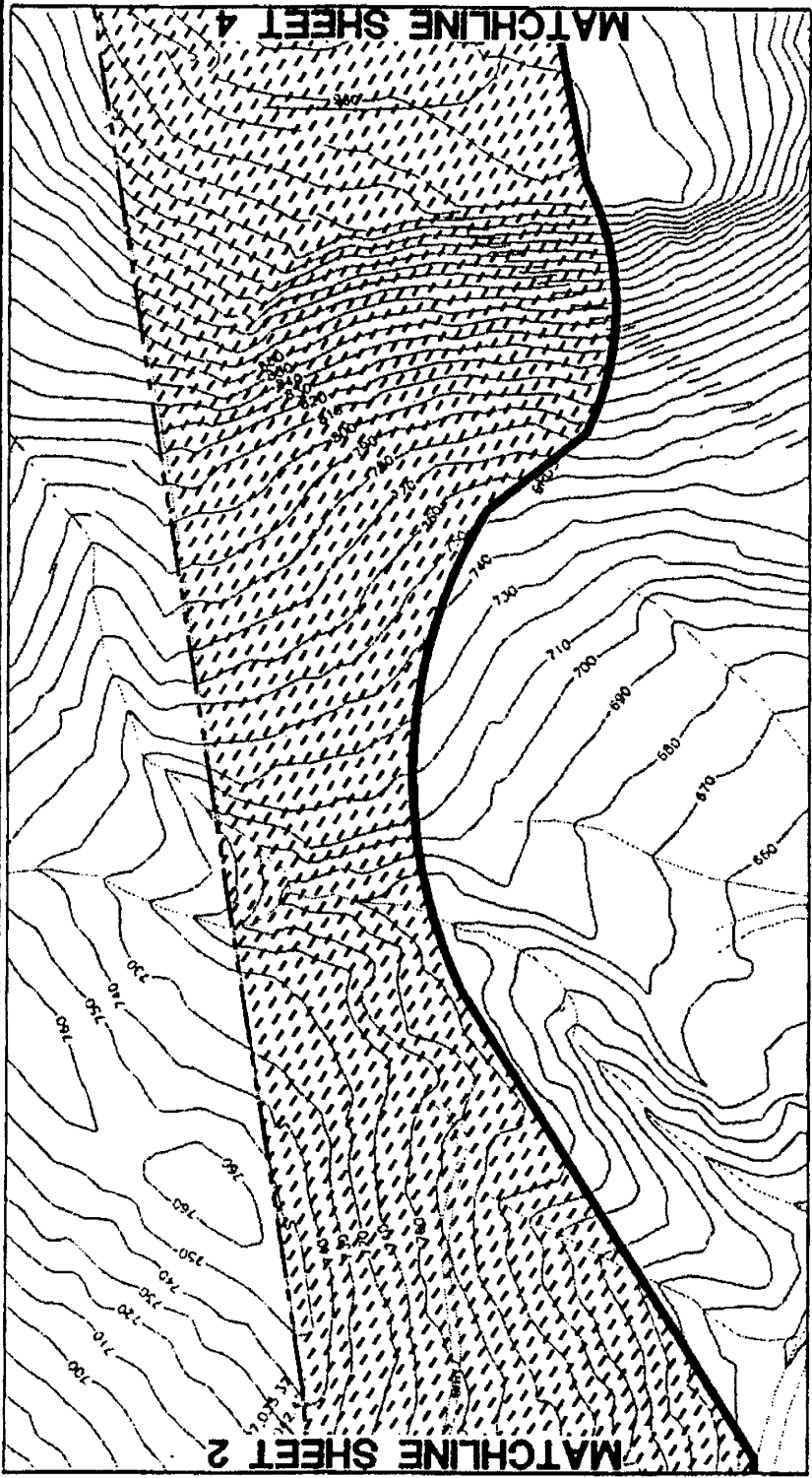
-  RESTRICTED AREA
-  600 — EXISTING CONTOURS
-  LANDFILL OPERATIONS BOUNDARY
-  PROPERTY LINE

TOPO DATE: OCTOBER 2001




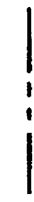


**SHEET 2**

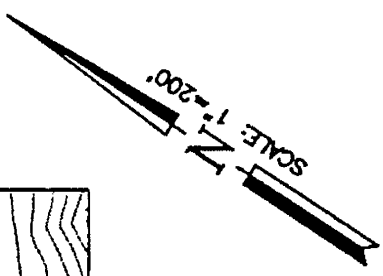
	PRIMA DESHECHA LANDFILL	
	<b>COUNTY BURDENED PROPERTY</b>	
(909) 860-7777 <b>BRYAN A. STIRRAT &amp; ASSOCIATES</b> CIVIL AND ENVIRONMENTAL ENGINEERS 1360 VALLEY VISTA DRIVE DIAMOND BAR, CA 91765	JOB NO. 2001.018-9	DATE 6-2002
	DRAWN BY J.P.J.	FILE NAME: 17127608.DWG




**LEGEND**

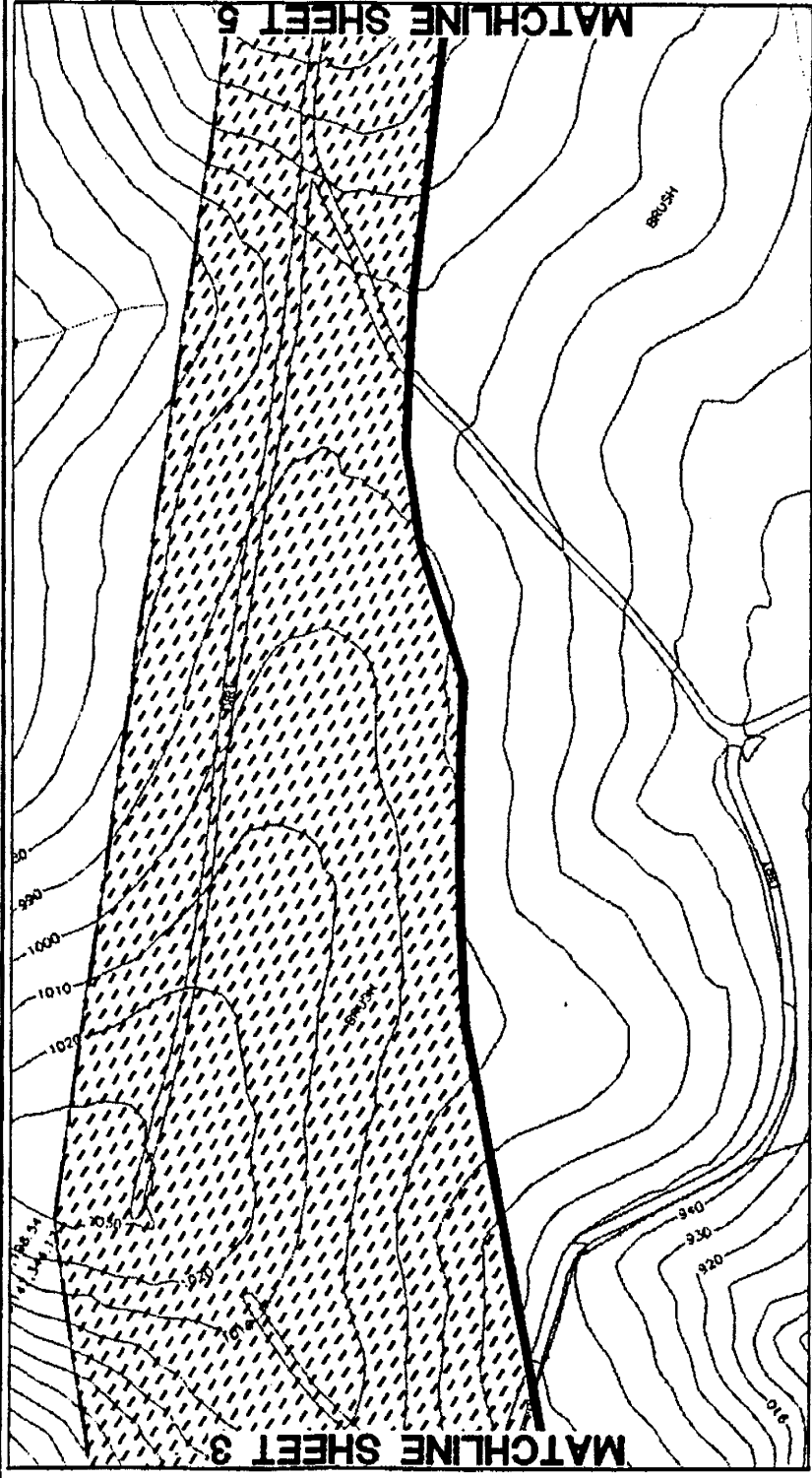
-  RESTRICTED AREA
-  EXISTING CONTOURS
-  LANDFILL OPERATIONS BOUNDARY
-  PROPERTY LINE

TOPO DATE: OCTOBER 2001







**SHEET 3**

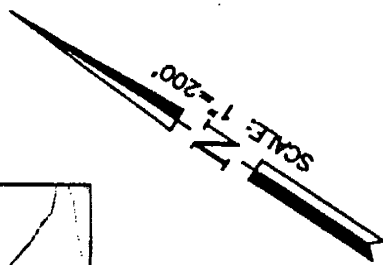
	(909) 860-7777	PRIMA DESHECHA LANDFILL	JOB NO. 2001.018-9
	BRYAN A. STIRRAT & ASSOCIATES CIVIL AND ENVIRONMENTAL ENGINEERS 1360 VALLEY VISTA DRIVE DIAMOND BAR, CA 91785	COUNTY BURDENED PROPERTY	DATE 5-2002
			DRAWN BY J.P.J.
			FILE NAME: 17127808.DWG




**LEGEND**

-  RESTRICTED AREA
-  600 ——— EXISTING CONTOURS
-  ——— LANDFILL OPERATIONS BOUNDARY
-  - - - - - PROPERTY LINE

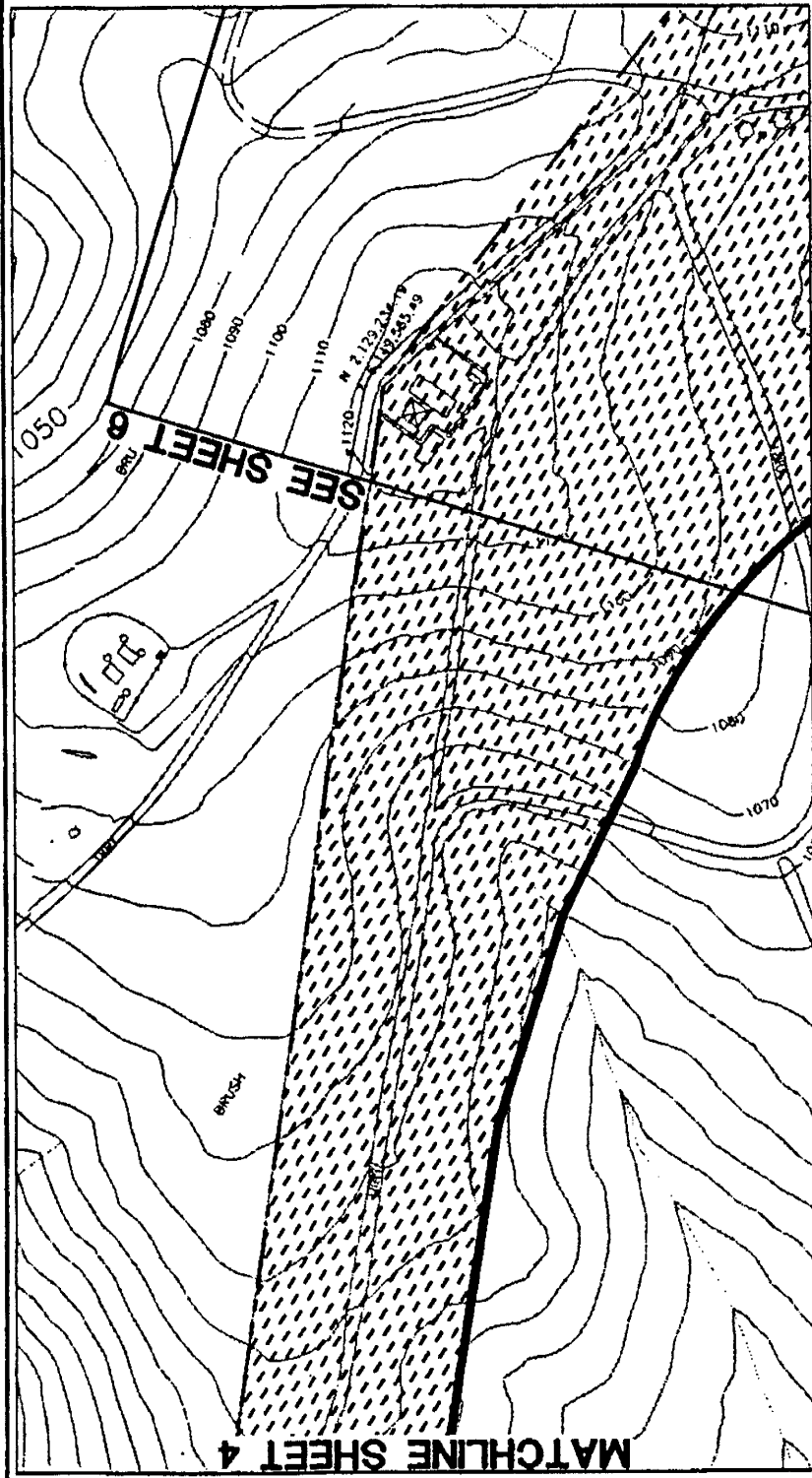
TOPO DATE: OCTOBER 2001




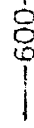


**SHEET 4**

	(909) 860-7777 <b>BRYAN A. STIRRAT &amp; ASSOCIATES</b> CIVIL AND ENVIRONMENTAL ENGINEERS 1380 VALLEY VISTA DRIVE    DIAMOND BAR, CA 91765	PRIMA DESHECHA LANDFILL  <b>COUNTY BURDENED PROPERTY</b>	JOB NO. 2001.019-9 DATE 9-2002 DRAWN BY J.P.J. FILE NAME: 171275DBL.DWG
	TOPO DATE: OCTOBER 2001		



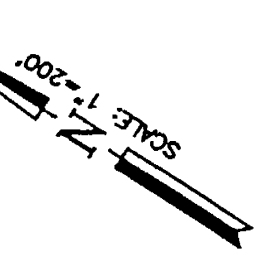



**LEGEND**

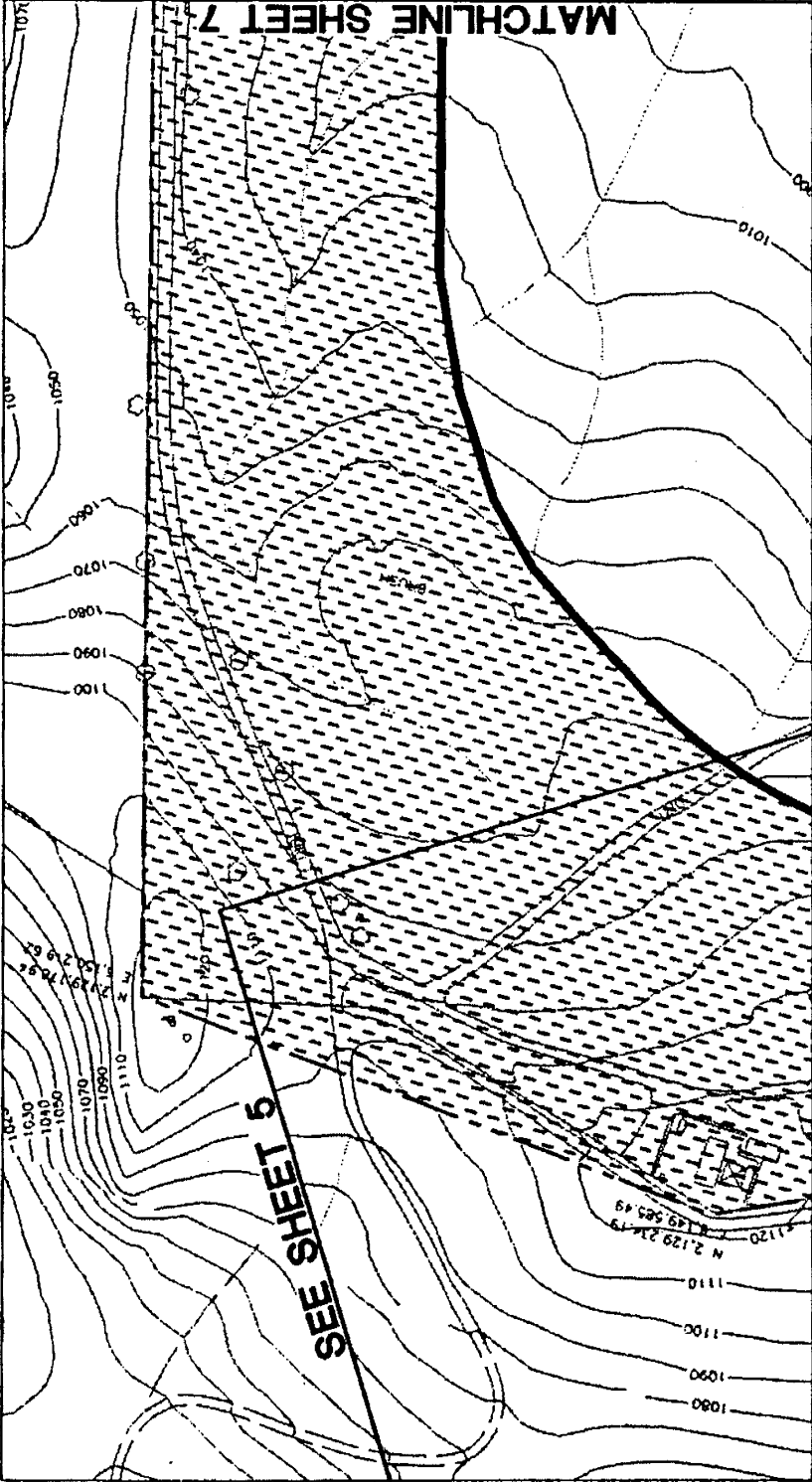
-  RESTRICTED AREA
-  -600- EXISTING CONTOURS
-  LANDFILL OPERATIONS BOUNDARY
-  PROPERTY LINE

TOPO DATE: OCTOBER 2001





**SHEET 5**



	(909) 860-7777	PRIMA DESHECHA LANDFILL
	COUNTY BURDENED PROPERTY	
BRYAN A. STIRRAT & ASSOCIATES CIVIL AND ENVIRONMENTAL ENGINEERS 1360 VALLEY VISTA DRIVE DIAMOND BAR, CA 91785		
JOB NO. 2001.018-9	DATE 5-2002	DRAWN BY J.P.J.
FILE NAME: 17127608.DWG		




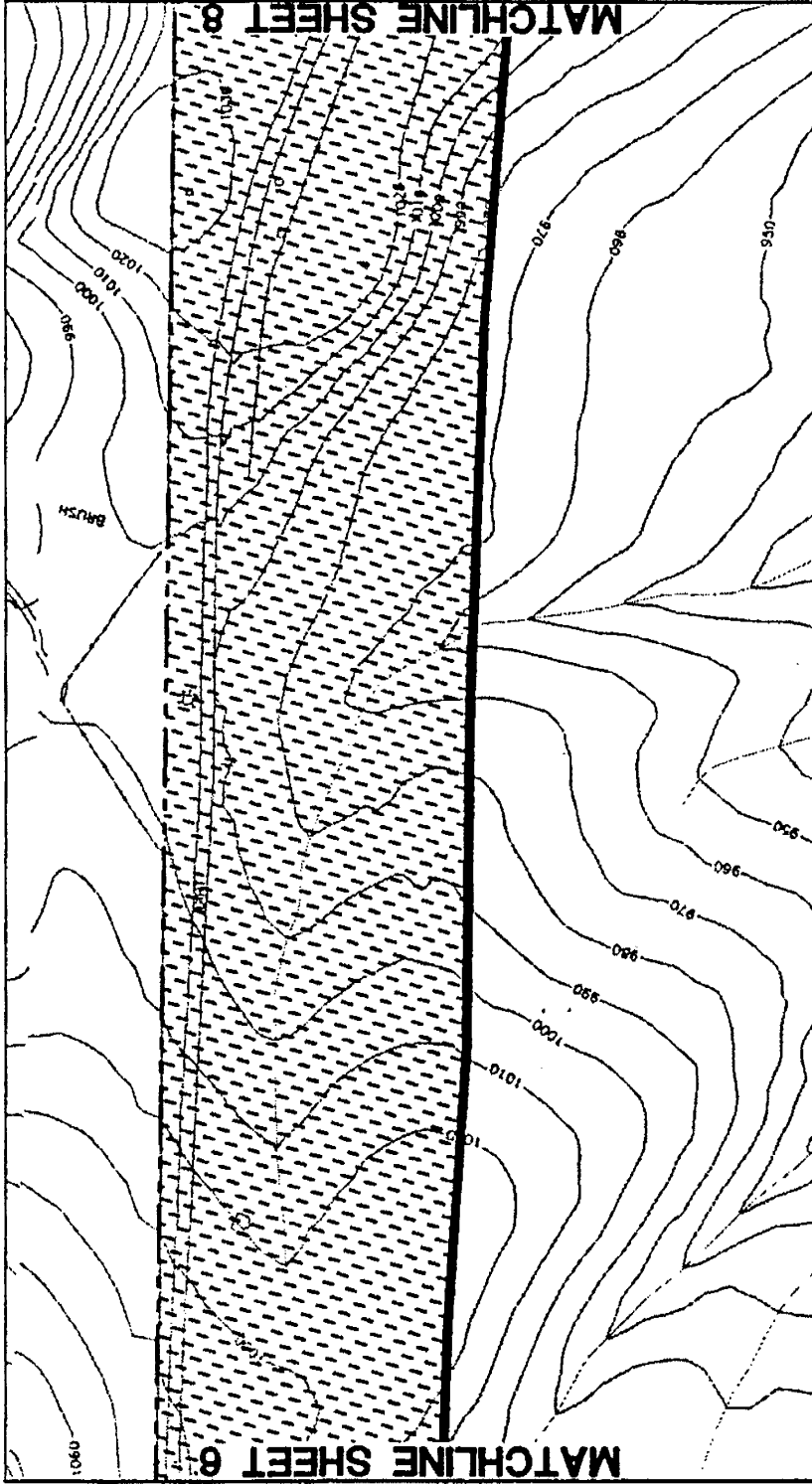
**LEGEND**

-  RESTRICTED AREA
-  600 — EXISTING CONTOURS
-  LANDFILL OPERATIONS BOUNDARY
-  PROPERTY LINE





TOPO DATE: OCTOBER 2001

**SHEET 6**

	PRIMA DESHECHA LANDFILL	
	<p><b>COUNTY BURDENED PROPERTY</b></p>	
<p><b>BRYAN A. STIRRAT &amp; ASSOCIATES</b>          CIVIL AND ENVIRONMENTAL ENGINEERS          1360 VALLEY VISTA DRIVE    DIAMOND BAR, CA 91765</p>	JOB NO.	2001.018--9
	DATE	5-2002
	DRAWN BY	J.P.J.
	FILE NAME:	17127808.DWG




**LEGEND**

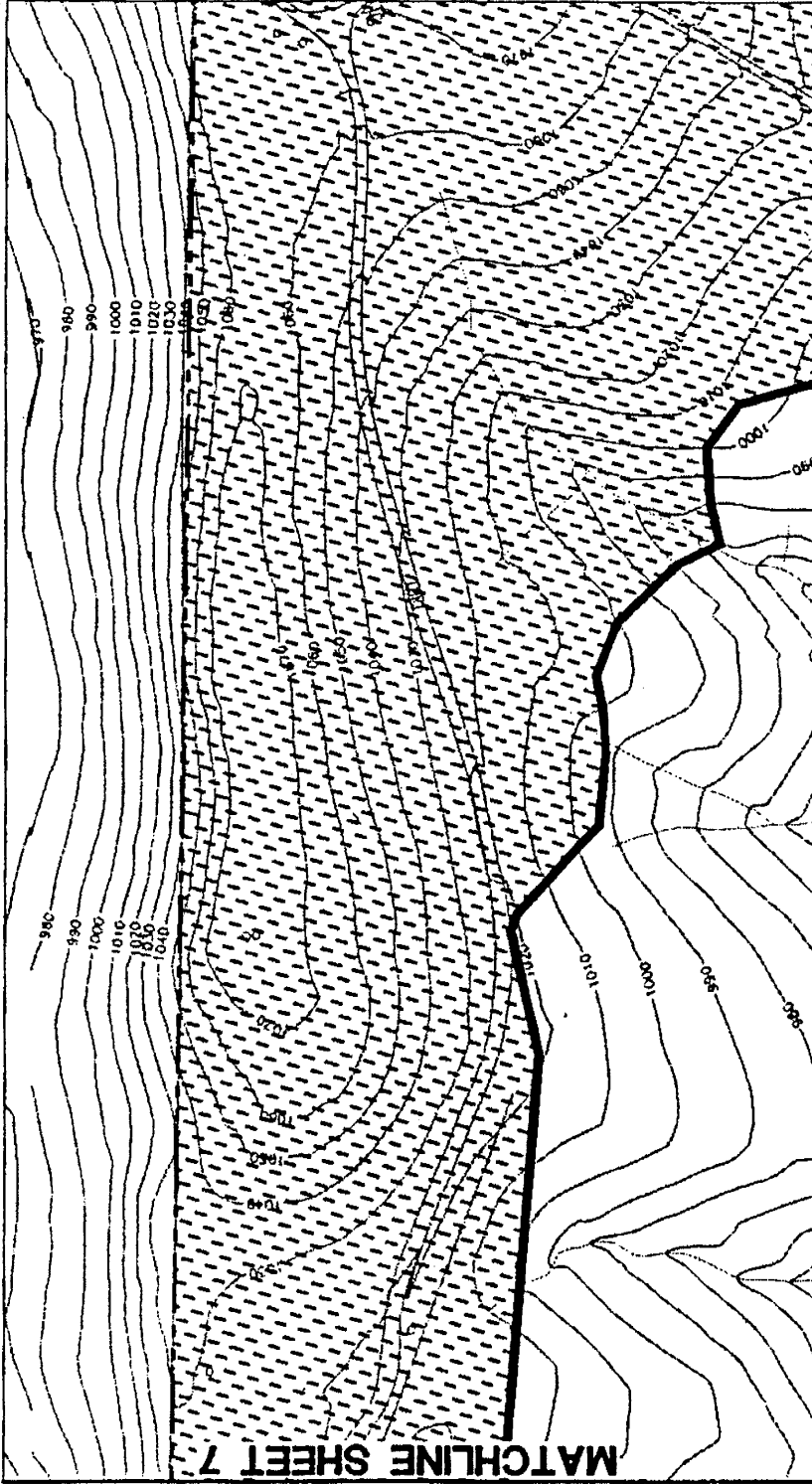
-  RESTRICTED AREA
-  600 ——— EXISTING CONTOURS
-  LANDFILL OPERATIONS BOUNDARY
-  - - - - - PROPERTY LINE







TOPO DATE: OCTOBER 2001

**SHEET 7**

 <p><b>BRYAN A. STIRRAAT &amp; ASSOCIATES</b>          CIVIL AND ENVIRONMENTAL ENGINEERS          1360 VALLEY VISTA DRIVE    DIAMOND BAR, CA 91765</p>	<p>(909) 860-7777</p>
<p>PRIMA DESHECHA LANDFILL</p>	
<p><b>COUNTY BURDENED PROPERTY</b></p>	
<p>JOB NO. 2001.018-9</p>	<p>DATE 5-2002</p>
<p>DRAWN BY J.P.J.</p>	<p>FILE NAME: 17127608.DWG</p>



**LEGEND**

-  RESTRICTED AREA
-  EXISTING CONTOURS
-  LANDFILL OPERATIONS BOUNDARY
-  PROPERTY LINE



TOPO DATE: OCTOBER 2001

SHEET 8

(909) 860-7777

PRIMA DESHECHA LANDFILL

JOB NO.  
2001.018-9

DATE  
5-2002

DRAWN BY  
J.P.J.

FILE NAME:  
17127808.DWG



**BRYAN A. STIRRAT & ASSOCIATES**  
 CIVIL AND ENVIRONMENTAL ENGINEERS  
 1360 VALLEY VISTA DRIVE DIAMOND BAR, CA 91765

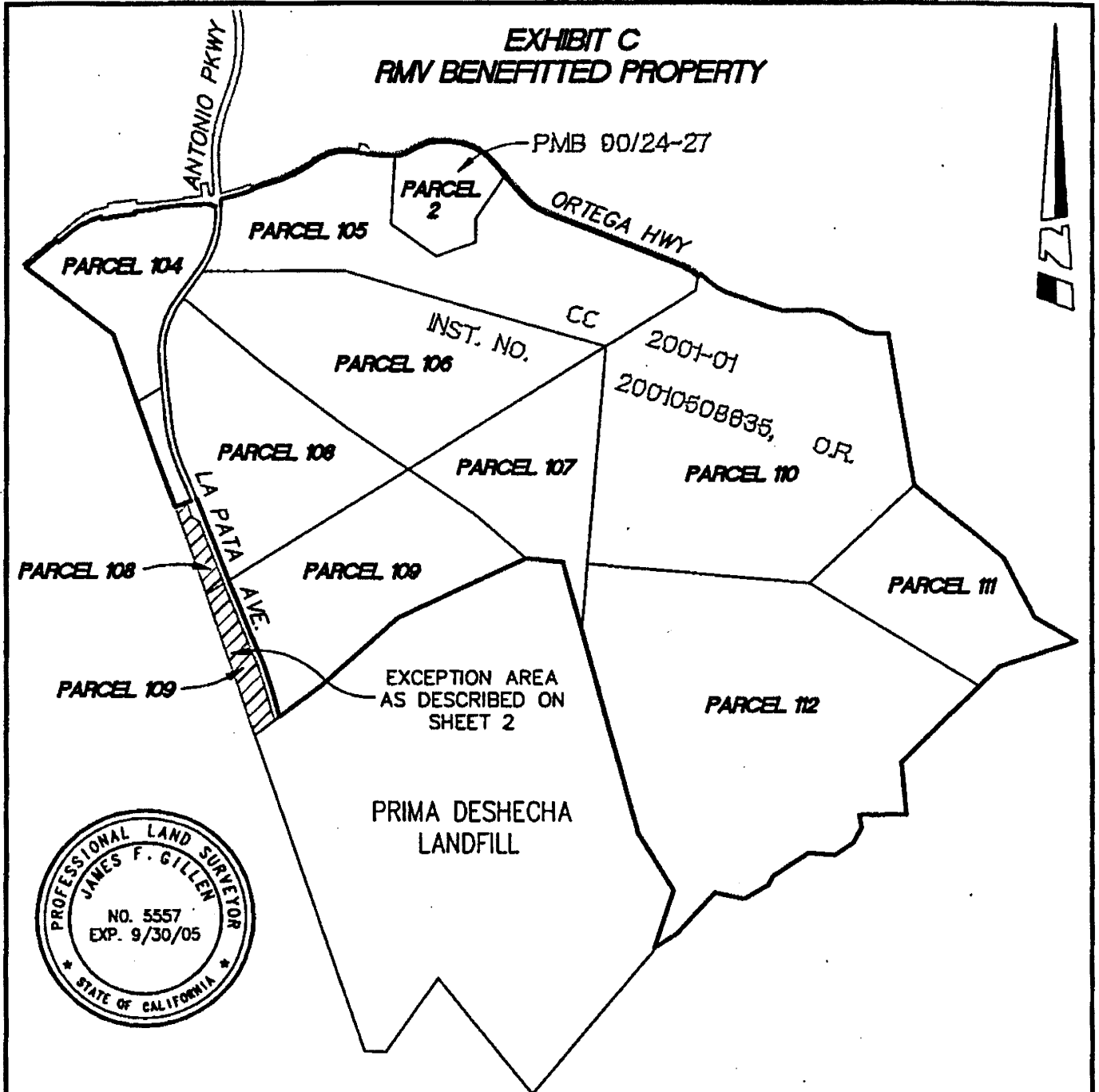
**COUNTY BURDENED PROPERTY**

**EXHIBIT "C"**

**RMV Benefitted Property**

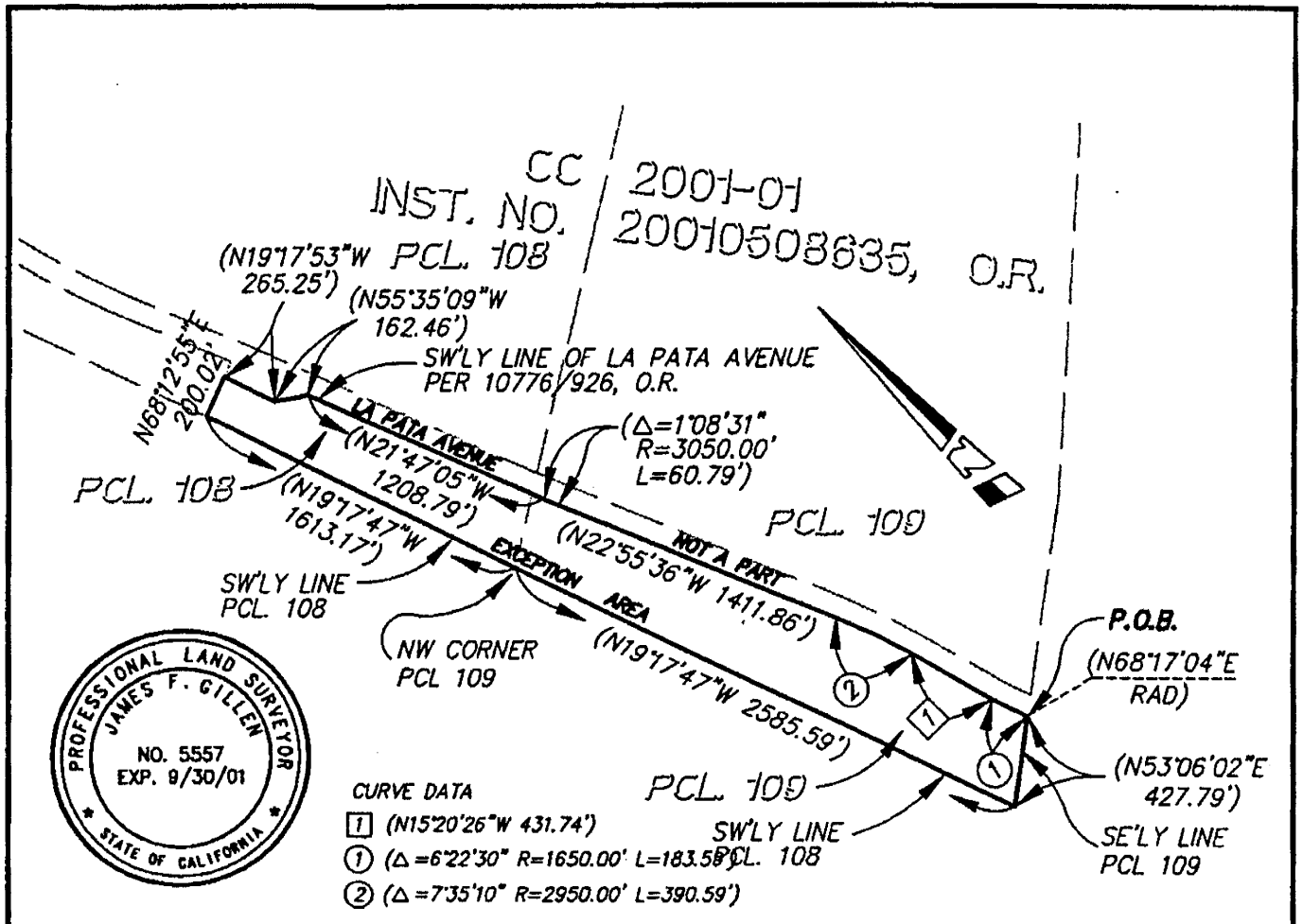
**(see following 2 pages)**

**EXHIBIT C  
RMV BENEFITTED PROPERTY**



PARCELS 104, 105, 106, 107, 108, 109, 110, 111, & 112 INCLUSIVE OF CERTIFICATE OF COMPLIANCE NO. CC-2001-01 IN THE UNINCORPORATED TERRITORY OF THE COUNTY OF ORANGE, STATE OF CALIFORNIA, AS SHOWN ON THAT CERTAIN DOCUMENT RECORDED JULY 26, 2001 AS INSTRUMENT NO. 20010508635 OF OFFICIAL RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, TOGETHER WITH PARCEL 2 IN SAID UNINCORPORATED TERRITORY OF SAID COUNTY OF ORANGE AS SHOWN ON THE MAP RECORDED IN BOOK 90, PAGES 24 THROUGH 27 INCLUSIVE OF PARCEL MAPS, IN THE OFFICE OF SAID COUNTY RECORDER. EXCEPTING THEREFROM THAT PORTION AS DESCRIBED HEREIN ON SHEET 2 OF 2.

<p><b>HUITT-ZOLLARS</b> Huitt-Zollars, Inc. Irvine 430 Exchange, Suite 200, Irvine, CA 92602-1309 Phone (714) 734-5100 Fax (714) 734-5155</p>	<p><b>MAP AND LEGAL DESCRIPTION OF RMV BENEFITTED PROPERTY</b></p>	SCALE 1"=2500'
		DRAWN BY RHH
<p>APPROVED BY _____</p>		CHECKED BY JFG
		DATE 9/16/02
		JOB NO. 10-0755-01



( ) INDICATES RECORD INFORMATION PER INST. NO. 20010508635 O.R.

THOSE PORTIONS OF PARCELS 108 & 109 OF CERTIFICATE OF COMPLIANCE NO. 2001-01 IN THE UNINCORPORATED TERRITORY OF THE COUNTY OF ORANGE, STATE OF CALIFORNIA, AS SHOWN ON THAT CERTAIN DOCUMENT RECORDED JULY 26, 2001 AS INSTRUMENT NO. 20010508635, OF OFFICIAL RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, DESCRIBED AS FOLLOWS:

BEGINNING AT THE GENERAL NORTHEASTERLY TERMINUS OF THAT CERTAIN COURSE SHOWN AS "N53°06'02"E 427.79'" FOR THAT PORTION OF THE SOUTHEASTERLY LINE OF SAID PARCEL 109 AS SHOWN ON SAID CERTIFICATE OF COMPLIANCE NO. 2001-01; THENCE ALONG SAID SOUTHEASTERLY LINE AND THE SOUTHWESTERLY LINE OF SAID PARCEL 109 THE FOLLOWING COURSES: S53°06'02"W 427.79 FEET, AND N19°17'47"W 2585.59 FEET TO THE NORTHWESTERLY CORNER OF SAID PARCEL 109, THENCE CONTINUING ALONG THE SOUTHWESTERLY LINE OF SAID PARCEL 108, N19°17'47"W 1613.17 FEET; THENCE LEAVING SAID SOUTHWESTERLY LINE N68°12'55"E 200.02' TO THE SOUTHWESTERLY LINE OF LA PATA AVENUE AS DESCRIBED IN THE DEED RECORDED IN BOOK 10776, PAGE 926 OF SAID OFFICIAL RECORDS, THENCE ALONG SAID SOUTHWESTERLY LINE OF LA PATA AVENUE, THE FOLLOWING COURSES: S19°17'53"E 265.25 FEET, S55°35'09"E 162.46 FEET, S21°47'05"E 1208.79 FEET TO THE BEGINNING OF A CURVE CONCAVE NORTHEASTERLY HAVING A RADIUS OF 3050.00 FEET, SOUTHEASTERLY 60.79 FEET ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 1°08'31", S22°55'36"E 1411.86 FEET TO THE BEGINNING OF A CURVE CONCAVE SOUTHWESTERLY HAVING A RADIUS OF 2950.00 FEET, SOUTHEASTERLY 390.59 FEET ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 7°35'10", S15°20'26"E 431.74 FEET TO THE BEGINNING OF A CURVE CONCAVE NORTHEASTERLY HAVING A RADIUS OF 1650.00 FEET, SOUTHEASTERLY 183.59' ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 6°22'30" TO THE POINT OF BEGINNING.

SHT 2 OF 2

<h1>HUITT-ZOLIARS</h1> <p>Huitt-Zollars, Inc. Irvine 430 Exchange, Suite 200, Irvine, CA 92602-1309 Phone (714) 734-5100 Fax (714) 734-5155</p>	<p>MAP AND LEGAL DESCRIPTION OF EXCEPTION AREA</p>	SCALE 1"=800'
		DRAWN BY RHH
APPROVED BY _____		CHECKED BY JRD
		DATE 9/16/02
		JOB NO. 10-0755-01

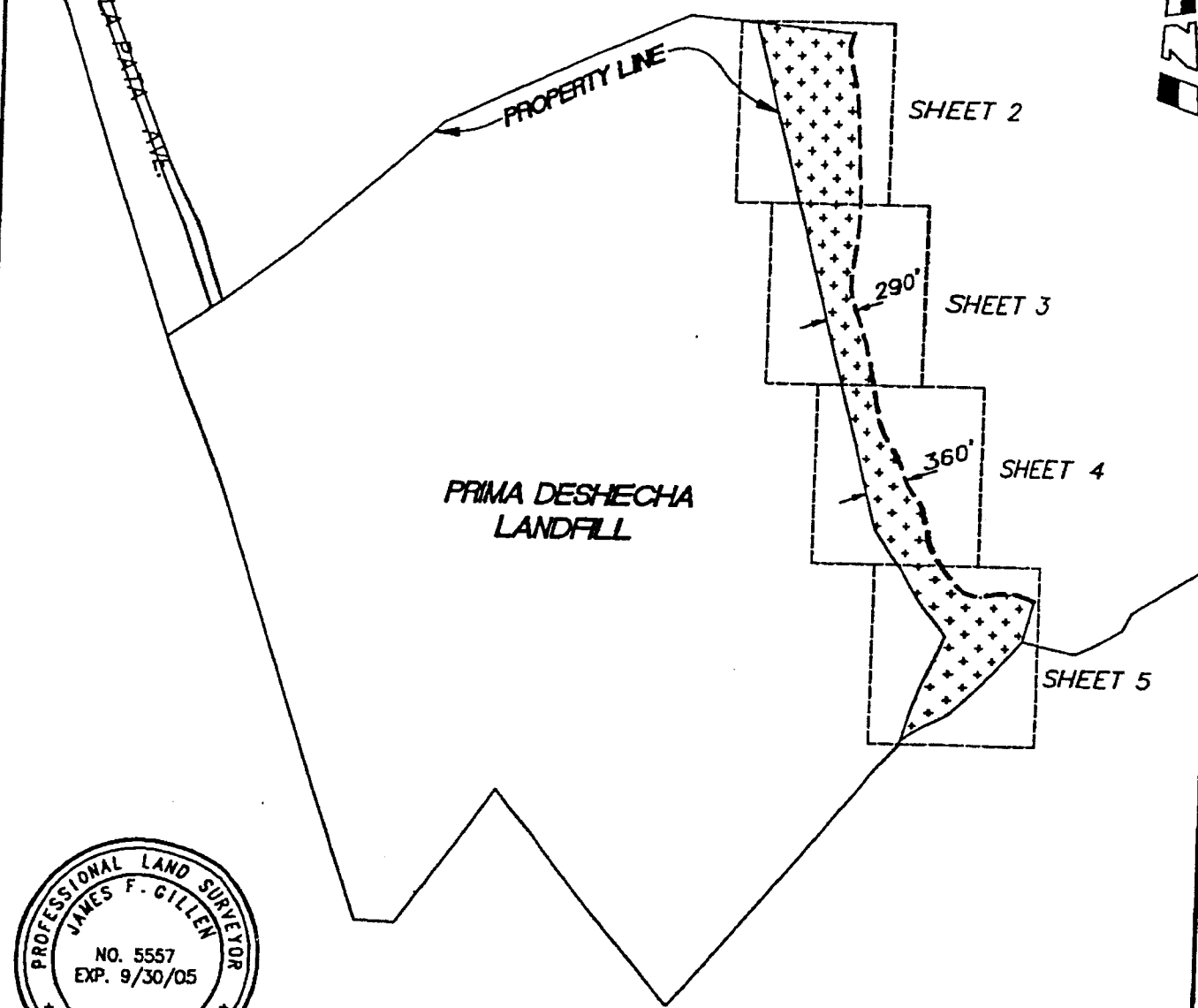
**ATTACHMENT 2**

No-Build Area



ATTACHMENT 2  
RMV NO-BUILD AREA

RANCHO MISSION VIEJO



 RMV NO-BUILD AREA

SHEET 1 OF 5

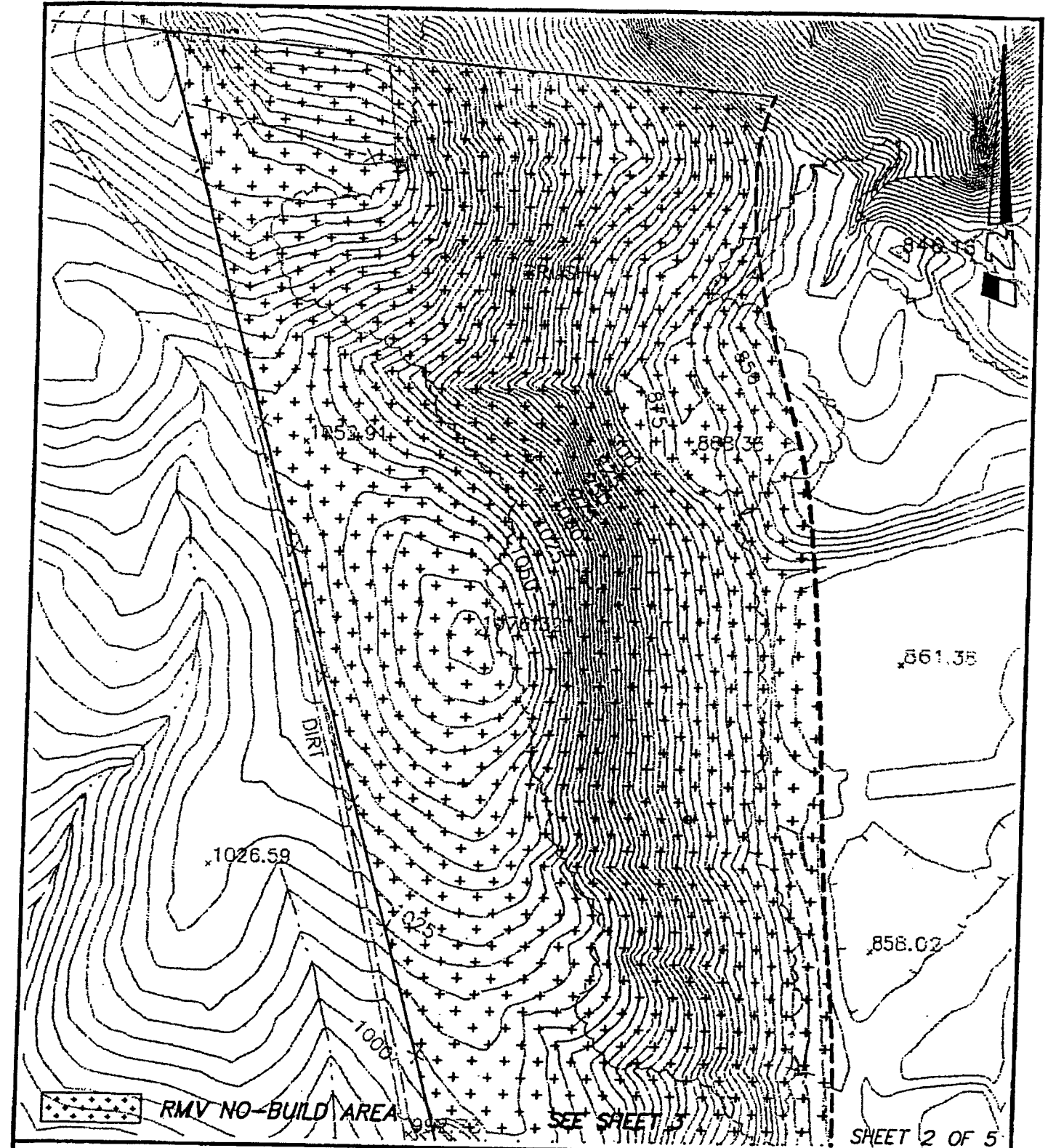
**HUITT-ZOLLARS**

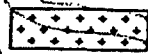
Huitt-Zollars, Inc. Irvine  
430 Exchange, Suite 200, Irvine, CA 92602-1309  
Phone (714) 734-5100 Fax (714) 734-5155

APPROVED BY \_\_\_\_\_

RMV NO-BUILD AREA

SCALE	1"=1500'
DRAWN BY	RHH
CHECKED BY	JFG
DATE	7/16/02
JOB NO.	10-0755-01



 RMV NO-BUILD AREA

SEE SHEET 3

SHEET 2 OF 5

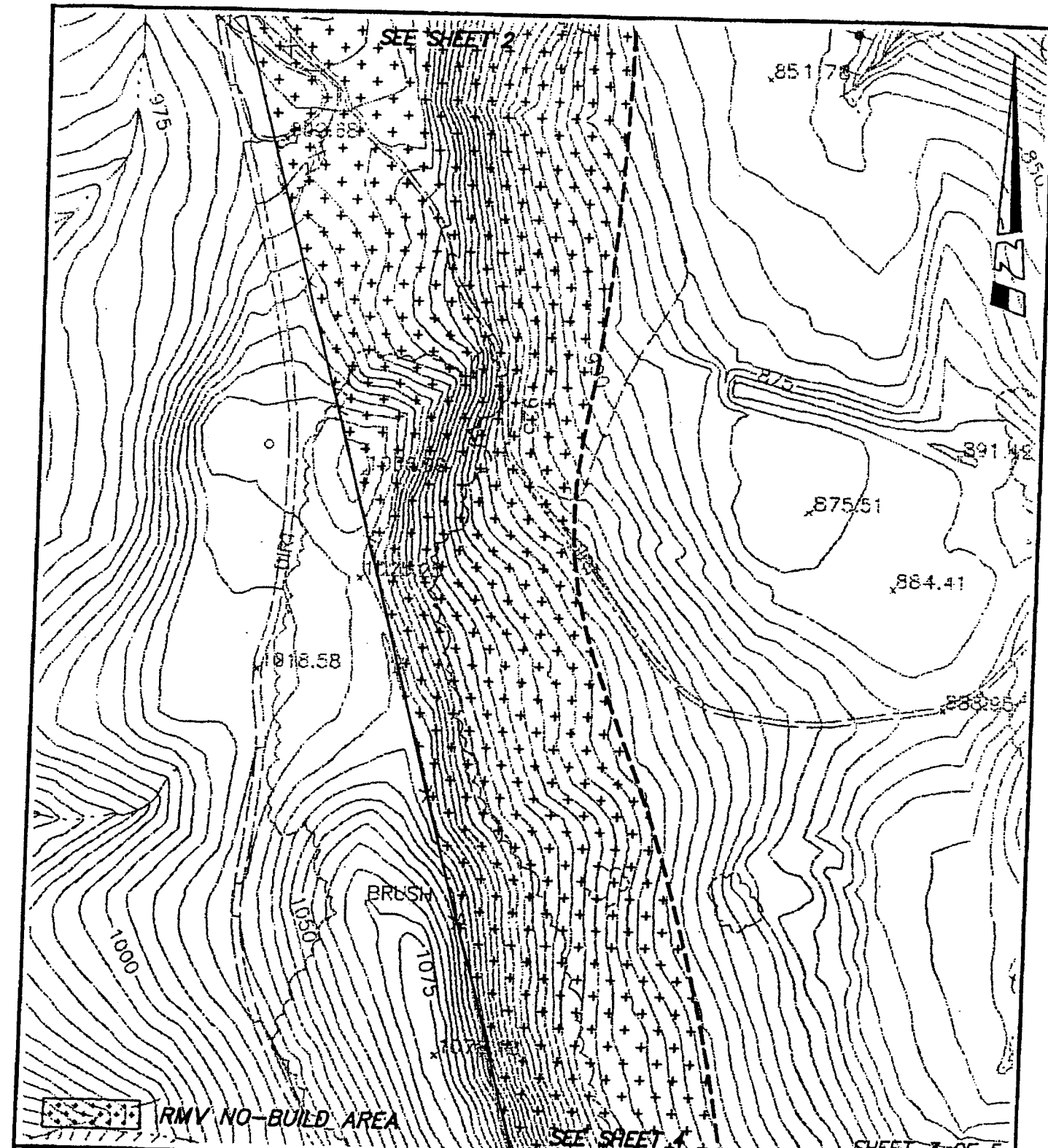
# HUITT-ZOLLARS

Huitt-Zollars, Inc. Irvine  
 430 Exchange, Suite 200, Irvine, CA 92602-1309  
 Phone (714) 734-5100 Fax (714) 734-5155

APPROVED BY

## ATTACHMENT 2 RMV NO-BUILD AREA

SCALE	1" = 200'
DRAWN BY	RHH
CHECKED BY	JFG
DATE	7/16/02
JOB NO.	10-0755-01



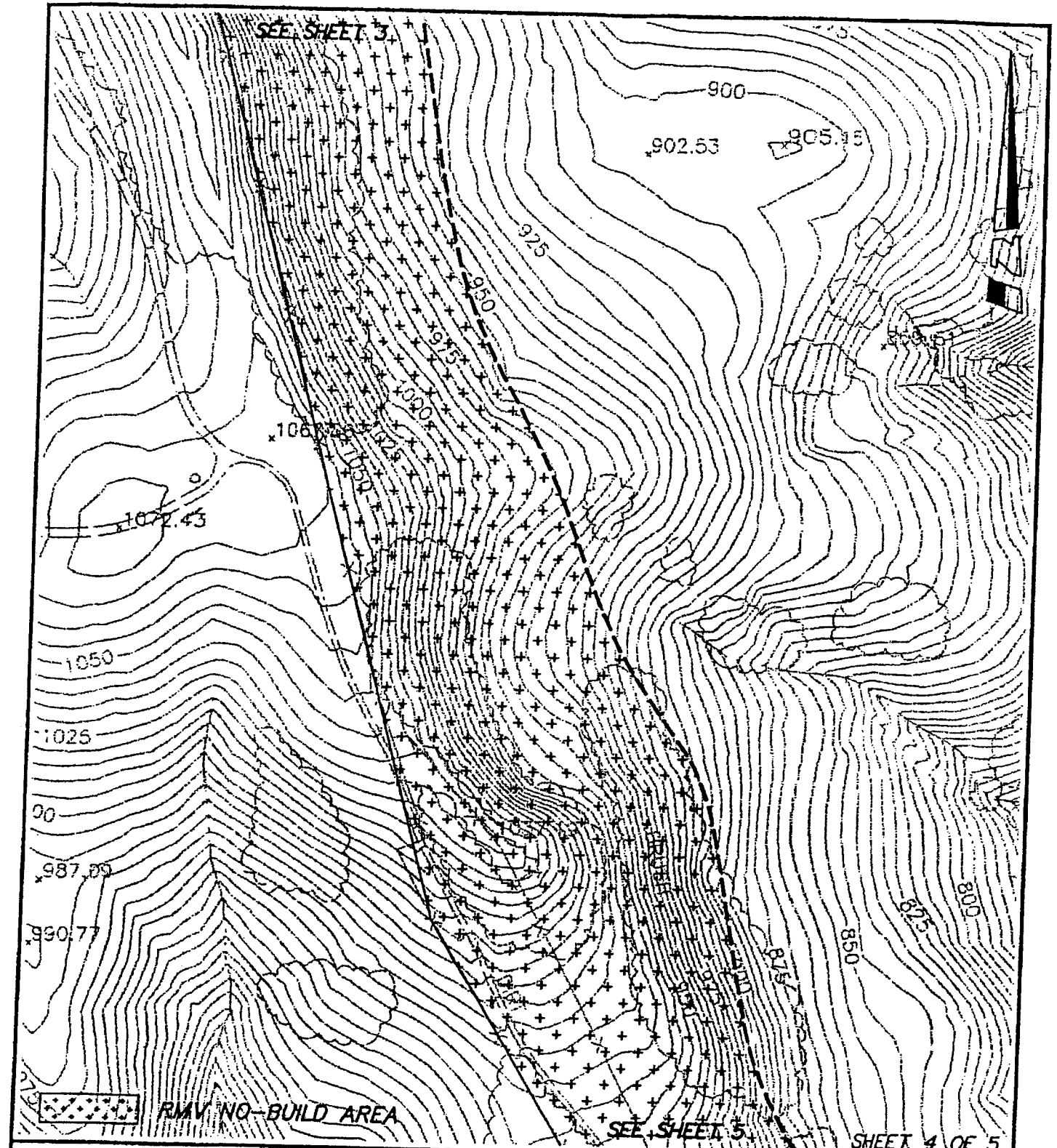
# HUITT-ZOLIARS

Huitt-Zollars, Inc. Irvine  
 430 Exchange, Suite 200, Irvine, CA 92602-1309  
 Phone (714) 734-5100 Fax (714) 734-5155

APPROVED BY

## ATTACHMENT 2 RMV NO-BUILD AREA

SCALE	1"=200'
DRAWN BY	RHH
CHECKED BY	JFG
DATE	7/16/02
JOB NO.	10-0755-01



# HUITT-ZOLLARS

Huitt-Zollars, Inc. Irvine  
 430 Exchange, Suite 200, Irvine, CA 92602-1309  
 Phone (714) 734-5100 Fax (714) 734-5155

APPROVED BY \_\_\_\_\_

## ATTACHMENT 2 RMV NO-BUILD AREA

SCALE	1"=200'
DRAWN BY	RHH
CHECKED BY	JFG
DATE	7/16/02
JOB NO.	10-0755-01



SHEET 5 OF 5

# HUITT-ZOLIARS

Huitt-Zollars, Inc. Irvine  
 430 Exchange, Suite 200, Irvine, CA 92602-1309  
 Phone (714) 734-5100 Fax (714) 734-5155

APPROVED BY

## ATTACHMENT 2 RMV NO-BUILD AREA

SCALE 1"=200'

DRAWN BY RHH

CHECKED BY JFG

DATE 7/16/02

JOB NO. 10-0755-01

**ATTACHMENT 3**

Prior Agreement

# OFFICE COPY

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GA 126-1.01, 1.1 and 1.2  
Refuse Disposal Station 26  
Prima Deshecha Canada

X2-1, 1.1-1.6  
La Pata Avenue

## PURCHASE AND OPTION AGREEMENT

THIS AGREEMENT is made and entered into this 13<sup>th</sup> day of JULY 1973, by and between the COUNTY OF ORANGE, a political subdivision of the State of California, hereinafter referred to as "COUNTY", and CROCKER NATIONAL BANK, a national banking association, formerly Crocker-Citizens National Bank, successor to Citizens National Bank, formerly known as Citizens National Trust and Savings Bank of Los Angeles, as Trustee, under Decree of Final Distribution, had in the matter of the Estate of Jerome O'Neill, deceased; Alice O'Neill Avery, and Richard Jerome O'Neill, as Trustees under two separate Declarations of Trust dated April 18, 1968, for the respective benefits of Alice O'Neill Avery and Richard Jerome O'Neill, hereinafter referred to as "OWNER".

## R E C I T A L S

1. The Forster Canyon Disposal Station, which serves the southeasterly section of the County, is presently near its maximum capacity.
2. A study was prepared by the Refuse Disposal Division of the County Road Department to locate a replacement site for the existing refuse disposal station.
3. As a result of the above study, COUNTY has determined to acquire the 1,524-acre Prima Deshecha Canada site, shown on the map marked "EXHIBIT A", attached hereto and made a part hereof, for a refuse disposal station.
4. While COUNTY desires to acquire OWNER'S portion of said site through acquisition agreement, because of the pressing need and lack of alternative sites, owner has been advised that COUNTY would proceed to acquire the subject property through eminent domain, if a voluntary sale thereof by OWNER could not be effected.
5. COUNTY'S Board of Supervisors made a formal determination of the necessity for public use of the subject property as a refuse disposal station by adopting a condemnation resolution, No. 73-556, on May 22, 1973, and has filed an action in eminent domain covering the subject property.
6. OWNER owns approximately 945 acres of the proposed refuse disposal station site, shown as Parcels GA 126-1.01, 1.1, and 1.2 on "EXHIBIT B", attached hereto and made a part hereof.

1 7. OWNER also owns approximately 46 acres which will be required for  
2 the construction of the La Pata Avenue access road to the proposed sit  
3 The road right of way to be acquired, designated as Parcels X2-1, 1.1-  
4 is shown on the map marked "EXHIBIT C", attached hereto and made a part  
5 hereof.

6 8. COUNTY desires at this time to acquire only Parcels GA 126-1.01 and  
7 the road right of way designated as Parcels X2-1, 1.1-1.6.

8 9. OWNER agrees to provide COUNTY with the option to purchase Parcels  
9 GA 126-1.1 and 126-1.2, described in "EXHIBIT D", attached hereto and  
10 made a part hereof.

11 10. Concurrently with the execution of this Agreement, OWNER has executed  
12 and delivered to Stephen L. Salyer, Real Property Agent for COUNTY, a  
13 Grant Deed conveying OWNER'S fee interest in Parcels GA 126-1.01 and  
14 X2-1, 1.1-1.4 and a Temporary Easement Deed for construction purposes  
15 over Parcels X2-1.5, 1.6 to COUNTY.

16 NOW, THEREFORE, it is agreed by and between the parties hereto as follows

17 I.

18 PURCHASE OF PARCELS GA 126-1.01 AND  
19 X2-1, 1.1-1.6

20 A. COUNTY will:

21 1. Pay to the OWNER the sum of One Million Five Hundred Thousand  
22 Dollars (\$1,500,000) in cash, within thirty days after:

23 a. Fee title to Parcels GA 126-1.01 and X2-1.1, 1.2, 1.3,  
24 and 1.4 has vested in the COUNTY in accordance with the terms  
25 and conditions of Clause IB below;

26 b. The temporary construction easements designated as Parcels  
27 X2-1.5, 1.6 have vested in the COUNTY in accordance with  
28 the terms and conditions of Clause IB below.

29 2. Forthwith order a title policy of insurance covering the subject  
30 acquisition from The TI Corporation (of California) for the full  
31 amount of the consideration.

32 B. OWNER will:

1. Do all things necessary to vest in COUNTY:

a. Adequate title for construction purposes to the temporary  
construction easements designated as Parcel X2-1.5, 1.6;

b. Fee title to Parcels GA 126-1.01 and X2-1, 1.1-1.4 (and  
upon exercise of option, fee title to Parcels GA 126-1.1, 1.2);

Title to be vested in COUNTY free and clear of all liens,  
encumbrances, assessments, easements, agreements, licenses,  
leases (recorded or unrecorded), and taxes except:

(1) Any installment of General and Special County and  
City taxes, if any, that is not entirely earned at the  
time title is vested in the COUNTY, and all taxes subsequent  
thereto.

(However, OWNER shall remain liable for payment of any



1 earned taxes, pursuant to the provisions of Section 4986,  
2 California Revenue and Taxation Code, as amended, and  
3 the COUNTY is authorized to pay, from the amount shown  
4 in Clause IA-1 above (and upon exercise of option, the  
5 amount shown in Clause IIA-4 below) any earned delinquent  
6 taxes, together with penalties and interest thereon,  
7 delinquent or non-delinquent assessments or bonds).

8 (2) Easement for telephone and telegraph purposes as granted  
9 to the Southern California Telephone Company by Deed recorded  
10 in Book 1121, Page 423, of Official Records.

11 (3) An easement 150 feet in width as granted to San Diego  
12 Gas and Electric Company, as recorded in Book 7308, Page  
13 374, of Official Records.

14 (4) An exclusive easement 250 feet in width as granted to  
15 Southern California Edison Company as recorded in Book 748  
16 Page 714, of Official Records.

17 (5) An easement 10 feet in width as granted to San Diego  
18 Pipeline Company as recorded in Book 7894, Page 222, of  
19 Official Records.

20 (6) Terms, covenants, conditions and restrictions set forth  
21 in agreement elective to the Rancho Mission Viejo Agricultural  
22 Preserve as recorded in Book 8884, Page 206, of  
23 Official Records.

24 (7) Mineral rights reserved in the Deed from OWNER to COUNTY  
25 covering Parcels GA 126-1.01 and X2-1, 1.1-1.4 (and upon  
26 exercise of option, Parcels GA 126-1.1, 1.2) below the  
27 depth of 300 feet below sea level, excluding all rights  
28 to surface entry.

29 2. Pay for real property transfer taxes as required by law, cost  
30 of the policy of title insurance from The TI Corporation (of  
31 California), and all costs not specified to be borne by COUNTY  
32 necessary to convey title to COUNTY as herein specified.

3. Warrant that there are no oral or written leases on any portion  
of Parcels GA 126-1.01, or X2-1, 1.1-1.6 exceeding a period of  
thirty (30) days and OWNER agrees to hold COUNTY harmless and  
reimburse COUNTY for any and all of its losses and expenses  
occasioned by reason of any lease of said property held by any  
tenant of OWNER for a period exceeding thirty (30) days.

C. It is mutually understood and agreed:

1. COUNTY shall forward a copy of the final construction plans for  
the La Pata Avenue access road to OWNER for review prior to initiation  
of construction of said access road.

2. COUNTY shall prepare deeds conveying the necessary slope easements  
for the La Pata Avenue access road from OWNER to COUNTY, upon  
completion of the construction of said road. Said slope easements  
shall cover the actual slope areas, as constructed for said  
road.

Said deeds shall be forwarded to OWNER within thirty (30) days  
following filing of a Notice of Completion for the access road  
construction.

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1 OWNER shall execute and return said deeds to COUNTY within thirty  
2 (30) days of their receipt. OWNER'S execution of said deeds shall  
not be unreasonably withheld.

3 3. The twelve (12) foot structural steel plate pipe previously  
4 planned as a cattle undercrossing under the La Pata Avenue access  
5 road, is hereby deleted from the construction plans. It is further  
6 mutually understood between the parties hereto that the compensation  
7 herein provided for includes, but is not limited to, any and all  
8 damages that may accrue to the OWNER'S remaining property as a  
9 result of the deletion of the subject cattle undercrossing.

10 4. The undersigned GRANTOR hereby agrees and consents to the  
11 dismissal of any eminent domain action which may be filed by the  
12 COUNTY against said Parcels GA 126-1.01, 1.1, 1.2 and X2-1, 1.1-1.  
13 and also waives any and all claims to any money that may be deposited  
14 in the Superior Court in said action.

15 5. OWNER owns extensive lands which abut upon the proposed disposal  
16 site and access road. Such abutting lands, commonly known and  
17 designated as the "Rancho Mission Viejo", may suffer a substantial  
18 decline in value in the event COUNTY'S landfill operating practices  
19 on the subject lands are not conducted in accordance with certain  
20 minimum standards. It is, therefore, mutually understood and  
21 agreed that the conveyance by OWNER to COUNTY of the proposed  
22 disposal site, together with the conveyance by OWNER to COUNTY of  
23 the temporary construction easements, permanent slope easements,  
24 and the La Pata Avenue access road are, and each of them is, sub-  
25 ject to the following equitable servitudes:

26 a. Access Road Requirements

27 (1) A minimum thirty (30) foot paved access road con-  
28 structed of asphalt over aggregate base shall be provided  
29 by COUNTY. The connection to Ortega Highway shall conform  
30 with Orange County Road Department and State Division  
31 of Highway requirements.

32 (2) Control of dust and litter along the access road shall  
be the responsibility of COUNTY and shall be accomplished by  
litter collection not less than once each week.

(3) A four (4) foot high hog wire fence, or equal, topped  
by two strands of barbed wire for a total height of  
approximately six feet, shall be constructed along the  
access road property line to constrain litter.

b. Site Requirements

(1) Control of litter blowing from the site and unauthorized  
landfill site access shall be accomplished by the construction  
and maintenance, around the working landfill area,  
of a four foot high hog wire fence, or equal, topped  
by two strands of barbed wire for a total height of  
approximately six feet.

A second fence shall be constructed around the entire  
property consisting of five strands of barbed wire, or  
equal, for a total height of approximately six feet.

Gates in landfill fence are to be kept closed and locked  
during hours when the landfill is not open.

1 (2) Adequate water shall be applied to solid waste and cov  
2 soil as required to aid in preventing dust and litter migr  
3 tion beyond the landfill property boundary.

4 (3) During the life of the landfill operation, COUNTY shall  
5 be responsible for the removal of litter originating in the  
6 landfill and blowing onto OWNER'S adjacent property provide  
7 that OWNER, or the appropriate possessory interest, provide  
8 access as necessary.

9 (4) The existing ridge line is to be maintained as a buffer  
10 zone and barrier to inhibit viewing, noise, dust, litter,  
11 and other effects of landfill-associated operations from  
12 adjacent property. All landfill site grading, cutting,  
13 filling, and construction of improvements shall be done at  
14 least fifty (50) vertical feet below the existing ridge  
15 line, except when grading above this level as necessary  
16 to stabilize the ridge.

17 (5) All on-site roads shall be at least fifty (50) vertical  
18 feet below the aforementioned ridge line. A 20-foot  
19 paved roadway shall be installed and maintained within the  
20 actual fenced disposal site area for a minimum of 300  
21 feet or until the road reaches a point fifty (50) vertical  
22 feet below the ridge line.

23 (6) Vector control for rats, flies, birds, noxious insects,  
24 and larva shall be provided so that no increase in popula-  
25 tions of said species occurs on off-site property due  
26 to landfill operations. A minimum of 6 inches of soil  
27 covering shall be placed on the top of each day's deposit  
28 of refuse. Records of vector inspections and resulting  
29 actions are to be available to OWNER.

30 (7) An adequate gas control and monitoring program shall  
31 be initiated upon start of landfilling to prevent gas  
32 migration onto OWNER'S adjacent property. Gas sampling  
and testing shall be done at least semi-annually and  
the results transmitted to OWNER.

(8) Adequate surface drainage and subdrainage systems  
shall be installed to prevent entry of rainfall runoff  
and groundwater into the solid waste fill.

(9) COUNTY agrees to limit operation of the refuse disposal  
station to the hours between 6:00 a.m. and 6:00 p.m. except  
in the case of emergency situations.

(10) OWNER shall at all reasonable times have the right to  
inspect the subject property and refuse disposal operations.

c. COUNTY does hereby covenant that it will conduct its land-  
fill operating practices in accordance with the foregoing  
requirements. These requirements, being equitable servitudes  
appurtenant to and for the express benefit of OWNER'S said  
abutting lands, shall at all times be binding upon, and shall  
be enforceable against COUNTY, its successors and assigns, or  
against any and all persons, corporations, or other entities  
who should at any time hereafter become the owner of the lands  
and interests so conveyed, by OWNER, its successors and assigns,  
either at law or in equity.

It is mutually understood and agreed that each of such con-  
veyances, including the conveyances of the option parcels  
hereinafter provided for, in the event said options be exer-

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1 cised, shall, by appropriate reference incorporate therein  
2 these equitable servitudes.

3 6. All notices pursuant to this Agreement should be addressed  
4 as set forth below or as either party may hereinafter designate  
5 by written notice and shall be sent through the United States  
6 Mail:

7 TO: COUNTY

TO: OWNER

8 County of Orange  
9 Department of Real Property  
10 Services  
11 400 Civic Center Drive West  
12 Santa Ana, California 92701

Rancho Mission Viejo  
Post Office Box 2035  
Mission Viejo, California  
92675

13 II

14 OPTION TO PURCHASE

15 A. OWNER hereby grants to COUNTY the right and option to purchase  
16 Parcels GA 126-1.1 and 1.2, shown on the map marked "Exhibit B" and  
17 described in "Exhibit D". This option is granted on the following terms:

18 1. COUNTY'S right to exercise the option for Parcel GA 126-1.1  
19 shall expire one year from the date of this Agreement.

20 2. COUNTY'S right to exercise the option for Parcel GA 126-1.2 shall  
21 be contingent upon its having exercised the option for Parcel  
22 GA 126-1.1 and shall expire two years from the date of this Agreement

23 3. An option shall be considered exercised when COUNTY, through  
24 its Director of Real Property Services, has mailed a signed,  
25 written notice to OWNER of the COUNTY'S Board of Supervisors' inten-  
26 tion to exercise the option.

27 4. The purchase price upon exercise of these options shall be One  
28 Million Dollars (\$1,000,000) in cash for Parcel GA 126-1.1 and  
29 Three Hundred Thirty-Six Thousand Dollars (\$336,000) in cash for  
30 Parcel GA 126-1.2.

31 B. Upon Exercise of Option:

32 1. COUNTY will:

33 a. Forthwith prepare and forward to OWNER a grant deed conveying  
34 to COUNTY the fee interest in the subject option parcel, as  
35 described in "EXHIBIT D".

36 b. Pay to OWNER a sum as set forth in Clause IIA-4 above within  
37 thirty (30) days after fee title to the subject option parcel has  
38 vested in COUNTY in accordance with the terms and conditions of  
39 Clause IB above.

40 c. Forthwith order a title policy of insurance covering the  
41 subject acquisition from The TI Corporation (of California), for  
42 the full amount of the consideration.

43 2. OWNER will:

44 a. Execute and deliver to COUNTY the grant deed, prepared by

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COUNTY, conveying the fee interest in the subject option parcel to COUNTY, within thirty (30) days following receipt of said grant deed from COUNTY.

b. Do all things necessary to vest fee title in COUNTY to the subject option parcel, as specified in Clause IB.

c. Pay for real property transfer taxes as required by law, cost of the policy of title insurance from the TI Corporation (of California), and all costs not specified to be borne by COUNTY necessary to convey title to COUNTY as herein specified.

d. Warrant that there are no oral or written leases on any portion of Parcels GA 126-1.1, 1.2 exceeding a period of thirty (30) days, and OWNER agrees to hold COUNTY harmless and reimburs COUNTY for any and all of its losses and expenses occasioned by reason of any lease of said property held by any tenant of OWNER for a period exceeding thirty (30) days.

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CROCKER NATIONAL BANK, as Trustee u  
Decree of Final Distribution in the  
matter of the Estate of Jerome O'Ne  
deceased

By J. W. Ferguson  
Vice President

By W. C. Wilson  
Trust Officer

ALICE O'NEILL AVERY and RICHARD JERC  
O'NEILL, as Trustees under a Declara  
tion of Trust dated April 8, 1968, f  
the benefit of Alice O'Neill Avery

By Alice O'Neill Avery  
ALICE O'NEILL AVERY

By Richard Jerome O'Neill  
RICHARD JEROME O'NEILL

APPROVED AS TO FORM:  
Adrian Kuyper  
County Counsel

By Adrian Kuyper

RICHARD JEROME O'NEILL and ALICE O'NI  
AVERY, as Trustees under a Declaratio  
of Trust dated April 18, 1968, for th  
benefit of Richard Jerome O'Neill

By Richard Jerome O'Neill  
RICHARD JEROME O'NEILL

RECOMMENDED FOR APPROVAL:  
L. McConville  
Road Commissioner and County  
Surveyor

By L. McConville

By Alice O'Neill Avery  
ALICE O'NEILL AVERY

Stanley E. Krause, Director  
Dept. of Real Property Services

By Stanley E. Krause  
Real Property Agent

By Joseph H. Hennessey  
Assistant Director

CONFORMED  
By June 27, 1973  
Date Jan. Harns

ATTEST:  
W. E. ST JOHN, County Clerk of  
the County of Orange and ex  
officio Clerk of the Board of  
Supervisors of Orange County

By S/d June Alexander  
Deputy

COUNTY OF ORANGE  
By Ronald W. Caspers  
Chairman, Board of Supervisors



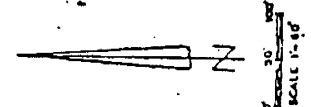
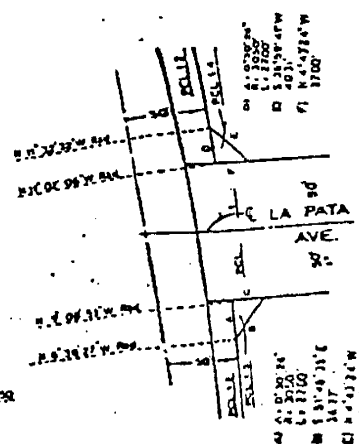
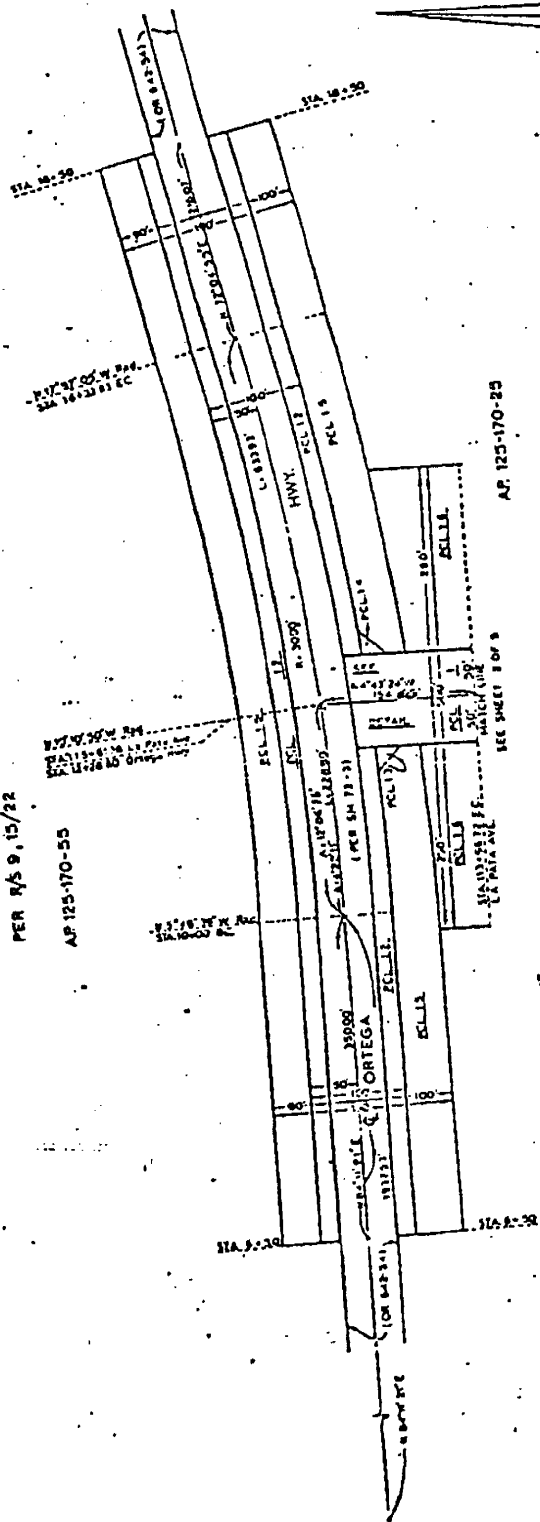




SECT. 33, T.7S., R.7W.  
PER MS 9, 15/22

AP 125-170-55

AP 125-170-25



NO.	ACRES	OWNER	DATE
1		LA ORTEGA HWY. SEC 13	1/1/22
2		LA PATA AVE	1/1/22
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Proj REFUSE DISPOS  
STATION #26  
Project No. GA 126-1.1  
Date: 4-12-73

GRANT DEED

That portion of the Rancho Mission Viejo or La Paz as shown on a map recorded December 19, 1867, in Book 1, Pages 63 and 64 of Patents, Records of Los Angeles County, California, described as follows:

Commencing at a 2" Iron Pipe in the Southwesterly line of said Rancho Mission Viejo or La Paz as shown on a map filed in Book 92, Page 15, Records of Surveys, Records of Orange County, California, distant thereon S. 19° 17' 42" E., 7376.12 feet from the Rancho Mission Viejo Corner No. 3 as shown on said Record of Survey map; thence along said Rancho line S. 19° 17' 42" E., 2650.00 feet; thence leaving said Rancho line following along a line which passes through a point in the boundary line of the land shown on said Record of Survey Map distant thereon S. 15° 17' 51" E., 2517.46 feet from the Northerly terminus of that certain course in said boundary line shown as "N. 15° 17' 51" W., 3639.95 feet", N. 70° 52' 17" E., 4303.81 feet to the TRUE POINT OF BEGINNING; thence S. 19° 07' 36" E., 3735.21 feet to the boundary line of the land shown on said Record of Survey map; thence along said boundary line through the following described courses: S. 39° 31' 40" W., 2087.60 feet; thence N. 39° 02' 02" W., 2591.37 feet; thence S. 35° 32' 42" W., 1577.06 feet; thence N. 66° 09' 36" W., 468.95 feet to said Southwesterly line of the Rancho Mission Viejo or La Paz; thence along said Rancho line N. 19° 17' 42" W., 2976.85 feet to the Westerly terminus of the aforescribed course having a bearing of "N. 70° 52' 17" E."; thence along said course N. 70° 52' 17" E., 4303.81 feet to the TRUE POINT OF BEGINNING.

The aforescribed parcel is included within the boundary of the land shown on a map filed in Book 92, Page 15, Records of Surveys, Records of said Orange County.

APPROVED AS TO DESCRIPTION

L. McCONVILLE

ROAD COMMISSIONER & COUNTY SURVEYOR

By Lawrence L. Bacon  
Deputy County Surveyor

Proje REFUSE DISPOSAL  
STATION #26  
Project No. GA 126-1.2  
Date: 4-12-73

GRANT DEED

That portion of the Rancho Mission Viejo or La Paz as shown on a map recorded December 19, 1867, in Book 1, Pages 63 and 64 of Patents, Records of Los Angeles County, California, described as follows:

Commencing at a 2" Iron Pipe in the Southwesterly line of said Rancho Mission Viejo or La Paz as shown on a map filed in Book 92, Page 15, Records of Surveys, Records of Orange County, California, distant thereon S. 19° 17' 42" E., 7376.12 feet from the Rancho Mission Viejo Corner No. 3 as shown on said Record of Survey map; thence along said Rancho line S. 19° 17' 42" E., 2650.00 feet; thence leaving said Rancho line following along a line which passes through a point in the boundary line of the land shown on said Record of Survey map distant thereon S. 15° 17' 51" E., 2517.46 feet from the Northerly terminus of that certain course in said boundary line shown as "N. 15° 17' 51" W., 3639.95 feet", N. 70° 52' 17" E., 4303.81 feet to the TRUE POINT OF BEGINNING; thence S. 19° 07' 36" E., 3735.21 feet to the boundary line of the land shown on said Record of Survey map; thence along said boundary line through the following described courses: N. 39° 31' 40" E., 1138.79 feet; thence N. 18° 16' 46" E., 1113.08 feet; thence N. 31° 26' 35" W., 1165.59 feet; thence N. 15° 17' 51" W., 1122.49 feet to the Easterly prolongation of the aforedescribed course described as "N. 70° 52' 17" E., 4303.81 feet"; thence along said prolongation S. 70° 52' 17" W., 1475.36 feet to the TRUE POINT OF BEGINNING.

The aforedescribed parcel is included within the boundary of the land shown on a map filed in Book 92, Page 15 of Records of Surveys, Records of said Orange County.

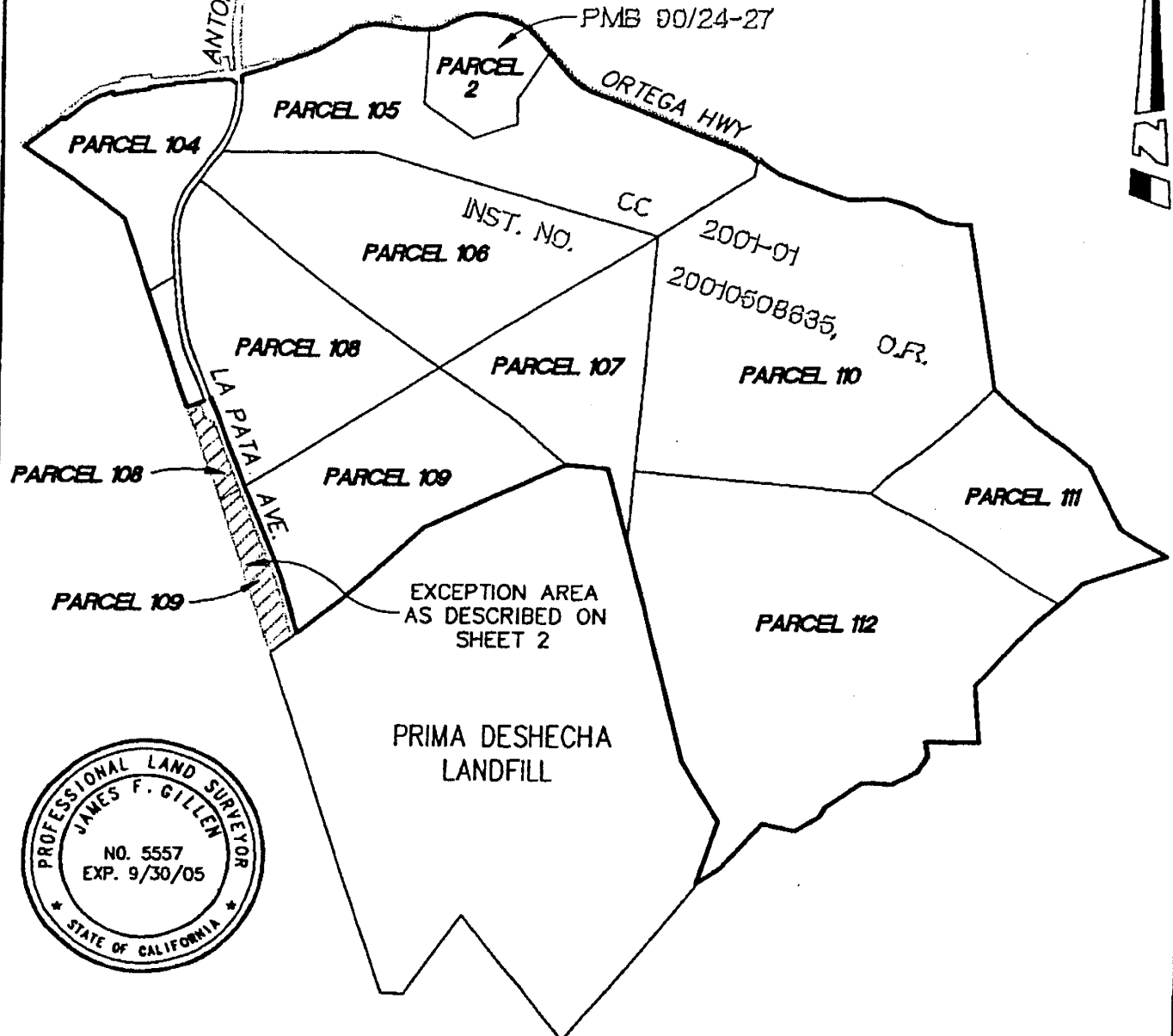
APPROVED AS TO DESCRIPTION  
L. McCONVILLE  
ROAD COMMISSIONER & COUNTY SURVEYOR  
By Lawrence F. Bacon  
Deputy County Surveyor

**ATTACHMENT 4**

RMV Benefitted Property



**ATTACHMENT 4  
RMV BENEFITTED PROPERTY**

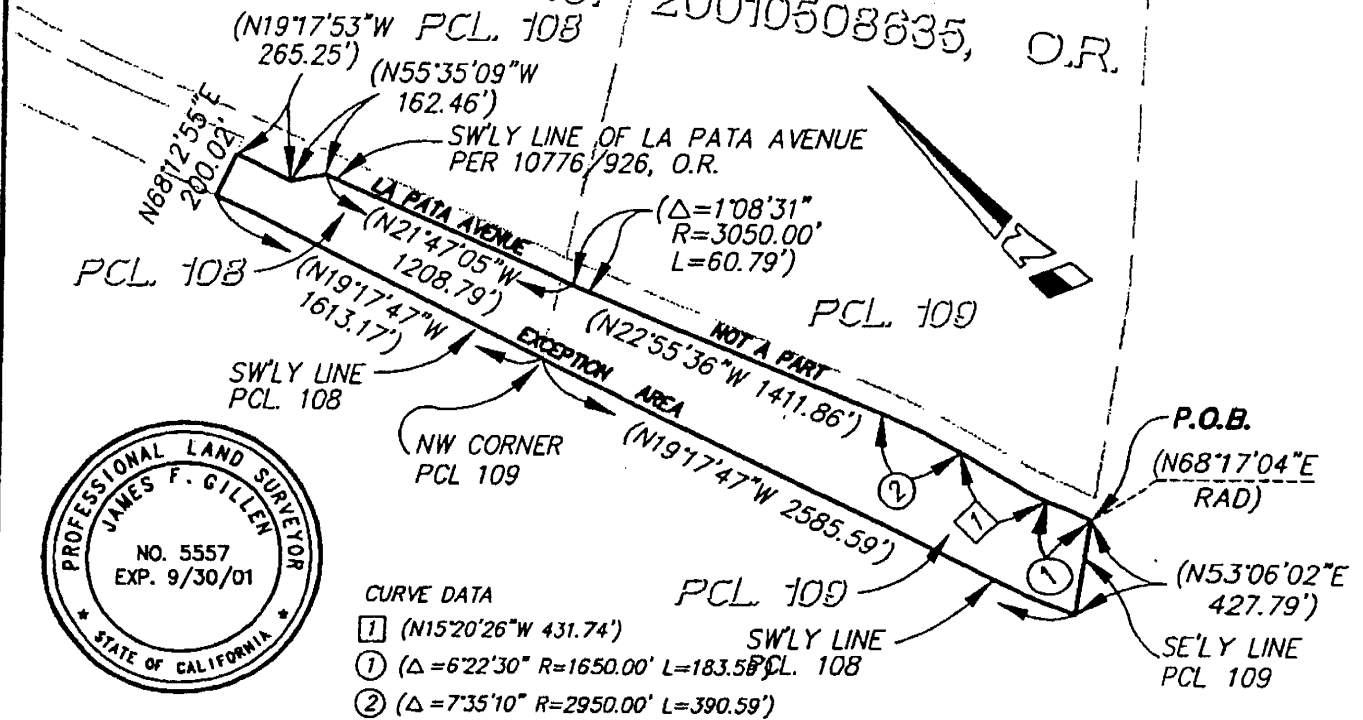


PARCELS 104, 105, 106, 107, 108, 109, 110, 111, & 112 INCLUSIVE OF CERTIFICATE OF COMPLIANCE NO. CC-2001-01 IN THE UNINCORPORATED TERRITORY OF THE COUNTY OF ORANGE, STATE OF CALIFORNIA, AS SHOWN ON THAT CERTAIN DOCUMENT RECORDED JULY 26, 2001 AS INSTRUMENT NO. 20010508635 OF OFFICIAL RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, TOGETHER WITH PARCEL 2 IN SAID UNINCORPORATED TERRITORY OF SAID COUNTY OF ORANGE AS SHOWN ON THE MAP RECORDED IN BOOK 90, PAGES 24 THROUGH 27 INCLUSIVE OF PARCEL MAPS, IN THE OFFICE OF SAID COUNTY RECORDER.  
EXCEPTING THEREFROM THAT PORTION AS DESCRIBED HEREIN ON SHEET 2 OF 2.

SHT 1 OF 2

<p><b>HUITT-ZOLLARS</b> Huitt-Zollars, Inc. Irvine 430 Exchange, Suite 200, Irvine, CA 92602-1309 Phone (714) 734-5100 Fax (714) 734-5155</p>	<p align="center"><b>MAP AND LEGAL DESCRIPTION OF RMV BENEFITTED PROPERTY</b></p>	<p>SCALE 1"=2500'</p>
		<p>DRAWN BY RHH</p>
<p>APPROVED BY _____</p>		<p>CHECKED BY JFG</p>
		<p>DATE 9/16/02</p>
		<p>JOB NO. 10-0755-01</p>

CC  
 INST. NO. 2001-01  
 20010508635, O.R.



( ) INDICATES RECORD INFORMATION PER INST. NO. 20010508635 O.R.

THOSE PORTIONS OF PARCELS 108 & 109 OF CERTIFICATE OF COMPLIANCE NO. 2001-01 IN THE UNINCORPORATED TERRITORY OF THE COUNTY OF ORANGE, STATE OF CALIFORNIA, AS SHOWN ON THAT CERTAIN DOCUMENT RECORDED JULY 26, 2001 AS INSTRUMENT NO. 20010508635 OF OFFICIAL RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, DESCRIBED AS FOLLOWS:

BEGINNING AT THE GENERAL NORTHEASTERLY TERMINUS OF THAT CERTAIN COURSE SHOWN AS "N53°06'02"E 427.79'" FOR THAT PORTION OF THE SOUTHEASTERLY LINE OF SAID PARCEL 109 AS SHOWN ON SAID CERTIFICATE OF COMPLIANCE NO. 2001-01; THENCE ALONG SAID SOUTHEASTERLY LINE AND THE SOUTHWESTERLY LINE OF SAID PARCEL 109 THE FOLLOWING COURSES: S53°06'02"W 427.79 FEET, AND N19°17'47"W 2585.59 FEET TO THE NORTHWESTERLY CORNER OF SAID PARCEL 109, THENCE CONTINUING ALONG THE SOUTHWESTERLY LINE OF SAID PARCEL 108, N19°17'47"W 1613.17 FEET; THENCE LEAVING SAID SOUTHWESTERLY LINE N68°12'55"E 200.02' TO THE SOUTHWESTERLY LINE OF LA PATA AVENUE AS DESCRIBED IN THE DEED RECORDED IN BOOK 10776, PAGE 926 OF SAID OFFICIAL RECORDS, THENCE ALONG SAID SOUTHWESTERLY LINE OF LA PATA AVENUE, THE FOLLOWING COURSES: S19°17'53"E 265.25 FEET, S55°35'09"E 162.46 FEET, S21°47'05"E 1208.79 FEET TO THE BEGINNING OF A CURVE CONCAVE NORTHEASTERLY HAVING A RADIUS OF 3050.00 FEET, SOUTHEASTERLY 60.79 FEET ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 1°08'31", S22°55'36"E 1411.86 FEET TO THE BEGINNING OF A CURVE CONCAVE SOUTHWESTERLY HAVING A RADIUS OF 2950.00 FEET, SOUTHEASTERLY 390.59 FEET ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 7°35'10", S15°20'26"E 431.74 FEET TO THE BEGINNING OF A CURVE CONCAVE NORTHEASTERLY HAVING A RADIUS OF 1650.00 FEET, SOUTHEASTERLY 183.59' ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 6°22'30" TO THE POINT OF BEGINNING.

SHT 2 OF 2

# HUITT-ZOLLARS

Huitt-Zollars, Inc. Irvine  
 430 Exchange, Suite 200, Irvine, CA 92602-1309  
 Phone (714) 734-5100 Fax (714) 734-5155

APPROVED BY

## MAP AND LEGAL DESCRIPTION OF EXCEPTION AREA

SCALE 1"=800'

DRAWN BY RHH

CHECKED BY JRD

DATE 9/16/02

JOB NO. 10-0755-01

**ATTACHMENT 5**

Resolution No. 01-380

1  
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3 RESOLUTION OF THE BOARD OF SUPERVISORS OF  
4 ORANGE COUNTY, CALIFORNIA

5 November 6, 2001

6 WHEREAS, Draft Environmental Impact Report No. 575 (DEIR 575) was prepared for the 2001 Prima  
7 Deshecha Landfill General Development Plan to address the environmental effects, mitigation measures, and  
project alternatives associated with the proposed project; and

8 WHEREAS, on March 29, 1999, the County issued a Notice of Preparation/Initial Study for the 2001  
9 Prima Deshecha General Development Plan EIR, and caused that Notice of Preparation to be distributed to a  
responsible agencies, trustee agencies and interested parties; and

10 WHEREAS, pursuant to the initial study prepared for the 2001 Prima Deshecha General Development  
11 Plan EIR, and comments received in response to the Notice of Preparation, the County prepared Draft  
Environmental Impact Report 575 (State Clearinghouse Number 99041035); and

12 WHEREAS, a Notice of Completion for this DEIR was filed on February 5, 2001, giving public notice  
13 of the availability of the DEIR for review and comment; and

14 WHEREAS, public comments have been received on the Draft EIR, and responses to those comments  
15 have been prepared and provided to the Board of Supervisors in a separately bound document entitled "Final  
Program Environmental Impact Report - Responses to Public Comments" (the "Responses to Comments"); and

16 WHEREAS, consistent with CEQA Guidelines Section 15132, the DEIR and appendices, the Response  
17 to Comments and IWMD Staff Reports to the Planning Commission and Board of Supervisors, including all  
minutes, transcripts, attachments, incorporation, and references, comprise the proposed Final Environmental  
Impact Report for the Project, and contain all information specified by that CEQA Guideline; and

18 WHEREAS, Memoranda of Understanding regarding the Prima Deshecha Landfill between the County  
19 of Orange and the Cities of San Juan Capistrano and San Clemente were signed by the County on September 12,  
1995 and July 1, 1997, respectively, to ensure the implementation of mitigation measures; and

20 WHEREAS, the IWMD prepared a proposed Final Responses to Comments document for the Planning  
21 Commission for review as an advisory body to the Board of Supervisors on such matters; and

22 WHEREAS, a noticed public hearing for October 9, 2001 was continued to October 24, 2001, to receive  
and consider public testimony with respect to the Final EIR; and

23 WHEREAS, the Planning Commission acted in conformity with the IWMD recommendation that it  
24 advise the Board of Supervisors to find that the proposed Final EIR be certified as adequate; and

25 and WHEREAS, the Planning Commission is an advisory body to the Board of Supervisors on this matter;

26 //

27 //

28 RESOLUTION NO. 01-380

Approve 2001 General Development  
Plan for Prima Deshecha Property

1 WHEREAS, a mitigation monitoring and reporting program has been drafted to meet the requirements  
2 Public Resources Code section 21081.6 as a Mitigation Measure Monitoring Program. This program is design  
3 to ensure compliance with project changes imposed and mitigation measures imposed to avoid or substantia  
4 lessen the significant effects identified in the Final EIR. The mitigation monitoring and report checklist, which  
5 included in the Final EIR and incorporated herein by reference, defines the following for each mitigation measu

- 6 1. Method and Timing of Verification - In each case, a method and time for verification of the mitigation,  
7 review of evidence that mitigation has taken place, is provided. The method and verification poin  
8 selected are designed to ensure that impact related components of project implementation are adequate  
9 addressed and do not proceed without establishing that the mitigation is assured.
- 10 2. Responsible Person - In each case, a public official is named in the mitigation measure as responsible f  
11 ensuring that the mitigation is carried out. To guarantee that the mitigation measure will not  
12 inadvertently overlooked in connection with the issuance of a later permit, the supervising public offici  
13 who grants the permit called for in the performance is named.
- 14 3. Definition of Mitigation - In each case (except where a mitigation, such as a geotechnical report, is a wel  
15 known procedure or commonly understood term), the mitigation measure contains the criteria fo  
16 mitigation, either in the form of adherence to certain adopted regulations or identification of the steps t  
17 be taken in mitigation; and

18 WHEREAS, Section 21081 of CEQA and Section 15091 of the Guidelines require that the Board c  
19 Supervisors make one or more of the following findings prior to approval of a project for which an EIR has bee  
20 completed, identifying one or more significant effects of the project along with statements of facts supportin  
21 each finding:

22 Finding 1 - Changes or alterations have been required in, or incorporated into, the project that avoid o  
23 substantially lessen the significant environmental effect as identified in the final EIR.

24 Finding 2 - Such changes or alterations are within the responsibility and jurisdiction of another public  
25 agency and not the agency making the finding. Such changes have been adopted by such other agency or  
26 can and should be adopted by such other agency.

27 Finding 3 - Specific economic, legal, social, technological, or other considerations, including provision of  
28 employment opportunities for highly trained workers, make infeasible the mitigation measures or project  
29 alternatives identified in the final EIR.

30 NOW THEREFORE, BE IT RESOLVED THAT:

- 31 1. The Board of Supervisors hereby certifies the Final EIR prepared for the Prima Deshecha Landfill project  
32 as complete and adequate in that it addresses all environmental effects of the proposed project, including  
33 approval of a General Development Plan, and fully complies with the requirements of the California  
34 Environmental Quality Act and State CEQA Guidelines. The Final EIR will be composed of the  
35 following elements:
  - 36 a. Draft EIR;
  - 37 b. Technical Appendices to the Draft EIR;
  - 38 c. Comments received on the draft EIR and responses to these comments;
  - 39 d. Integrated Waste Management Department staff report dated October 9, 2001;
  - 40 e. Planning Commission minutes;

- 1 f. Board of Supervisors staff report, Agenda Item Transmittal, resolution, and minutes;
- 2 g. All attachments, incorporations, and references delineated in a. through f. above.

3 All of the above information referred to in this resolution has been or will be on file with the County  
4 Orange Integrated Waste Management Department, 320 North Flower Street, Santa Ana, California.

5 2. The Board of Supervisors makes the findings contained in the attached Statement of Findings and Fa  
6 with respect to significant impacts identified in the Final EIR and find that each fact in support of t  
7 findings is true and is based upon substantial evidence in the record, including the Final EIR. T  
8 Statement of Findings and Facts is attached hereto and incorporated into Exhibit A and incorporat  
9 herein by this reference.

10 3. The Board finds that the Final EIR has identified all significant environmental effects of the project a  
11 that there are no known potential environmental impacts not addressed in the Final EIR.

12 4. The Board finds that all significant effects of the project are set forth in the Statement of Findings a  
13 Facts and the Final EIR.

14 5. The Board finds that the Final EIR has described all reasonable alternatives to the project that cou  
15 feasibly obtain the basic objectives of the project (including the "No Project" Alternative), even whe  
16 these alternatives might impede the attainment of project objectives and might be more costly.

17 6. This Board finds that no substantial evidence has been presented which would call into question the fac  
18 and conclusions in the EIR.

19 7. The Board finds that no significant new information has been added to this EIR pursuant to Californi  
20 Code of Regulations section 15088.5 such that recirculation for additional public review is necessary.

21 8. This Board finds that, although Final EIR 575 identifies certain significant environmental effects that ma  
22 occur if a General Development Plan is approved, all significant effects that can feasibly be mitigated o  
23 avoided have been reduced to an acceptable level by the imposition of mitigation measures set forth in th  
24 "Mitigation Monitoring and Reporting Program," attached hereto and marked as Exhibit B.

25 9. This Board finds that the "Mitigation Monitoring and Reporting Program" for the 2001 Prima Deshecha  
26 General Development Plan, attached hereto and marked as Exhibit B, establishes a mechanism and  
27 procedures for implementing and verifying the mitigations pursuant to Public Resources Code section  
28 21081.6.

10. This Board adopts the "Mitigation Monitoring and Reporting Program" for the 2001 Prima Deshecha  
General Development Plan, attached hereto and marked as Exhibit B and made a part hereof. These  
mitigation measures shall be incorporated into the 2001 Prima Deshecha General Development Plan prior  
to or concurrent with project implementation.

11. This Board finds that the unavoidable significant adverse effects of the 2001 Prima Deshecha General  
Development Plan project identified in Exhibit A attached hereto (Statement of Findings and Facts), that  
have not been reduced to a level of less than significant have been substantially lessened in their severity  
by the imposition of the mitigation measures identified in Exhibit B. This Board finds that the remaining  
unavoidable significant impacts are clearly outweighed by the economic, social, and other benefits of the  
2001 Prima Deshecha General Development Plan project, as set forth in the "Statement of Overriding  
Considerations," attached hereto as Exhibit C and made a part hereof.

12. This Board adopts the recitation of overriding considerations, notwithstanding certain unavoidable  
significant environmental effects which cannot feasibly be substantially mitigated as set forth in the  
document entitled "Statement of Overriding Considerations," attached hereto as Exhibit C and made a  
part hereof.

- 1 13. This Board finds that Final EIR 575 reflects the independent review and judgment of the County  
2 Orange.
- 3 14. This Board finds that Final EIR 575 serves as adequate and appropriate environmental documentation of  
4 the Proposed 2001 Prima Deshecha General Development Plan Project.

5 **BE IT FURTHER RESOLVED THAT** this Board of Supervisors hereby certifies Final EIR 575 is  
6 complete and adequate in that Final EIR 575 addresses all environmental effects of the Proposed 2001 Prima  
7 Deshecha General Development Plan Project and fully complies with the requirements of the CEQA Statute, the  
8 State CEQA Guidelines, and the County's environmental analysis procedures. This Board of Supervisors hereby  
9 approves the 2001 Prima Deshecha General Development Plan with the following conditions:

- 10 1. "No later than ninety (90) days following approval of the 2001 General Development Plan (GDP) by the  
11 Orange County Board of Supervisors, the Integrated Waste Management Department (IWMD) Director  
12 in cooperation with the City Manager of the City of San Juan Capistrano, will convene a Task Force to  
13 determine the feasibility of minimizing traffic noise associated with haul trucks on that segment of Ortega  
14 Highway between Rancho Viejo Road, and the easterly City limit. The purpose and responsibility of the  
15 Task Force will be to develop within a 12-month period from date of formation, a landfill traffic noise  
16 management program shall include, but not limited to the following:
- 17 • retrofitting heavy commercial, trucks which haul waste to the landfill with noise damping accessories  
18 to eliminate the metal-on-metal impact noise and rattling associated with such trucks.
  - 19 • periodic road inspection, and repair at the cost of IWMD for La Pata Avenue (between Ortega  
20 Highway and the landfill) and Ortega Highway (between Rancho Viejo Road and the easterly city  
21 limit) with the objective of eliminating potholes and other pavement deterioration caused by landfill  
22 traffic and maintaining an even, consistent road surface.
  - 23 • work with CalTrans on implementing prohibition on the use of "Jake" brakes along La Pata Avenue  
24 (between Ortega Highway and the landfill) and Ortega Highway (between Rancho Viejo Road and  
25 the easterly city limit)."
- 26 2. This Board approves in concept the alignment for La Pata as proposed, with the understanding that future  
27 modifications to the alignment may be necessary. Any future modifications to this alignment are to be  
28 defined through coordination with the City of San Clemente, and approval subject to subsequent CEQA  
analysis and documentation.
3. Following approval by the Orange County Board of Supervisors of the 2001 Prima Deshecha General  
Development Plan (GDP), and prior to any grading of landfill Zone 4, the Integrated Waste Management  
Department (IWMD) Director, in cooperation with the City Manager of the City of San Clemente, will  
prepare a Zone 4 Viewshed Protection Plan (VPP) for viewpoints, identified by the City Manager, City of  
San Clemente. The preliminary public viewpoints are: A - the approximate center of the proposed High  
School site at the corner of La Pata and Hermosa; B - K-8 school site; and C - Salida intersection with  
unnamed street. The VPP will involve a landscaping plan, landform or contour grading plan, and  
implementation schedule, mutually agreed to by the City and County.
- IWMD will review and consult with the City of San Clemente regarding traffic, water quality, viewsheds,  
and landscape mitigation whenever IWMD reviews and updates the Prima Deshecha Solid Waste  
Facilities Permit.

26 //

27 //

28 //

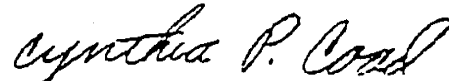
- 1 4. For the purpose of protecting San Diego Gas & Electric (SDG&E) facilities and access to those facilities,  
2 prior to any grading, development of projects, or establishment of trails on Prima Deshecha property  
3 which require encroachment into the SDG&E right-of-way, or which affect those facilities or access  
4 thereto, IWMD will coordinate with Sempra Energy. Implementation of those elements of the plans that  
5 would affect SDG&E facilities will comply with SDG&E requirements pertaining to the design  
6 operation of the project to protect SDG&E facilities, including recovery of any cost from the County  
7 Orange from any temporary or permanent relocation of facilities and/or temporary outages.
- 8 5. Following approval by the Orange County Board of Supervisors of the 2001 Prima Deshecha GDP, prior  
9 to any grading of landfill Zone 4, or at an appropriate time in the planning entitlement process for the  
10 RMV property to be developed to the north and east of the Prima Deshecha property – such time to be  
11 determined by the Director of Planning for the County of Orange – the Integrated Waste Management  
12 Department (IWMD) Director, will conduct a Zone 4 viewshed analysis for public viewpoints from the  
13 RMV property identified by the Director of Planning. Depending on the exposure of the landfill Zone 4  
14 to the RMV development, a Viewshed Protection Plan (VPP) may be required. If required, the VPP will  
15 be prepared by the IWMD Director and may involve a landscaping plan, a landform or contour grading  
16 plan, and implementation schedule, mutually agreed to by the Director of Planning and the IWMD  
17 Director.
- 18 6. Representatives of the County Planning Department will, as soon as may be practical, meet with Rancho  
19 Mission Viejo (RMV) to discuss any long range proposals RMV has for development of the property it  
20 owns adjacent to the north-eastern edge of the Landfill. The purpose of such discussions shall be to work  
21 towards development of a mutually acceptable means to plan for compatibility between landfill activities  
22 conducted by the County in Zone 4 and potential future development of the property adjacent to the  
23 Landfill owned by RMV.

24 //  
25 //  
26 //  
27 //  
28 //



The foregoing was passed and adopted by the following vote of the Orange County Board of Supervisors, on November 06, 2001, to wit:

AYES: Supervisors: THOMAS W. WILSON, TODD SPITZER, CHARLES V. SMITH  
JAMES W. SILVA, CYNTHIA P. COAD  
NOES: Supervisor(s):  
EXCUSED: Supervisor(s):  
ABSTAINED: Supervisor(s):

  
\_\_\_\_\_  
CHAIR

STATE OF CALIFORNIA )  
                                  )  
COUNTY OF ORANGE )

I, DARLENE J. BLOOM, Clerk of the Board of Orange County, California, hereby certify that a copy of this document has been delivered to the Chair of the Board and that the above and foregoing Resolution was duly and regularly adopted by the Orange County Board of Supervisors.

IN WITNESS WHEREOF, I have hereto set my hand and seal.



  
\_\_\_\_\_  
DARLENE J. BLOOM  
Clerk of the Board  
County of Orange, State of California

Resolution No: 01-380  
Agenda Date: 11/06/2001  
Item No: 56



I certify that the foregoing is a true and correct copy of the Resolution adopted by the Board of Supervisors, Orange County, State of California

DARLENE J. BLOOM, Clerk of the Board of Supervisors

By: \_\_\_\_\_  
Deputy

# **APPENDIX E**

**GLA Report  
January 2004**



# GeoLogic Associates

Geologists, Hydrogeologists and Engineers

January 6, 2004  
GLA JN 9637

Bryan A. Stirrat & Associates  
1360 Valley Vista Drive  
Diamond Bar, CA 91765

Attention: Christine Arbogast, Vice President

## **ANALYSIS OF GROUNDWATER RESOURCES IN ZONE 4 PRIMA DESHECHA LANDFILL ORANGE COUNTY, CALIFORNIA**

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GeoLogic Associates (GLA) is pleased to provide this letter report describing our analysis of groundwater resources available in the Zone 4 development area of the Prima Deshecha Landfill. The analysis presented herein is based on the available geologic, hydrogeologic, and climatic data for the site. It is noted that geotechnical and groundwater studies for the Zone 4 Master Plan were conducted for the specific purpose of obtaining geologic and hydrogeologic design criteria for the future landfill. As a result, there is little site-specific information for evaluating the actual groundwater resources in Zone 4, as much of this resource lies below the elevations that were explored to obtain landfill design information. Site specific geologic information is utilized wherever possible; and where specific data were not available, the references or justification for the assumptions used are provided.

### **BACKGROUND**

As part of the ongoing development of the Prima Deshecha Landfill (PDLF), the United States Army Corps of Engineers, United States Fish and Wildlife Service, the State of California Department of Fish and Game, and the Regional Water Quality Control Board (resource agencies) have required the County of Orange Integrated Waste Management Department (COIWMD) to put forth efforts to replace sensitive biological resources disturbed or removed for landfill operations and /or construction of ancillary facilities. Landslides that occurred as a result of heavy rainfall associated with the 1997/1998 "El Nino" required stabilization in order to further the development of the landfill Master Plan. While numerous stabilization options were considered, the stabilization option selected as the most technically sound and cost-effective resulted in re-alignment of Prima Deshecha Canada Creek (creek), the principal surface water course that runs through the landfill property. Realignment of the creek would result in removal or disturbance of large quantities of riparian habitat. Approval of the preferred landslide mitigation alternative by the resource agencies was contingent upon restoration of the habitat in the realigned creek channel. Currently, the primary source of water for the creek is supplied by precipitation runoff and from a groundwater spring located near the center of the proposed Zone 4 landfill in the eastern portion of the site. On average, the PDLF receives approximately 10.2 inches of rainfall per year (GLA, 2002; Converse

Consultants, 1992). Approximately 90 percent of the precipitation falls on the site between December and March. After that time, the only source of surface water to the creek is from spring flow. Based on field observations and geological investigations (GLA, 2002), the spring is apparently fed from groundwater stored in the Monterey Formation and uppermost San Onofre Breccia. A splay of the Forster Fault juxtaposes low-permeability claystone of the Capistrano Formation against the higher permeability breccia and conglomerate of the San Onofre Breccia. As a result of this permeability contrast and the local topography, groundwater surfaces and continues to flow in the creek. At some distance from the spring, the surface water submerges into the alluvium. That distance varies throughout the year and is apparently dependent upon the flow rate of the spring, the time since last rainfall, the amount of vegetation utilizing the surface water and alluvial groundwater, the amount of alluvial soils in the channel, and other factors. The spring has provided some water to the ground surface throughout the operating life of the landfill, and the resource agencies have indicated that the preferred source of water to the habitat restoration areas is the spring water.

Recognizing that the source of the spring water is tied into recharge of water bearing strata in Zone 4, and that future landfill development in this area would reduce the area of recharge to the spring, BAS requested that GLA estimate the amount of water available in these strata and determine the length of time that water could be provided in to the spring, during (or after) the development of Zone 4. Utilizing limited, available geologic, hydrologic, hydrogeologic, and climatic data for the site, GLA analyzed the available water resources in Zone 4. Geologic and hydrogeologic studies for the Zone 4 area have been conducted to evaluate the geotechnical character of the soils and bedrock in this area, and have not evaluated groundwater resources to any detail. As a result, the analysis presented herein includes assumptions pertaining to the hydrogeologic character of similar bedrock units. Furthermore, this analysis only provides an assessment of water quantities; no assessment of water quality and its effect on the proposed habitat mitigation areas is provided.

### ANALYSIS ASSUMPTIONS

The following table summarizes the model scenarios analyzed and the ranges of input parameters.

INPUT PARAMETER	SCENARIOS				
	Conservative	Moderately Conservative	Moderate	Moderately Optimistic	Optimistic
Volume of Saturated San Onofre Breccia	47,115,000 cubic yards				
Volume of Saturated Monterey Sandstone	5,495,000 cubic yards				
Volume of Saturated Monterey Siltstone	20,192,500 cubic yards				
Porosity of the San Onofre Breccia	5%	7%	7%	7%	8%
Specific Yield of the San Onofre Breccia	1%	3%	3%	3%	5%
Porosity of the Monterey Sandstone	5%	10%	10%	10%	15%
Specific Yield of the Monterey Sandstone	5%	10%	10%	10%	15%
Porosity of the Monterey Siltstone	15%	20%	20%	20%	25%
Specific Yield of the Monterey Siltstone	1%	2%	2%	2%	2.5%
Flow Rate of the Spring	4.5 gpm	4.5 gpm	4 gpm	3.5 gpm	3.5 gpm
Annual Rainfall	9.5 inches	9.5 inches	10.2 inches	12.5 inches	14.0 inches
Rainfall Runoff	75%	75%	70%	65%	65%
Evapotranspiration	25%	25%	20%	15%	15%

The derivation of these assumed values is described below.

**The Bedrock is Uniformly Saturated:** The results of field investigations conducted for the Zone 4 Master Plan suggest that a portion of Monterey Formation located in the northern half of Zone 4 is unsaturated; however, for this analysis, it is assumed that the bedrock beneath the groundwater equipotential contours is uniformly saturated. The groundwater equipotential contours were developed from groundwater elevation data collected from eleven groundwater-monitoring wells screened in bedrock at the PDLF. The data used in this analysis were collected in 1997 and represent “average” rainfall conditions (Figure 1). Groundwater elevation data collected after this time would reflect “El Nino” conditions, and may be unusually high.

**Water Source:** Portions of the Monterey Formation and San Onofre Breccia within the topographic catch area of the spring provide water for the Zone 4 spring. This assumption follows generally accepted hydrogeologic principles and provides a finite area from which to determine the potential volume of available groundwater. This assumption is graphically presented on Figures 2, 3, and 4.

**Quantity of Water Available in the Bedrock:** The quantity of water in the bedrock is equal to the volume of the formation under the groundwater potentiometric surface within the catch area of the spring multiplied by the formation porosity: If total saturation is assumed (as stated in Assumption No. 2), then the volume of water is equivalent to the pore volume of the of the formation. Porosity values were not obtained as part of the Zone 4 Master Plan geotechnical investigations. The saturated interval of the Monterey Formation includes an upper siltstone member and a lower sandstone member. The San Onofre Breccia is a cemented sandstone and breccia/conglomerate with little observed primary porosity. Secondary porosity in the San Onofre Breccia includes jointing and faulting of the rock, and is likely to be the prime conveyance mechanism for groundwater in this unit. For the analysis, porosity values of these formations were varied using representative values for similar rock types (Driscoll, 1986).

**Quantity of Free Groundwater:** Free groundwater is that quantity of groundwater that can flow to a spring under gravity or to a well by pumping. The specific yield of an aquifer is that percentage of the water volume that can flow to a spring or well. Water left in the aquifer is held there by molecular attraction to soil particles and by capillarity (surface tension). Sufficient field data were not obtained during the Zone 4 Master Plan investigations to determine the specific yield of the bedrock units in Zone 4. As a result, specific yield values were assigned to the Monterey Formation members and San Onofre Breccia based on published values for similar bedrock materials (Driscoll, 1986).

For this analysis, all available free groundwater in the Monterey Formation and San Onofre Breccia is assumed to be discharged through the spring. The analysis assumes that there is no vertical movement of groundwater below the spring elevation, and that there is no lateral movement of groundwater beyond the catch area of the spring and

through other minor seeps and springs. As a result, this assumption provides more groundwater to the spring than is likely to be available under natural conditions.

**Spring Flow Rate:** For this analysis, the rate of spring flow varies between 3.15 and 4.5 gallons per minute (gpm). Although the 1992 Converse Report indicates flow rates of 2 to 5 gpm, no historical stream gauging data are available, though field observations suggest that these values are appropriate. A minimum value of 3.15 gallons per minute was used herein to be consistent with a hydrologic evaluation for the Zone 1 landslide remediation project habitat mitigation program (GLA, 2002). The analysis assumes that the spring flows all year long at a constant rate.

**Rainfall, Runoff, and Evapotranspiration Data:** Historical rainfall data were obtained from the California Irrigation Management Information System (CIMIS). Ten years of historical data from a weather station in Irvine, California indicate that the average annual rainfall in this area is 10.2 inches. Conservative analyses utilize lower values that might occur during drought periods. Optimistic analyses utilized higher values that might occur during a series of "El Nino" years. Rainfall rates ranging from 9.5 to 14.0 inches per year were considered to fall within a range of reasonable, sustainable rainfall values for this analysis.

The percentage of rainfall lost to runoff was estimated based on soil type, hydraulic gradient in this area of Zone 4, and general intensity of storm events for the landfill site. Balcom and Bosanko soils typically overlie the siltstone units of the Monterey Formation (which, in turn, overlie the Monterey Sandstone and San Onofre Breccia). These soils have very slow infiltration rates ranging from 0.06 to 0.2 inches per hour (Converse Consultants, 1992). The amount of precipitation that is absorbed into the soil to become available for groundwater recharge was estimated by varying the runoff and evapotranspiration values.

## **ANALYTICAL RESULTS**

Modeling was performed using basic mathematical formulae to determine the length of time water might be available for habitat recharge using the constants and variables described above. Based on these calculations, the "worst case" or most conservative scenario would indicate that the groundwater resources in Zone 4 could only supply water for a period of about 6 years after the recharge area is impacted. Based on the Zone 4 phasing proposed in the Amended 2001 General Development Plan for the PDLF, the greater portion of the recharge area is anticipated to be impacted by 2045. The "best case" or most optimistic scenarios suggests that the Zone 4 groundwater resources could supply water to the habitat mitigation areas for a period of up to 52 years after the recharge area is impacted. These results are summarized in the table below:

INPUT PARAMETER	SCENARIOS				
	Conservative	Moderately Conservative	Moderate	Moderately Optimistic	Optimistic
Volume of Saturated San Onofre Breccia	47,115,000 cubic yards				
Volume of Saturated Monterey Sandstone	5,495,000 cubic yards				
Volume of Saturated Monterey Siltstone	20,192,500 cubic yards				
Porosity of the San Onofre Breccia	5%	7%	7%	7%	8%
Specific Yield of the San Onofre Breccia	1%	3%	3%	3%	5%
Porosity of the Monterey Sandstone	5%	10%	10%	10%	15%
Specific Yield of the Monterey Sandstone	5%	10%	10%	10%	15%
Porosity of the Monterey Siltstone	15%	20%	20%	20%	25%
Specific Yield of the Monterey Siltstone	1%	2%	2%	2%	2.5%
Flow Rate of the Spring	4.5 gpm	4.5 gpm	4 gpm	3.5 gpm	3.5 gpm
Annual Rainfall	9.5 inches	9.5 inches	10.2 inches	12.5 inches	14.0 inches
Rainfall Runoff	75%	75%	70%	65%	65%
Evapotranspiration	25%	25%	20%	15%	15%

## CONCLUSION

The Zone 4 groundwater availability analyses presented herein were performed to obtain a gross quantity of water that might be available for habitat restoration uses at the Prima Deshecha Landfill. It is not a groundwater flow model nor were groundwater-flow modeling codes used in this analysis. More detailed analysis of the available groundwater resources in Zone 4 should be preceded by a hydrogeologic investigation designed to obtain specific water storage and transmission characteristics of the local water-bearing units. It should be noted, however, that a more detailed analysis may provide a tighter range of results, but it is unlikely that the results would indicate greater resource sustainability.

The available quantities of water determined in this analysis are based on gravity flow of water stored at or above the level of the Zone 4 spring. Additional water may be available at depths below the spring level and could be developed using deep groundwater extraction wells.

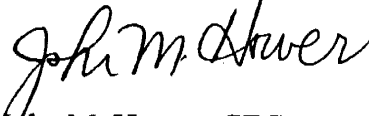
This evaluation makes no assessment of the compatibility of the quality of groundwater in Zone 4 with the proposed plant species in the habitat restoration areas. A riparian ecologist should review groundwater chemistry data obtained from Zone 4 monitoring wells to determine the compatibility of the groundwater chemistry with the proposed habitat, particularly under a groundwater extraction scenario.

Groundwater conditions change over time due to local or regional climatic changes, withdrawal or addition of groundwater by man, and by changes in the geometry and recharge conditions of the groundwater basin by grading or natural causes. Dependence on a single source of water for the habitat restoration area should consider that such changes may affect the quantity of available groundwater.

This letter report is based on the available geologic and hydrogeologic data for the Zone 4 area at Prima Deshecha Landfill. Our firm should be notified if the geologic or

hydrogeologic conditions are found to differ from those described in this report, since this may require a re-evaluation of the conclusions presented herein. This letter report has not been prepared for use by parties and projects other than those named or described herein. It may not contain sufficient information for other parties or other purposes. This letter report has been prepared in accordance with generally accepted hydrogeologic practices, and makes no warranties, either expressed or implied, as to the professional advice or data included in it.

GeoLogic Associates

A handwritten signature in cursive script, appearing to read "John M. Hower".

John M. Hower, CEG  
Senior Geologist



## REFERENCES

Converse Consultants, 1992, "Geology and Soils Environmental Impact Report – Prima Deshecha Landfill, prepared for P&D Technologies, April 30, 1992.

Driscoll, Fletcher G., 1986, Groundwater and Wells, Second Edition.

GeoLogic Associates, 2002, "Geotechnical Investigation – Zone 4, Prima Deshecha Landfill Master Plan," prepared for the County of Orange Integrated Waste Management Department, January 2002.

GeoLogic Associates, 2002, "Revised Hydrologic Evaluation of the Landslide Remediation Project Habitat Mitigation Program – Prima Deshecha Landfill, Orange County, California," prepared for the County of Orange Integrated Waste Management Department, January 30, 2002.

GRAPHIC SCALE  
 400 0 200 400 800  
 (in feet)  
 1 inch = 800 ft.

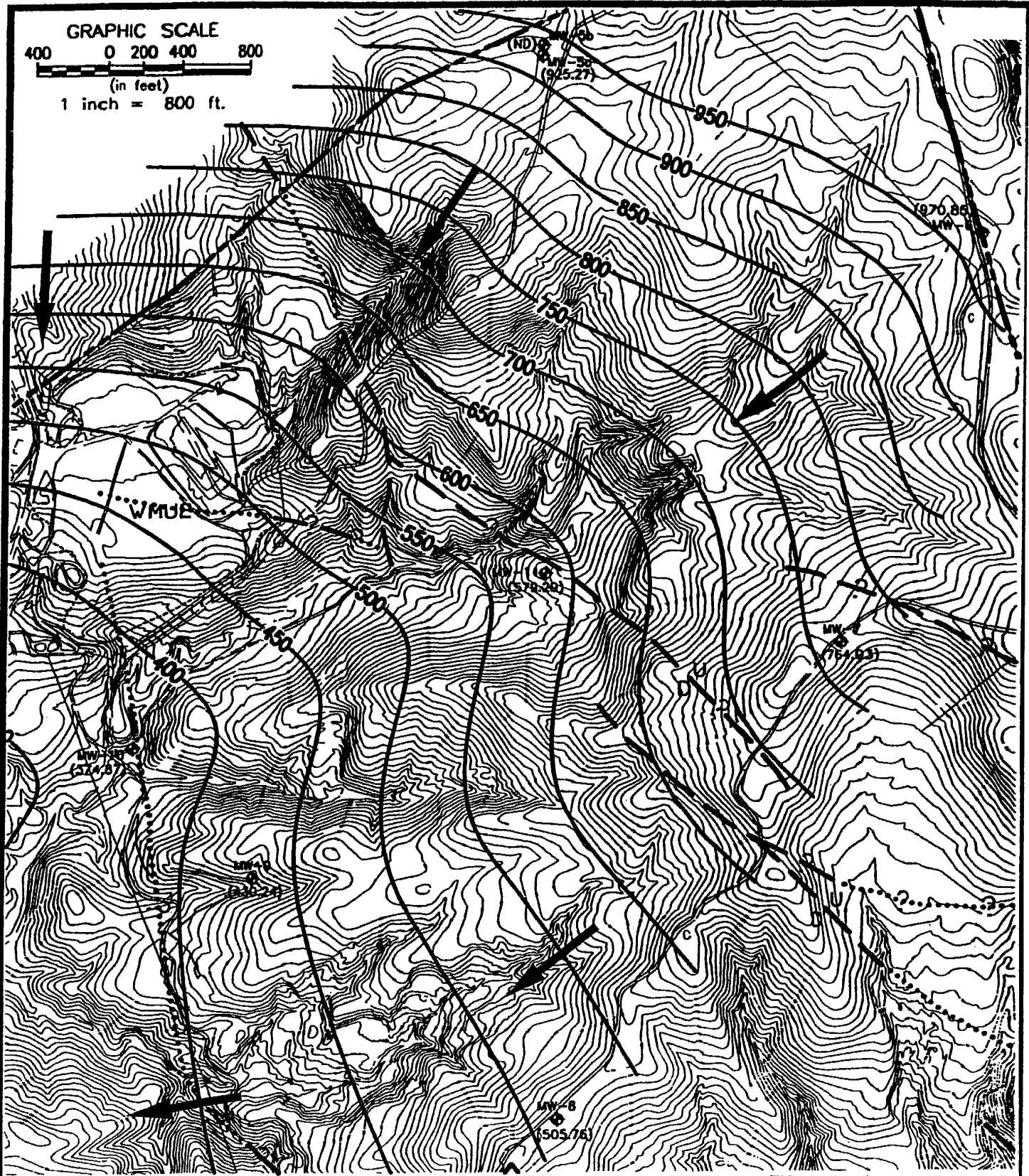





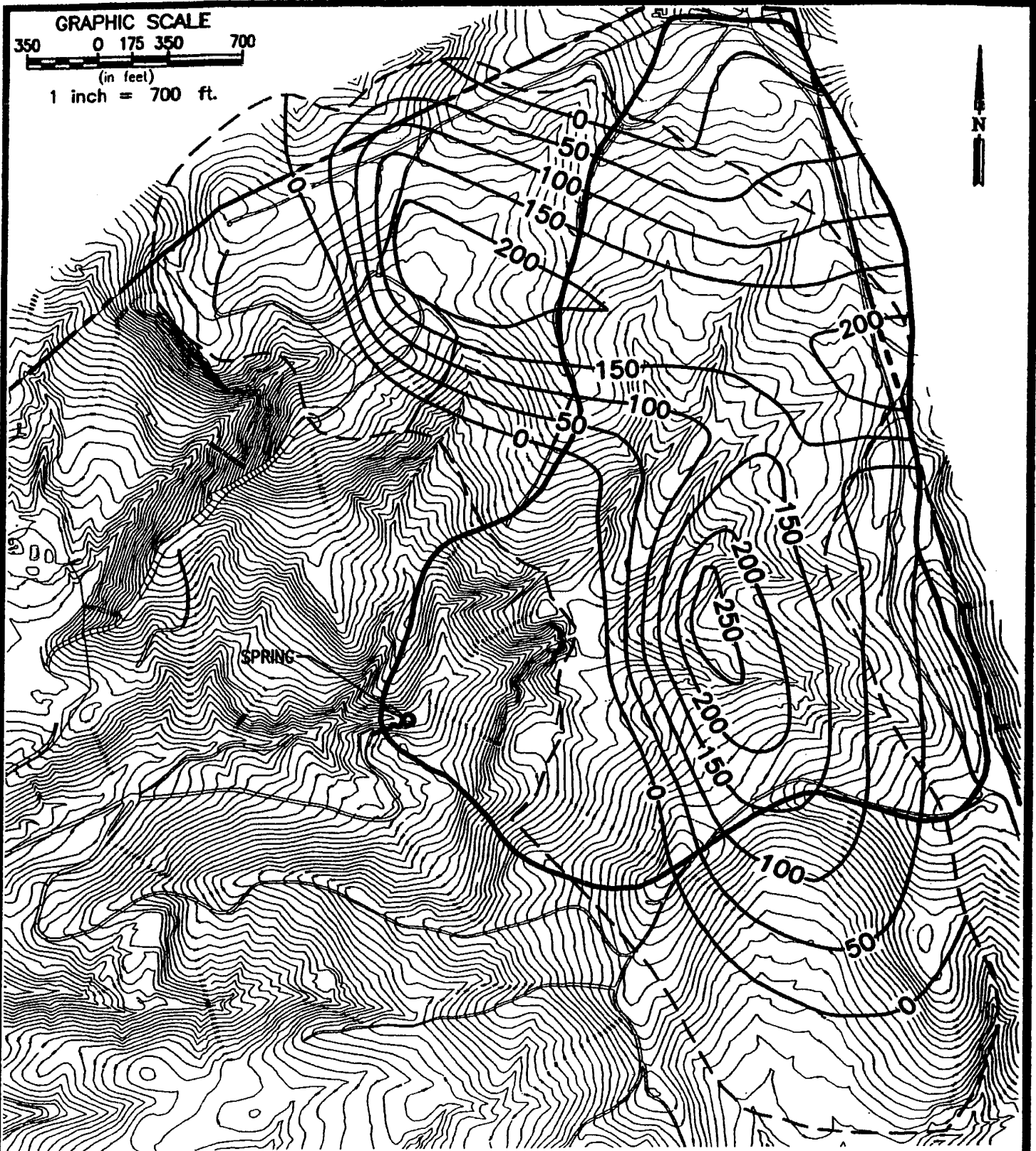
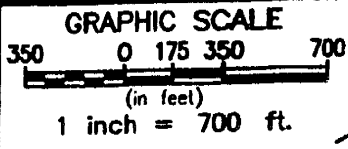
FIGURE 1

**LEGEND:**

- MW-5  
  
 (505.76)      GROUNDWATER MONITORING WELL LOCATION (GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL)
-  750 —      GROUNDWATER ELEVATION CONTOUR (CONTOUR INTERVAL = 50 FEET)
-       DIRECTION OF HYDRAULIC GRADIENT



FEBRUARY 25, 1999 GROUNDWATER CONTOURS		
ZONE 4 GEOTECHNICAL INVESTIGATION		
PRIMA DESHECHA LANDFILL		
ORANGE COUNTY, CALIFORNIA		
<b>GeoLogic Associates</b> Geologists, Hydrogeologists, and Engineers		
DRAWN BY: VL	DATE: DECEMBER 1999	JOB NO. 9637



**EXPLANATION:**

- APPROXIMATE LIMIT OF DRAINAGE BASIN
- 50 — LINE OF EQUAL SATURATED THICKNESS OF THE MONTEREY FORMATION (CONTOUR INTERVAL = 50 FEET)
- - - - - APPROXIMATE LIMIT OF AQUIFER (MONTEREY SANDSTONE)
- - - - - PROPERTY BOUNDARY

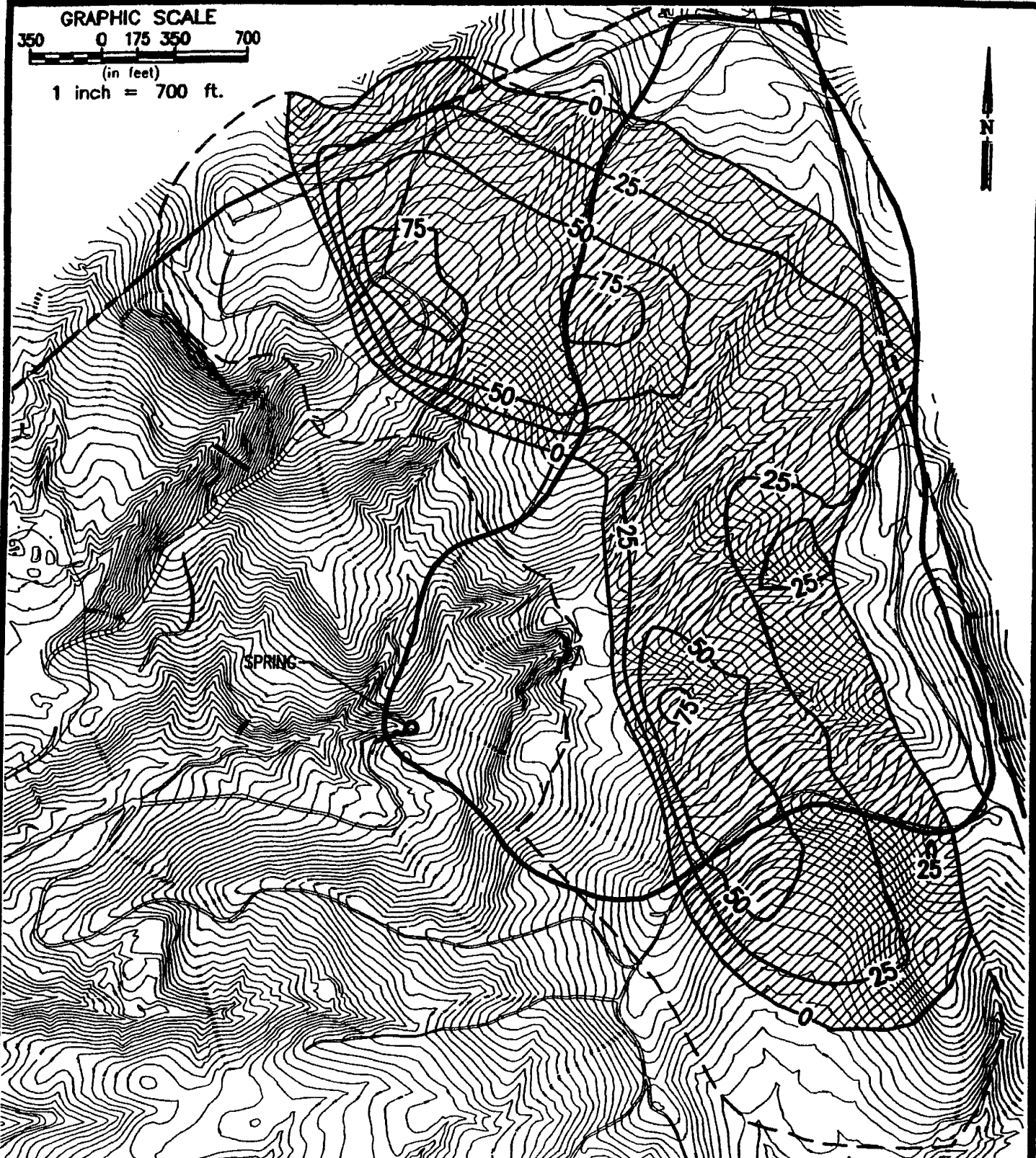
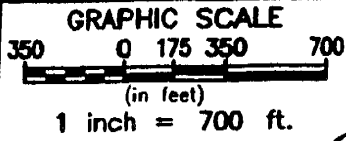
FIGURE 2

SATURATED THICKNESS OF THE MONTEREY FORMATION  
 IN THE ZONE 4 SPRING DRAINAGE BASIN  
 WATER SOURCE EVALUATION  
 PRIMA DESHECHA LANDFILL  
 ORANGE COUNTY, CALIFORNIA



**Geologic Associates**  
 Geologists, Hydrogeologists, and Engineers

DRAWN BY: VL	DATE: APRIL 2003	JOB NO. 9637
-----------------	---------------------	-----------------



**EXPLANATION:**






-  APPROXIMATE LIMIT OF DRAINAGE BASIN
-  LINE OF EQUAL SATURATED THICKNESS OF THE MONTEREY SANDSTONE (CONTOUR INTERVAL = 25 FEET)
-  APPROXIMATE LIMIT OF AQUIFER (MONTEREY SANDSTONE)
-  PROPERTY BOUNDARY
-  SATURATED PORTION OF MONTEREY SANDSTONE

FIGURE 3

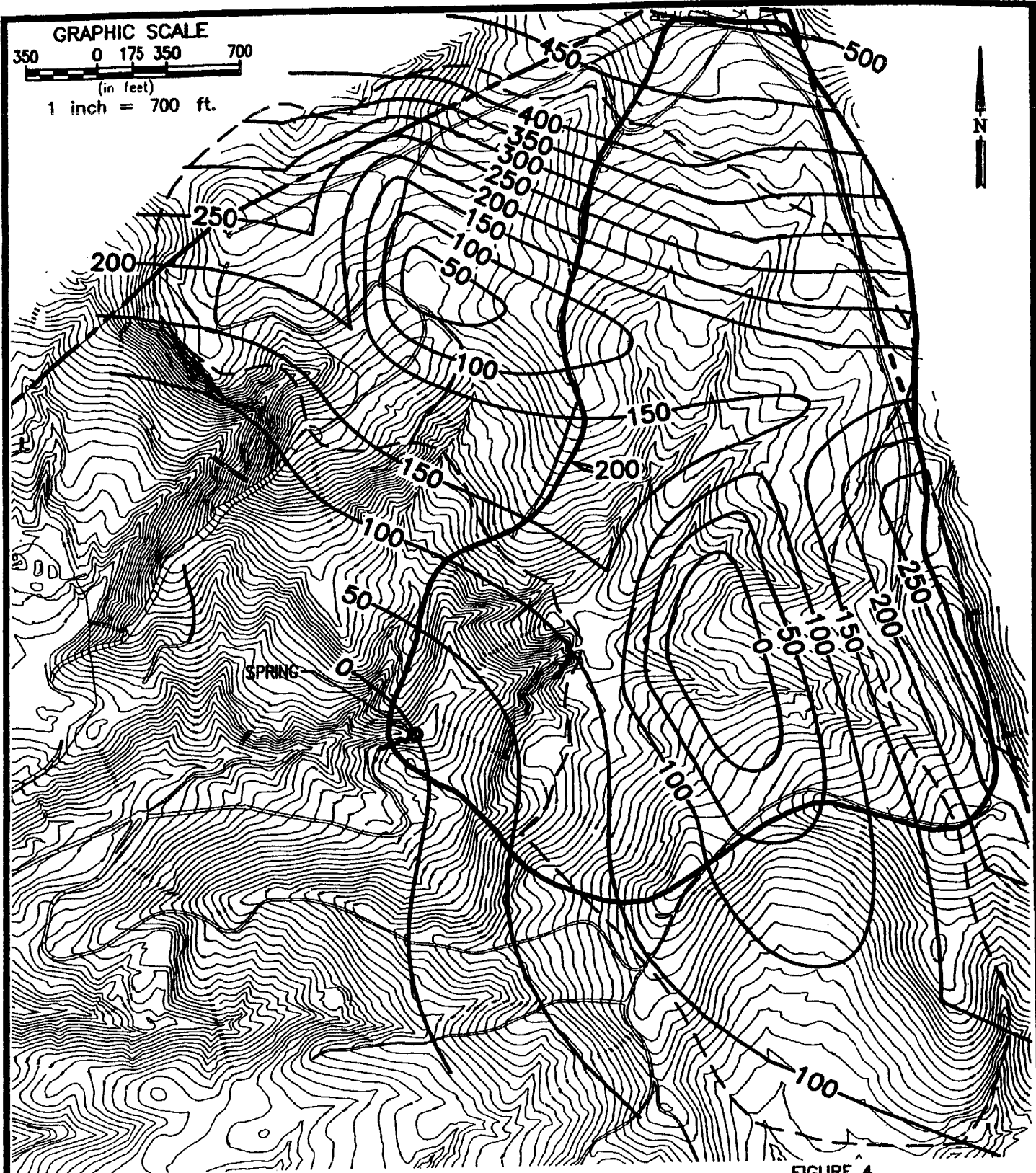
SATURATED THICKNESS OF THE MONTEREY SANDSTONE  
 IN THE ZONE 4 SPRING DRAINAGE BASIN

**WATER SOURCE EVALUATION  
 PRIMA DESHECHA LANDFILL  
 ORANGE COUNTY, CALIFORNIA**



**GeoLogic Associates**  
 Geologists, Hydrogeologists, and Engineers


DRAWN BY: VL	DATE: APRIL 2003	JOB NO. 8637
-----------------	---------------------	-----------------



**EXPLANATION:**

- APPROXIMATE LIMIT OF DRAINAGE BASIN
- 50— LINE OF EQUAL SATURATED THICKNESS OF THE SAN ONOFRE BRECCIA ABOVE 600' AMSL (CONTOUR INTERVAL = 50 FEET)
- - - APPROXIMATE LIMIT OF AQUIFER (MONTEREY SANDSTONE)
- - - - PROPERTY BOUNDARY

FIGURE 4

SATURATED THICKNESS OF THE SAN ONOFRE BRECCIA IN THE ZONE 4 SPRING DRAINAGE BASIN		
WATER SOURCE EVALUATION PRIMA DESHECHA LANDFILL ORANGE COUNTY, CALIFORNIA		
 <b>GeoLogic Associates</b> Geologists, Hydrogeologists, and Engineers		
DRAWN BY: VL	DATE: APRIL 2003	JOB NO. 9637

**GROUNDWATER AVAILABILITY ANALYSIS  
GROUNDWATER SPRING SUB-BASIN ZONE 4 - PRIMA DESHECHA LANDFILL**

Volume of Saturated San Onofre Breccia (Tso - to spring elevation)	47,115,000 cubic yards
Volume of Saturated Monterey Formation Sandstone (Tmss)	5,495,000 cubic yards
Volume of Saturated Monterey Siltstone (Tmsi)	20,192,500 cubic yards

**DETAILED ANALYSIS - MOST CONSERVATIVE SCENARIO**

All saturated units provide water to the spring.  
 Low-end published values of porosity and specific yield.  
 High-end constant flow rate from spring.  
 Recharge varies by year based on Zone 4 development.  
 Below Average Rainfall  
 High runoff and high evapotranspiration

Volume of Tmss:	5,495,000 cubic yards
convert to cubic feet (x27):	148,365,000 cubic feet
convert to gallons (x7.48):	1,109,770,200 gallons
determine approx. volume of water = porosity (x0.05):	55,488,510 gallons of water in Tm sandstone today
determine available quantity of water = specific yield (x0.05):	2,774,426 gallons of water in Tm sandstone today that can flow to a well or spring
Volume of saturated Tmsi:	20,192,500 cubic yards
convert to cubic feet (x27):	545,197,500 cubic feet
convert to gallons (x7.48):	4,078,077,300 gallons
determine approx. volume of water = porosity (x0.15):	611,711,595 gallons of water in Tm siltstone today.
determine available quantity of water = specific yield (x0.01):	6,117,116 gallons of water in Tm siltstone today that can flow to a well or spring.
Volume of saturated Tso:	47,115,000 cubic yards
convert to cubic feet (x27):	1,272,105,000 cubic feet
convert to gallons (x7.48):	9,515,345,400 gallons
determine approx. volume of water = porosity (x0.05):	475,767,270 gallons of water in Tso today
determine available quantity of water = specific yield (x0.01):	4,757,673 gallons of water in the San Onofre Breccia that can flow to a well or spring
Total available water (TsoH <sub>2</sub> O+TmssH <sub>2</sub> O+TmsiH <sub>2</sub> O):	13,649,214 gallons of water in bedrock that can flow to a well or spring.
Area of saturated bedrock in the Spring catch area of Zone 4:	187 acres
Area of saturated Tm in Zone 4 unaffected by landfill development:	52 acres
Area of saturated Tm in Zone 4 affected by landfill development:	135 acres
Average annual precipitation:	9.5 inches
Loss to runoff:	75 percent
Precipitation available for infiltration:	2.4 inches
Loss to evapotranspiration and plant growth:	25 percent
Precipitation available for groundwater recharge:	1.8 inches
Total volume of water available for recharge in natural condition:	9,053,968 gallons of water for groundwater recharge per year.
Total volume of free water available (specific yield):	90,540 gallons of free groundwater
Loss of water each year due to spring discharge:	2,365,200 gallons of water in spring discharge
Net loss of water due to spring discharge:	2,274,660 gallons per year

Landfill Development Effects on Recharge Area:	Amount of Free Water in the Bedrock (gallons)
Year 1 (Phase A - No effect)	13,649,214
Year 2 (Phase A - No effect)	11,374,554
Year 3 (Phase A - No effect)	9,099,894
Year 4 (Phase A - No effect)	6,825,233
Year 5 (Phase B - 11% Infiltration Reduction)	4,540,613
Year 6 (Phase B - 11% Infiltration Reduction)	2,255,994
Year 7 (Phase B - 11% Infiltration Reduction)	Dry
Year 8 (Phase B - 11% Infiltration Reduction)	Dry
Year 9 (Phase B - 11% Infiltration Reduction)	Dry
Year 10 (Phase B - 11% Infiltration Reduction)	Dry

**GROUNDWATER AVAILABILITY ANALYSIS**  
**GROUNDWATER SPRING SUB-BASIN ZONE 4 - PRIMA DESHECHA LANDFILL**

Volume of Saturated San Onofre Breccia (Tso - to spring elevation)	47,115,000 cubic yards
Volume of Saturated Monterey Formation Sandstone (Tmsa)	5,495,000 cubic yards
Volume of Saturated Monterey Siltstone (Tmsi)	20,192,500 cubic yards

**DETAILED ANALYSIS - MODERATELY CONSERVATIVE SCENARIO**

All saturated units provide water to the spring.

Moderate published values of porosity and specific yield.

High-end constant flow rate from spring.

Recharge varies by year based on Zone 4 development.

Below Average Rainfall

High runoff and high evapotranspiration

Volume of Tmsa:	5,495,000 cubic yards
convert to cubic feet (x27):	148,365,000 cubic feet
convert to gallons (x7.48):	1,109,770,200 gallons
determine approx. volume of water = porosity (x0.1):	110,977,020 gallons of water in Tm sandstone today
determine available quantity of water = specific yield (x0.02):	11,097,702 gallons of water in Tm sandstone today that can flow to a well or spring
Volume of saturated Tmsi:	20,192,500 cubic yards
convert to cubic feet (x27):	545,197,500 cubic feet
convert to gallons (x7.48):	4,078,077,300 gallons
determine approx. volume of water = porosity (x0.2):	815,615,460 gallons of water in Tm siltstone today.
determine available quantity of water = specific yield (x0.02):	16,312,309 gallons of water in Tm siltstone today that can flow to a well or spring.
Volume of saturated Tao:	47,115,000 cubic yards
convert to cubic feet (x27):	1,272,105,000 cubic feet
convert to gallons (x7.48):	9,515,345,400 gallons
determine approx. volume of water = porosity (x0.07):	666,074,178 gallons of water in Tao today
determine available quantity of water = specific yield (x0.03):	19,982,225 gallons of water in the San Onofre Breccia that can flow to a well or spring
Total available water (TsoH2O+TmsaH2O+TmsiH2O):	47,392,237 gallons of water in bedrock that can flow to a well or spring.
Area of saturated bedrock in the Spring catch area of Zone 4:	187 acres
Area of saturated Tm in Zone 4 unaffected by landfill development:	52 acres
Area of saturated Tm in Zone 4 affected by landfill development:	135 acres
Average annual precipitation:	9.5 inches
Loss to runoff:	75 percent
Precipitation available for infiltration:	2.4 inches
Loss to evapotranspiration and plant growth:	25 percent
Precipitation available for groundwater recharge:	1.8 inches
Total volume of water available for recharge in natural condition:	9,033,968 gallons of water for groundwater recharge per year.
Total volume of free water available (specific yield):	90,540 gallons of free groundwater
Loss of water each year due to spring discharge:	2,365,200 gallons of water in spring discharge
Net loss of water due to spring discharge:	2,274,660 gallons per year

**Landfill Development Effects on Recharge Area: Amount of Free Water in the Bedrock (gallons)**

Year 1 (Phase A - No effect)	47,392,237
Year 2 (Phase A - No effect)	45,117,576
Year 3 (Phase A - No effect)	42,842,916
Year 4 (Phase A - No effect)	40,568,256
Year 5 (Phase B - 11% Infiltration Reduction)	38,283,636
Year 6 (Phase B - 11% Infiltration Reduction)	35,999,016
Year 7 (Phase B - 11% Infiltration Reduction)	33,714,397
Year 8 (Phase B - 11% Infiltration Reduction)	31,429,777
Year 9 (Phase B - 11% Infiltration Reduction)	29,145,157
Year 10 (Phase B - 11% Infiltration Reduction)	26,860,537
Year 11 (Phase B - 11% Infiltration Reduction)	24,575,918
Year 12 (Phase B - 11% Infiltration Reduction)	22,291,298
Year 13 (Phase C - 11% Infiltration Reduction)	20,006,678
Year 14 (Phase C - 11% Infiltration Reduction)	17,722,059
Year 15 (Phase C - 11% Infiltration Reduction)	15,437,439
Year 16 (Phase C - 11% Infiltration Reduction)	13,152,819
Year 17 (Phase C - 11% Infiltration Reduction)	10,868,200
Year 18 (Phase C - 11% Infiltration Reduction)	8,583,580
Year 19 (Phase C - 11% Infiltration Reduction)	6,298,960
Year 20 (Phase C - 11% Infiltration Reduction)	4,014,341
Year 21 (Phase C - 11% Infiltration Reduction)	1,729,721
Year 22 (Phase C - 11% Infiltration Reduction)	Dry
Year 23 (Phase C - 11% Infiltration Reduction)	Dry
Year 24 (Phase D - 51% Infiltration Reduction)	Dry
Year 25 (Phase D - 51% Infiltration Reduction)	Dry
Year 26 (Phase D - 51% Infiltration Reduction)	Dry
Year 27 (Phase D - 51% Infiltration Reduction)	Dry
Year 28 (Phase D - 51% Infiltration Reduction)	Dry
Year 29 (Phase E - 66% Infiltration Reduction)	Dry
Year 30 (Phase E - 66% Infiltration Reduction)	Dry
Year 31 (Phase F - 69% Infiltration Reduction)	Dry
Year 32 (Phase F - 69% Infiltration Reduction)	Dry
Year 33 (Phase F - 69% Infiltration Reduction)	Dry
Year 34 (Phase F - 69% Infiltration Reduction)	Dry
Year 35 (Phase F - 69% Infiltration Reduction)	Dry
Year 36 (Phase F - 69% Infiltration Reduction)	Dry
Year 37 (Phase F - 69% Infiltration Reduction)	Dry
Year 38 (Phase F - 69% Infiltration Reduction)	Dry
Year 39 (Phase G - 72% Infiltration Reduction)	Dry
Year 40 (Phase G - 72% Infiltration Reduction)	Dry
Year 41 (Phase G - 72% Infiltration Reduction)	Dry
Year 42 (Phase H - 72% Infiltration Reduction)	Dry
Year 43 (Phase H - 72% Infiltration Reduction)	Dry
Year 44 (Phase H - 72% Infiltration Reduction)	Dry
Year 45 (Phase H - 72% Infiltration Reduction)	Dry
Year 46 (Phase I - 72% Infiltration Reduction)	Dry
Year 47 (Phase I - 72% Infiltration Reduction)	Dry
Year 48 (Phase I - 72% Infiltration Reduction)	Dry
Year 49 (Closure - 72% Infiltration Reduction)	Dry
Year 50 (Closure - 72% Infiltration Reduction)	Dry

**GROUNDWATER AVAILABILITY ANALYSIS**  
**GROUNDWATER SPRING SUB-BASIN ZONE 4 - PRIMA DESHECHA LANDFILL**

Volume of Saturated San Onofre Breccia (Tao - to spring elevation)	47,115,000 cubic yards
Volume of Saturated Monterey Formation Sandstone (Tmsa)	5,495,000 cubic yards
Volume of Saturated Monterey Siltstone (Tmsi)	20,192,500 cubic yards

**DETAILED ANALYSIS - MODERATE SCENARIO**

All saturated units provide water to the spring.  
 Moderate published values of porosity and specific yield.  
 Moderate constant flow rate from spring.  
 Recharge varies by year based on Zone 4 development.  
 Average Rainfall  
 Moderate runoff and moderate evapotranspiration

Volume of Tmsa:	5,495,000 cubic yards
convert to cubic feet (x27):	148,365,000 cubic feet
convert to gallons (x7.48):	1,109,770,200 gallons
determine approx. volume of water = porosity (x0.1):	110,977,020 gallons of water in Tm sandstone today
determine available quantity of water = specific yield (x0.1):	11,097,702 gallons of water in Tm sandstone today that can flow to a well or spring
Volume of saturated Tmsi:	20,192,500 cubic yards
convert to cubic feet (x27):	545,197,500 cubic feet
convert to gallons (x7.48):	4,078,077,300 gallons
determine approx. volume of water = porosity (x0.2):	815,615,460 gallons of water in Tm siltstone today.
determine available quantity of water = specific yield (x0.02):	16,312,309 gallons of water in Tm siltstone today that can flow to a well or spring.
Volume of saturated Tao:	47,115,000 cubic yards
convert to cubic feet (x27):	1,272,105,000 cubic feet
convert to gallons (x7.48):	9,515,345,400 gallons
determine approx. volume of water = porosity (x0.07):	666,074,178 gallons of water in Tao today
determine available quantity of water = specific yield (x0.03):	19,982,223 gallons of water in the San Onofre Breccia that can flow to a well or spring
Total available water (Tao+Tmsa+Tmsi):	47,392,237 gallons of water in bedrock that can flow to a well or spring.
Area of saturated bedrock in the Spring catch area of Zone 4:	187 acres
Area of saturated Tm in Zone 4 unaffected by landfill development:	52 acres
Area of saturated Tm in Zone 4 affected by landfill development:	133 acres
Average annual precipitation:	10.2 inches
Loss to runoff:	70 percent
Precipitation available for infiltration:	3.1 inches
Loss to evapotranspiration and plant growth:	20 percent
Precipitation available for groundwater recharge:	2.4 inches
Total volume of water available for recharge in natural conditions:	12,443,011 gallons of water for groundwater recharge per year.
Total volume of free water available (specific yield):	124,430 gallons of free groundwater
Loss of water each year due to spring discharge:	2,102,400 gallons of water in spring discharge
Net loss of water due to spring discharge:	1,977,970 gallons per year

**Landfill Development Effects on Recharge Area: Amount of Free Water in the Bedrock (gallons)**

Year 1 (Phase A - No effect)	47,392,237
Year 2 (Phase A - No effect)	45,414,267
Year 3 (Phase A - No effect)	43,436,297
Year 4 (Phase A - No effect)	41,458,327
Year 5 (Phase B - 11% Infiltration Reduction)	39,466,670
Year 6 (Phase B - 11% Infiltration Reduction)	37,475,012
Year 7 (Phase B - 11% Infiltration Reduction)	35,483,355
Year 8 (Phase B - 11% Infiltration Reduction)	33,491,698
Year 9 (Phase B - 11% Infiltration Reduction)	31,500,041
Year 10 (Phase B - 11% Infiltration Reduction)	29,508,384
Year 11 (Phase B - 11% Infiltration Reduction)	27,516,726
Year 12 (Phase B - 11% Infiltration Reduction)	25,525,069
Year 13 (Phase C - 11% Infiltration Reduction)	23,533,412
Year 14 (Phase C - 11% Infiltration Reduction)	21,541,755
Year 15 (Phase C - 11% Infiltration Reduction)	19,550,098
Year 16 (Phase C - 11% Infiltration Reduction)	17,558,440
Year 17 (Phase C - 11% Infiltration Reduction)	15,566,783
Year 18 (Phase C - 11% Infiltration Reduction)	13,575,126
Year 19 (Phase C - 11% Infiltration Reduction)	11,583,469
Year 20 (Phase C - 11% Infiltration Reduction)	9,591,812
Year 21 (Phase C - 11% Infiltration Reduction)	7,600,154
Year 22 (Phase C - 11% Infiltration Reduction)	5,608,497
Year 23 (Phase C - 11% Infiltration Reduction)	3,616,840
Year 24 (Phase D - 51% infiltration reduction)	1,575,411
Year 25 (Phase D - 51% infiltration reduction)	Dry
Year 26 (Phase D - 51% infiltration reduction)	Dry
Year 27 (Phase D - 51% infiltration reduction)	Dry
Year 28 (Phase D - 51% infiltration reduction)	Dry
Year 29 (Phase E - 66% infiltration reduction)	Dry
Year 30 (Phase E - 66% infiltration reduction)	Dry
Year 31 (Phase F - 69% infiltration Reduction)	Dry
Year 32 (Phase F - 69% infiltration Reduction)	Dry
Year 33 (Phase F - 69% infiltration Reduction)	Dry
Year 34 (Phase F - 69% infiltration Reduction)	Dry
Year 35 (Phase F - 69% infiltration Reduction)	Dry
Year 36 (Phase F - 69% infiltration Reduction)	Dry
Year 37 (Phase F - 69% infiltration Reduction)	Dry
Year 38 (Phase F - 69% infiltration Reduction)	Dry
Year 39 (Phase G - 72% infiltration Reduction)	Dry
Year 40 (Phase G - 72% infiltration Reduction)	Dry
Year 41 (Phase G - 72% infiltration Reduction)	Dry
Year 42 (Phase H - 72% infiltration Reduction)	Dry
Year 43 (Phase H - 72% infiltration Reduction)	Dry
Year 44 (Phase H - 72% infiltration Reduction)	Dry
Year 45 (Phase H - 72% infiltration Reduction)	Dry
Year 46 (Phase I - 72% infiltration Reduction)	Dry
Year 47 (Phase I - 72% infiltration Reduction)	Dry
Year 48 (Phase I - 72% infiltration Reduction)	Dry
Year 49 (Closure - 72% infiltration Reduction)	Dry
Year 50 (Closure - 72% infiltration Reduction)	Dry



**GROUNDWATER AVAILABILITY ANALYSIS  
GROUNDWATER SPRING SUB-BASIN ZONE 4 - PRIMA DESHECHA LANDFILL**

Volume of Saturated San Onofre Breccia (Tso - to spring elevation)	47,115,000 cubic yards
Volume of Saturated Monterey Formation Sandstone (Tmas)	5,495,000 cubic yards
Volume of Saturated Monterey Siltstone (Tmsi)	20,192,500 cubic yards

**DETAILED ANALYSIS - MODERATELY OPTIMISTIC SCENARIO**

All saturated units provide water to the spring.  
Moderate published values of porosity and specific yield.  
Low constant flow rate from spring.  
Recharge varies by year based on Zone 4 development.  
Above Average Rainfall  
Low runoff and low evapotranspiration

Volume of Tmas:	5,495,000 cubic yards
convert to cubic feet (x27):	148,365,000 cubic feet
convert to gallons (x7.48):	1,109,770,200 gallons
determine approx. volume of water = porosity (x0.1):	110,977,020 gallons of water in Tm sandstone today
determine available quantity of water = specific yield (x0.1):	11,097,702 gallons of water in Tm sandstone today that can flow to a well or spring
Volume of saturated Tmsi:	20,192,500 cubic yards
convert to cubic feet (x27):	545,197,500 cubic feet
convert to gallons (x7.48):	4,078,077,300 gallons
determine approx. volume of water = porosity (x0.2):	815,615,460 gallons of water in Tm siltstone today.
determine available quantity of water = specific yield (x0.02):	16,312,309 gallons of water in Tm siltstone today that can flow to a well or spring.
Volume of saturated Tao:	47,115,000 cubic yards
convert to cubic feet (x27):	1,272,105,000 cubic feet
convert to gallons (x7.48):	9,515,345,400 gallons
determine approx. volume of water = porosity (x0.07):	666,074,178 gallons of water in Tao today
determine available quantity of water = specific yield (x0.03):	19,982,225 gallons of water in the San Onofre Breccia that can flow to a well or spring
Total available water (TsoH2O+TmasH2O+TmsiH2O):	47,392,237 gallons of water in bedrock that can flow to a well or spring.
Area of saturated bedrock in the Spring catch area of Zone 4:	187 acres
Area of saturated Tm in Zone 4 unaffected by landfill development:	52 acres
Area of saturated Tm in Zone 4 affected by landfill development:	135 acres
Average annual precipitation:	12.5 inches
Loss to runoff:	65 percent
Precipitation available for infiltration:	4.4 inches
Loss to evapotranspiration and plant growth:	15 percent
Precipitation available for groundwater recharge:	3.7 inches
Total volume of water available for recharge in natural conditions:	18,902,143 gallons of water for groundwater recharge per year.
Total volume of free water available (specific yield):	189,021 gallons of free groundwater
Loss of water each year due to spring discharge:	1,839,600 gallons of water in spring discharge
Net loss of water due to spring discharge:	1,650,579 gallons per year

**Landfill Development Effects on Recharge Area: Amount of Free Water in the Bedrock (gallons)**

Year 1 (Phase A - No effect)	47,392,237
Year 2 (Phase A - No effect)	45,741,658
Year 3 (Phase A - No effect)	44,091,079
Year 4 (Phase A - No effect)	42,440,501
Year 5 (Phase B - 11% Infiltration Reduction)	40,789,130
Year 6 (Phase B - 11% Infiltration Reduction)	39,097,759
Year 7 (Phase B - 11% Infiltration Reduction)	37,426,388
Year 8 (Phase B - 11% Infiltration Reduction)	35,755,017
Year 9 (Phase B - 11% Infiltration Reduction)	34,083,646
Year 10 (Phase B - 11% Infiltration Reduction)	32,412,275
Year 11 (Phase B - 11% Infiltration Reduction)	30,740,904
Year 12 (Phase B - 11% Infiltration Reduction)	29,069,533
Year 13 (Phase C - 11% Infiltration Reduction)	27,398,163
Year 14 (Phase C - 11% Infiltration Reduction)	25,726,792
Year 15 (Phase C - 11% Infiltration Reduction)	24,055,421
Year 16 (Phase C - 11% Infiltration Reduction)	22,384,050
Year 17 (Phase C - 11% Infiltration Reduction)	20,712,679
Year 18 (Phase C - 11% Infiltration Reduction)	19,041,308
Year 19 (Phase C - 11% Infiltration Reduction)	17,369,937
Year 20 (Phase C - 11% Infiltration Reduction)	15,698,566
Year 21 (Phase C - 11% Infiltration Reduction)	14,027,195
Year 22 (Phase C - 11% Infiltration Reduction)	12,355,824
Year 23 (Phase C - 11% Infiltration Reduction)	10,684,453
Year 24 (Phase D - 51% infiltration reduction)	8,937,474
Year 25 (Phase D - 51% infiltration reduction)	7,190,494
Year 26 (Phase D - 51% infiltration reduction)	5,443,515
Year 27 (Phase D - 51% infiltration reduction)	3,696,535
Year 28 (Phase D - 51% infiltration reduction)	1,949,556
Year 29 (Phase E - 66% infiltration reduction)	174,223
Year 30 (Phase E - 66% infiltration reduction)	Dry
Year 31 (Phase F - 69% infiltration Reduction)	Dry
Year 32 (Phase F - 69% infiltration Reduction)	Dry
Year 33 (Phase F - 69% infiltration Reduction)	Dry
Year 34 (Phase F - 69% infiltration Reduction)	Dry
Year 35 (Phase F - 69% infiltration Reduction)	Dry
Year 36 (Phase F - 69% infiltration Reduction)	Dry
Year 37 (Phase F - 69% infiltration Reduction)	Dry
Year 38 (Phase F - 69% infiltration Reduction)	Dry
Year 39 (Phase G - 72% infiltration Reduction)	Dry
Year 40 (Phase G - 72% infiltration Reduction)	Dry
Year 41 (Phase G - 72% infiltration Reduction)	Dry
Year 42 (Phase H - 72% infiltration Reduction)	Dry
Year 43 (Phase H - 72% infiltration Reduction)	Dry
Year 44 (Phase H - 72% infiltration Reduction)	Dry
Year 45 (Phase H - 72% infiltration Reduction)	Dry
Year 46 (Phase I - 72% infiltration Reduction)	Dry
Year 47 (Phase I - 72% infiltration Reduction)	Dry
Year 48 (Phase I - 72% infiltration Reduction)	Dry
Year 49 (Closure - 72% infiltration Reduction)	Dry
Year 50 (Closure - 72% infiltration Reduction)	Dry

**GROUNDWATER AVAILABILITY ANALYSIS  
GROUNDWATER SPRING SUB-BASIN ZONE 4 - PRIMA DESHECHA LANDFILL.**

Volume of Saturated San Onofre Breccia (Tao - to spring elevation)	47,115,000 cubic yards
Volume of Saturated Monterey Formation Sandstone (Tmas)	5,495,000 cubic yards
Volume of Saturated Monterey Siltstone (Tmsi)	20,192,500 cubic yards

**DETAILED ANALYSIS - OPTIMISTIC SCENARIO**

All saturated units provide water in the spring.  
High published values of porosity and specific yield.  
Low constant flow rate from spring.  
Recharge varies by year based on Zone 4 development.  
Above Average Rainfall  
Low runoff and low evapotranspiration

Volume of Tmsi:	5,495,000 cubic yards
convert to cubic feet (x27):	148,365,000 cubic feet
convert to gallons (x7.48):	1,109,770,200 gallons
determine approx. volume of water = porosity (x0.15):	166,465,530 gallons of water in Tm sandstone today
determine available quantity of water = specific yield (x0.15):	24,969,830 gallons of water in Tm sandstone today that can flow to a well or spring
Volume of saturated Tmsi:	20,192,500 cubic yards
convert to cubic feet (x27):	545,197,500 cubic feet
convert to gallons (x7.48):	4,078,077,300 gallons
determine approx. volume of water = porosity (x0.25):	1,019,519,325 gallons of water in Tm siltstone today
determine available quantity of water = specific yield (x0.025):	25,487,983 gallons of water in Tm siltstone today that can flow to a well or spring.
Volume of saturated Tao:	47,115,000 cubic yards
convert to cubic feet (x27):	1,272,105,000 cubic feet
convert to gallons (x7.48):	9,515,345,400 gallons
determine approx. volume of water = porosity (x0.06):	761,227,632 gallons of water in Tao today
determine available quantity of water = specific yield (x0.05):	38,061,382 gallons of water in the San Onofre Breccia that can flow to a well or spring
Total available water (Tmsi+Tmsil+Tao+Tmsil+Tao):	88,519,194 gallons of water in bedrock that can flow to a well or spring.
Area of saturated bedrock in the Spring catch area of Zone 4:	187 acres
Area of saturated Tm in Zone 4 unaffected by landfill development:	52 acres
Area of saturated Tm in Zone 4 affected by landfill development:	135 acres
Average annual precipitation:	14.0 inches
Loss to runoff:	65 percent
Precipitation available for infiltration:	4.9 inches
Loss to evapotranspiration and plant growth:	15 percent
Precipitation available for groundwater recharge:	4.2 inches
Total volume of water available for recharge in natural condition:	21,170,400 gallons of water for groundwater recharge per year.
Total volume of free water available (specific yield):	211,704 gallons of free groundwater
Loss of water each year due to spring discharge:	1,839,600 gallons of water in spring discharge
Net loss of water due to spring discharge:	1,627,896 gallons per year

**Landfill Development Effects on Recharge Area: Amount of Free Water in the Bedrock (gallons)**

Year 1 (Phase A - No effect)	88,519,194
Year 2 (Phase A - No effect)	86,891,298
Year 3 (Phase A - No effect)	85,263,402
Year 4 (Phase A - No effect)	83,635,506
Year 5 (Phase B - 11% Infiltration Reduction)	81,984,323
Year 6 (Phase B - 11% Infiltration Reduction)	80,333,139
Year 7 (Phase B - 11% Infiltration Reduction)	78,681,956
Year 8 (Phase B - 11% Infiltration Reduction)	77,030,772
Year 9 (Phase B - 11% Infiltration Reduction)	75,379,589
Year 10 (Phase B - 11% Infiltration Reduction)	73,728,406
Year 11 (Phase B - 11% Infiltration Reduction)	72,077,222
Year 12 (Phase B - 11% Infiltration Reduction)	70,426,039
Year 13 (Phase C - 11% Infiltration Reduction)	68,774,855
Year 14 (Phase C - 11% Infiltration Reduction)	67,123,672
Year 15 (Phase C - 11% Infiltration Reduction)	65,472,488
Year 16 (Phase C - 11% Infiltration Reduction)	63,821,305
Year 17 (Phase C - 11% Infiltration Reduction)	62,170,122
Year 18 (Phase C - 11% Infiltration Reduction)	60,518,938
Year 19 (Phase C - 11% Infiltration Reduction)	58,867,755
Year 20 (Phase C - 11% Infiltration Reduction)	57,216,571
Year 21 (Phase C - 11% Infiltration Reduction)	55,565,388
Year 22 (Phase C - 11% Infiltration Reduction)	53,914,204
Year 23 (Phase C - 11% Infiltration Reduction)	52,263,021
Year 24 (Phase D - 51% Infiltration Reduction)	50,611,837
Year 25 (Phase D - 51% Infiltration Reduction)	48,960,654
Year 26 (Phase D - 51% Infiltration Reduction)	47,309,471
Year 27 (Phase D - 51% Infiltration Reduction)	45,658,288
Year 28 (Phase D - 51% Infiltration Reduction)	44,007,105
Year 29 (Phase E - 66% Infiltration Reduction)	42,355,922
Year 30 (Phase E - 66% Infiltration Reduction)	40,704,739
Year 31 (Phase F - 69% Infiltration Reduction)	39,053,556
Year 32 (Phase F - 69% Infiltration Reduction)	37,402,373
Year 33 (Phase F - 69% Infiltration Reduction)	35,751,190
Year 34 (Phase F - 69% Infiltration Reduction)	34,100,007
Year 35 (Phase F - 69% Infiltration Reduction)	32,448,824
Year 36 (Phase F - 69% Infiltration Reduction)	30,797,641
Year 37 (Phase F - 69% Infiltration Reduction)	29,146,458
Year 38 (Phase F - 69% Infiltration Reduction)	27,495,275
Year 39 (Phase G - 72% Infiltration Reduction)	25,844,092
Year 40 (Phase G - 72% Infiltration Reduction)	24,192,909
Year 41 (Phase G - 72% Infiltration Reduction)	22,541,726
Year 42 (Phase H - 72% Infiltration Reduction)	20,890,543
Year 43 (Phase H - 72% Infiltration Reduction)	19,239,360
Year 44 (Phase H - 72% Infiltration Reduction)	17,588,177
Year 45 (Phase H - 72% Infiltration Reduction)	15,936,994
Year 46 (Phase I - 72% Infiltration Reduction)	14,285,811
Year 47 (Phase I - 72% Infiltration Reduction)	12,634,628
Year 48 (Phase I - 72% Infiltration Reduction)	10,983,445
Year 49 (Closure - 72% Infiltration Reduction)	9,332,262
Year 50 (Closure - 72% Infiltration Reduction)	7,681,079
Year 51 (Year 1 of Post-Closure)	6,029,896
Year 52 (Year 2 of Post-Closure)	4,378,713
Year 53 (Year 3 of Post-Closure)	2,727,530
Year 54 (Year 4 of Post-Closure)	1,076,347
Year 55 (Year 5 of Post-Closure)	912,164
Year 56 (Year 6 of Post-Closure)	Dry
Year 57 (Year 7 of Post-Closure)	Dry
Year 58 (Year 8 of Post-Closure)	Dry
Year 59 (Year 9 of Post-Closure)	Dry
Year 60 (Year 10 of Post-Closure)	Dry

## **APPENDIX F**

### **Delineation of Jurisdictional Waters Prima Deshecha Landfill June 7, 2004**

## DELINEATION OF JURISDICTIONAL WATERS

# Prima Deshecha Landfill

## County of Orange, California



Prepared for:

### **BonTerra Consulting**

151 Kalmus Drive, Suite E-200  
Costa Mesa, California 92625  
Contact: **Mr. Gary Medeiros**  
714.444.9199

### **County of Orange**

#### **Integrated Waste Management Department**

320 N. Flower Street  
Santa Ana, California 92703-5000  
Contact: **Mr. John Tzeng**  
949.728.3045

Prepared by:

### **RBF Consulting**

14725 Alton Parkway  
Irvine, California 92618  
Contact: **Mr. Bruce R. Grove, Jr.**  
949.855.3686  
**Mr. Richard Beck**  
949.855.3687

**June 7, 2004**

JN 10-102970-10914

---

# DELINEATION OF JURISDICTIONAL WATERS

*Prima Deshecha Landfill*  
County of Orange, California

---

Prepared For:

BonTerra Consulting  
151 Kalmus Drive, Suite E-200  
Costa Mesa, California 92625  
*Contact: Mr. Gary Medeiros*  
714/444-9199

County of Orange  
Integrated Waste Management Department  
320 N. Flower Street  
Santa Ana, California 92703-5000  
*Contact: John Tzeng*  
949/728-3045

Prepared By:

**RBF Consulting**  
14725 Alton Parkway  
Irvine, California 92618  
*Contacts: Mr. Bruce R. Grove, Jr.*  
949/855-3686  
*Mr. Richard Beck*  
949/855-3687

June 7, 2004  
Revised of February 20, 2004  
JN 10-102970



June 7, 2004

Mr. Gary Medeiros  
**BONTERRA CONSULTING**  
151 Kalmus Drive, E-200  
Costa Mesa, California 92626

**SUBJECT: UPDATED DELINEATION OF JURISDICTIONAL WATERS  
Prima Deshecha Landfill, County of Orange**

Dear Mr. Medeiros:

On behalf of RBF Consulting (RBF), we are pleased to submit this Delineation of Jurisdictional Waters for the above referenced project. The enclosed delineation was conducted in May 2003 to document the regulatory authority of the U.S. Army Corps of Engineers (ACOE), California Department of Fish and Game's (CDFG), and Regional Water Quality Control Board's (RWQCB) jurisdiction pursuant to the Federal Clean Water Act (CWA) and the State Fish and Game Code. The project area was surveyed pursuant to the ACOE's *1987 Wetland Delineation Manual*, to identify evidence of flows, riparian vegetation, and hydric soils.

This report presents RBF's best effort at determining the jurisdictional boundaries using the most up-to-date regulations, written policy, and guidance from the regulatory agencies. However, as with any jurisdictional delineation, only the regulatory agencies can make a final determination of jurisdiction. Generally, this would be a written concurrence in the form of a Jurisdictional Determination (JD) letter.

Please note that based on a detailed review of current site conditions, our research has indicated that it will be necessary for the project applicant to successfully obtain the following permits prior to commencement of any construction activities within the delineated jurisdictional areas: Army Corps of Engineers 404 Permit, 1602 Streambed Alternation Agreement, and 401 Water Quality Certification.

Please do not hesitate to contact me at 949/855-3687, or Bruce Grove at 949/855-3686, if you or your staff has any questions or require further information.

Sincerely,

A handwritten signature in black ink that reads 'Richard Beck'.

Richard Beck  
Regulatory Coordinator  
Environmental Services-Special Projects

A handwritten signature in black ink that reads 'Bruce R. Grove Jr.'.

Bruce R. Grove Jr., REA  
Project Manager  
Environmental Services-Special Projects



# DELINEATION OF JURISDICTIONAL WATERS

## *Prima Deshecha Landfill* County of Orange, California

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The undersigned certify that this report is a complete and accurate account of the findings and conclusions of a jurisdictional "waters of the U.S." (including wetlands) and "waters of the State" determination for the above-referenced project.



A handwritten signature in black ink that reads "Richard Beck".

---

Richard Beck  
Environmental Analyst/  
Regulatory Coordinator

A handwritten signature in black ink that reads "Bruce R. Grove, Jr.".

---

Bruce R. Grove, Jr.  
Project Manager, REA  
Environmental Services-Special Projects

June 2004

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**APPENDIX**

- A. Wetland Data Forms
- B. Additional Site Photographs
- C. Vegetation Map (provided by BonTerra Consulting)

## 1.0 INTRODUCTION AND PURPOSE

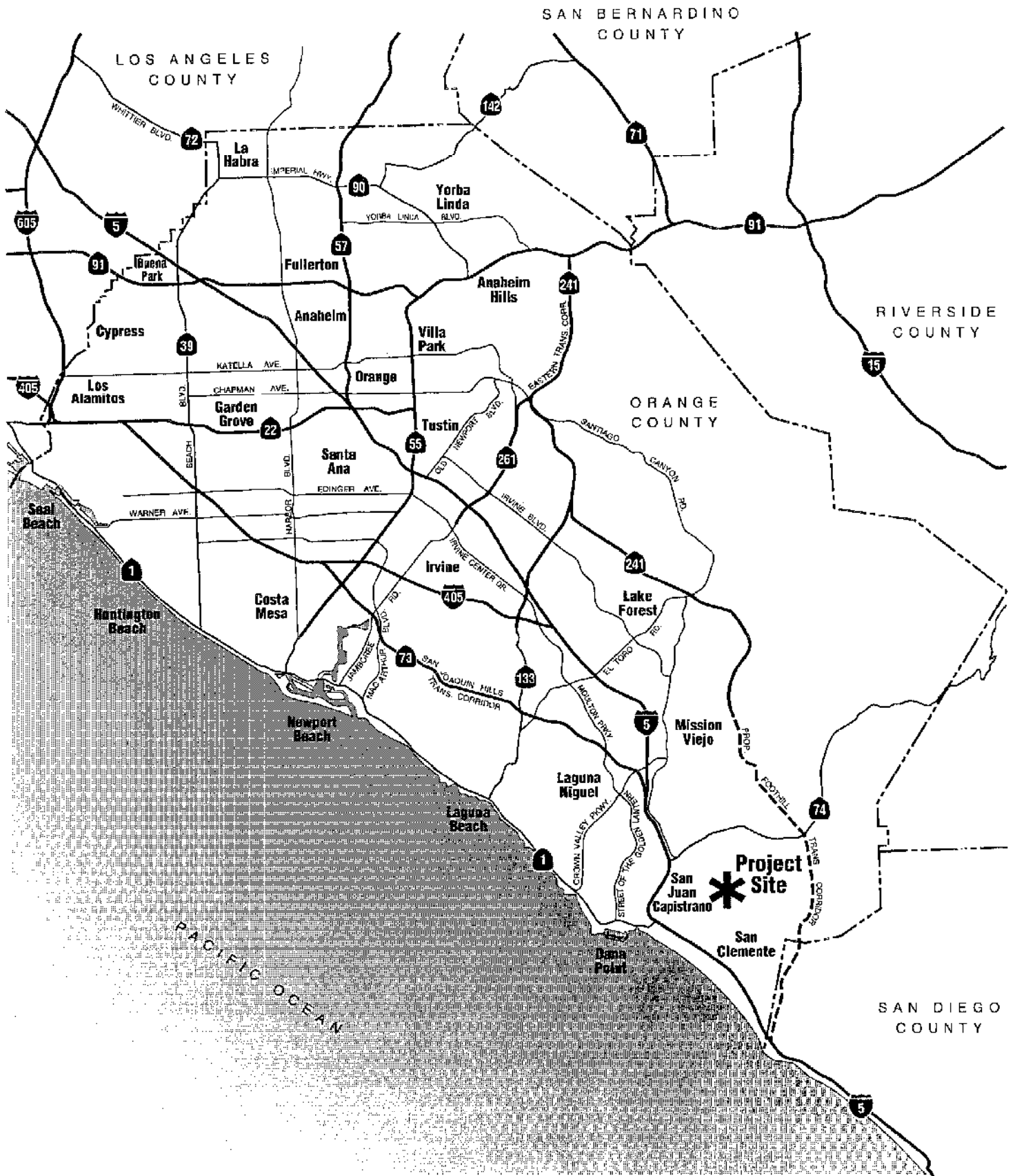
This delineation was prepared for the County of Orange, Integrated Waste Management Department (IWMD) in order to delineate the U.S. Army Corps of Engineers' (ACOE), California Department of Fish and Game's (CDFG), and Regional Water Quality Control Board's (RWQCB) jurisdictional authority for drainages located within the Prima Deshecha Landfill, herein referred to as the project site.

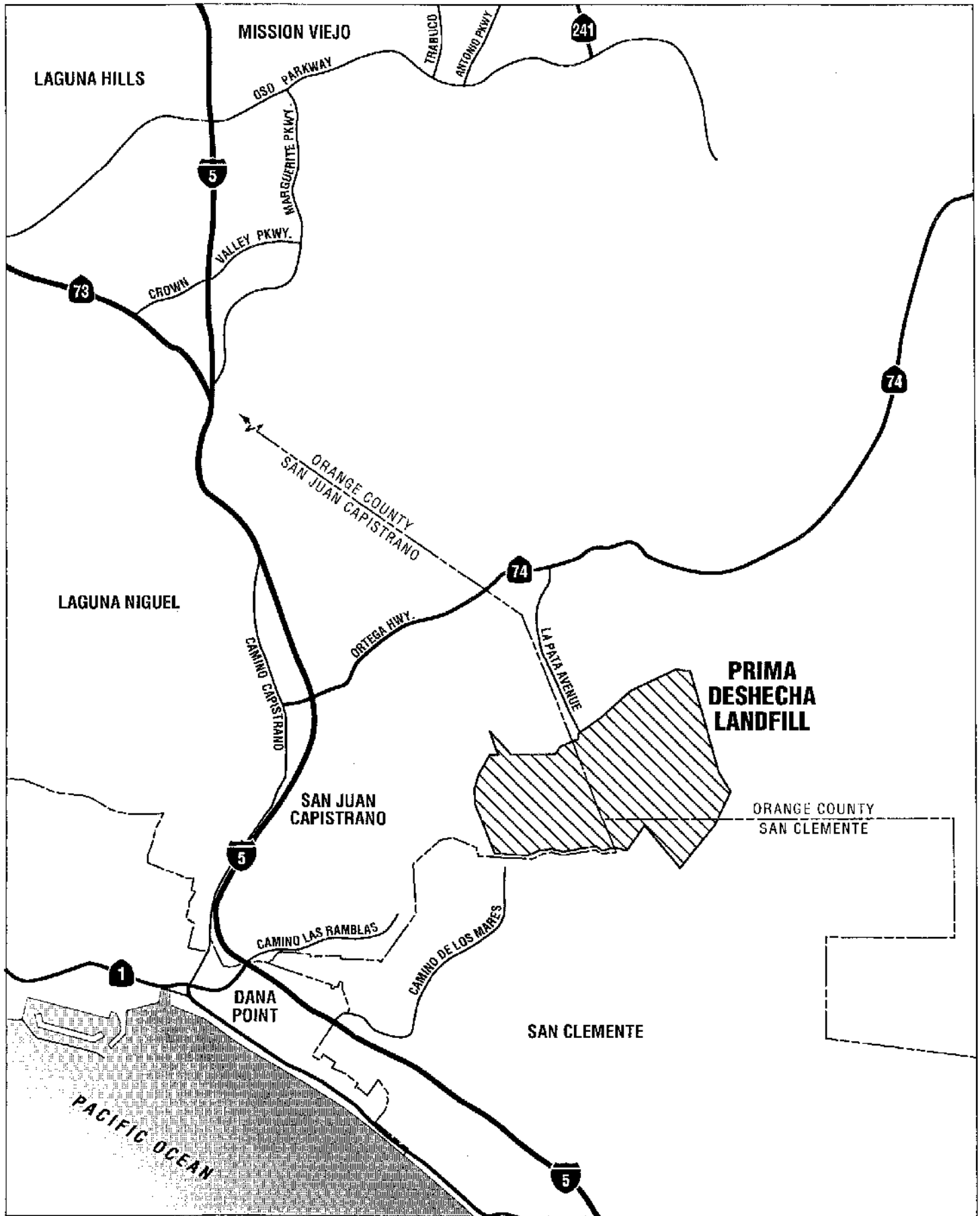
The project site is located within the County of Orange and City of San Juan Capistrano, California (T.8S, R.7W, Sections 3, 4, 8, 9, 10, 15, 16, 17, SBBM) (refer to Exhibits 1-3). More specifically, the project site is located within the 1,530-acre landfill site currently under the management/ownership of the IWMD. The project site is located approximately 2.5 miles east of the Interstate 5 Freeway and 1.0-mile south of Ortega Highway; on-site access is provided via La Pata Road. Once on-site, access is generally provided via existing unimproved and improved roadways.

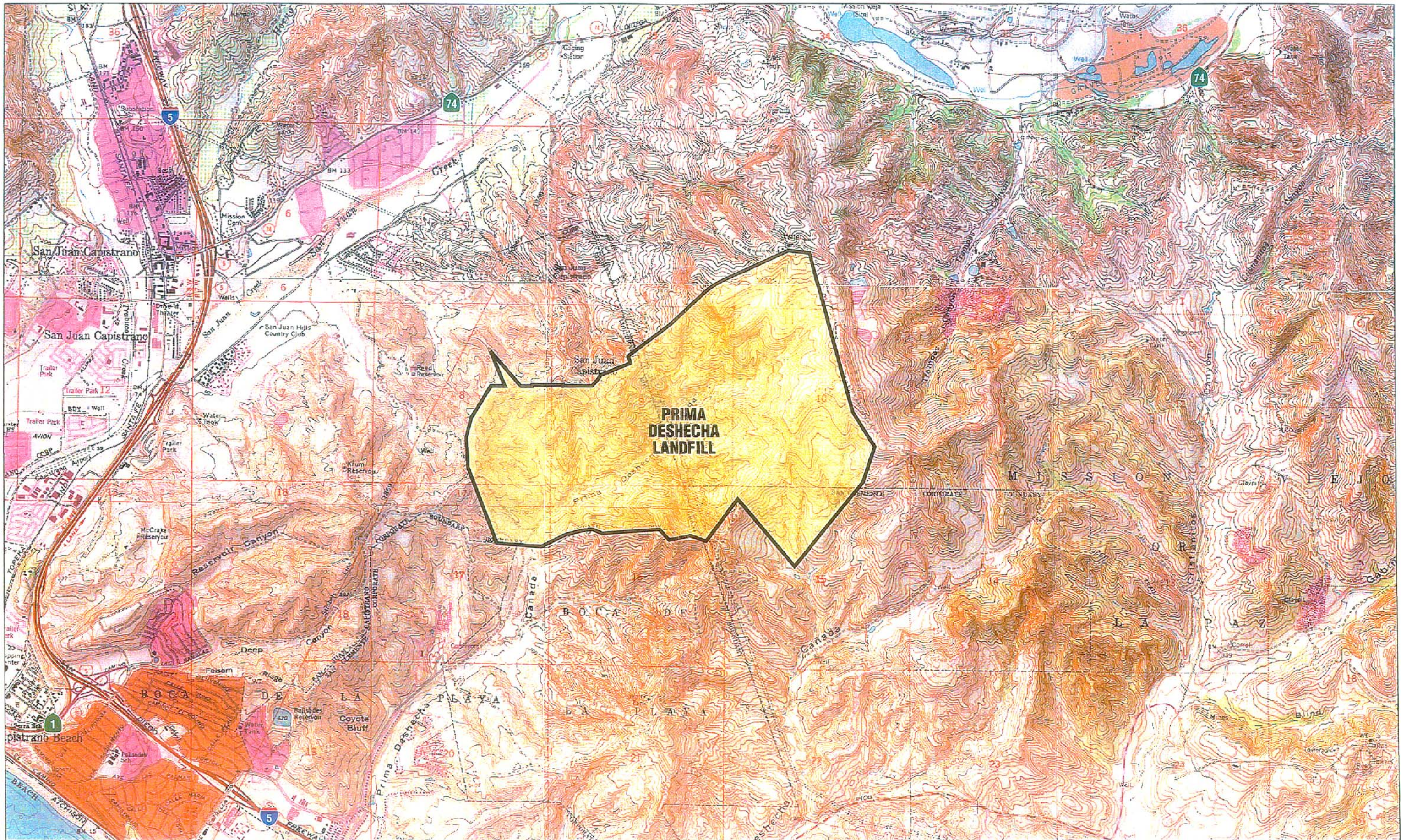
This delineation has been designed to document the authority of the regulatory agencies, the methodology undertaken by RBF Consulting (RBF) to document jurisdictional authority, and the findings made by RBF within the boundaries of the project site. This report presents our best effort at determining the jurisdictional boundaries using the most up-to-date regulations, written policy, and guidance from the regulatory agencies; however, only the regulatory agencies can make a final determination of jurisdictional boundaries.

### 1.1 Project Site Background

The IWMD currently owns and operates a portion of the project site that is utilized for landfill operations. The proposed project consists of the Second Amendment to the 2001 Prima Deshecha General Development Plan. A complete project description shall be submitted along with a formal application submittal to the resource agencies.







Source: National Geographic USGS.

---

# DELINEATION OF JURISDICTIONAL WATERS

## *Prima Deshecha Landfill* County of Orange, California

---

Prepared For:

BonTerra Consulting  
151 Kalmus Drive, Suite E-200  
Costa Mesa, California 92625  
*Contact: Mr. Gary Medeiros*  
714/444-9199

County of Orange  
Integrated Waste Management Department  
320 N. Flower Street  
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*Mr. Richard Beck*  
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June 7, 2004  
Revisal of February 20, 2004  
JN 10-102970



June 7, 2004

Mr. Gary Medeiros  
BONTERRA CONSULTING  
151 Kalmus Drive, E-200  
Costa Mesa, California 92626

**SUBJECT: UPDATED DELINEATION OF JURISDICTIONAL WATERS  
Prima Deshecha Landfill, County of Orange**

Dear Mr. Medeiros:

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Please note that based on a detailed review of current site conditions, our research has indicated that it will be necessary for the project applicant to successfully obtain the following permits prior to commencement of any construction activities within the delineated jurisdictional areas: Army Corps of Engineers 404 Permit, 1602 Streambed Alternation Agreement, and 401 Water Quality Certification.

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Richard Beck  
Regulatory Coordinator  
Environmental Services-Special Projects

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Bruce R. Grove Jr., REA  
Project Manager  
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# DELINEATION OF JURISDICTIONAL WATERS

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The undersigned certify that this report is a complete and accurate account of the findings and conclusions of a jurisdictional "waters of the U.S." (including wetlands) and "waters of the State" determination for the above-referenced project.



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Richard Beck  
Environmental Analyst/  
Regulatory Coordinator

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Bruce R. Grove, Jr.  
Project Manager, REA  
Environmental Services-Special Projects

June 2004



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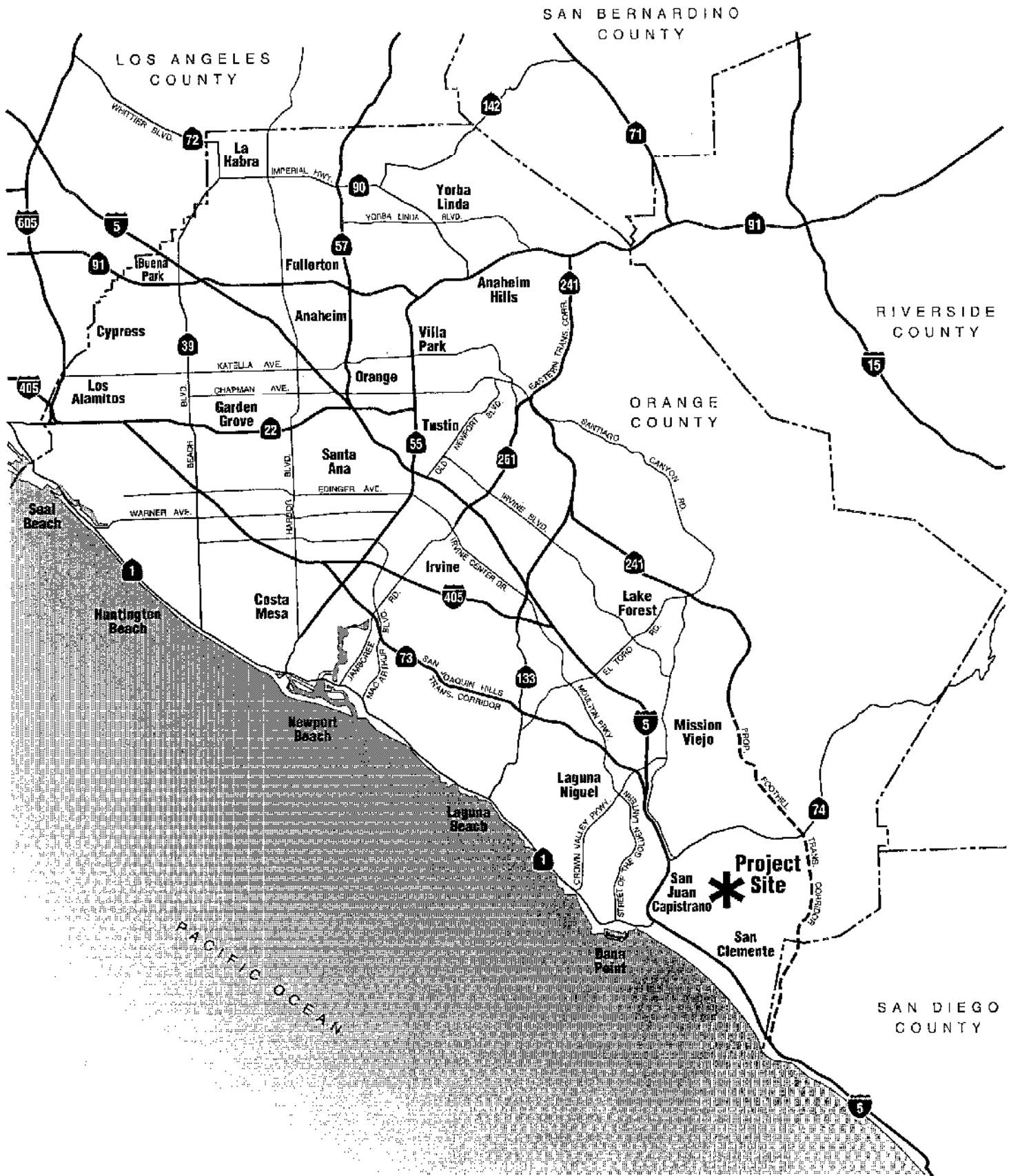
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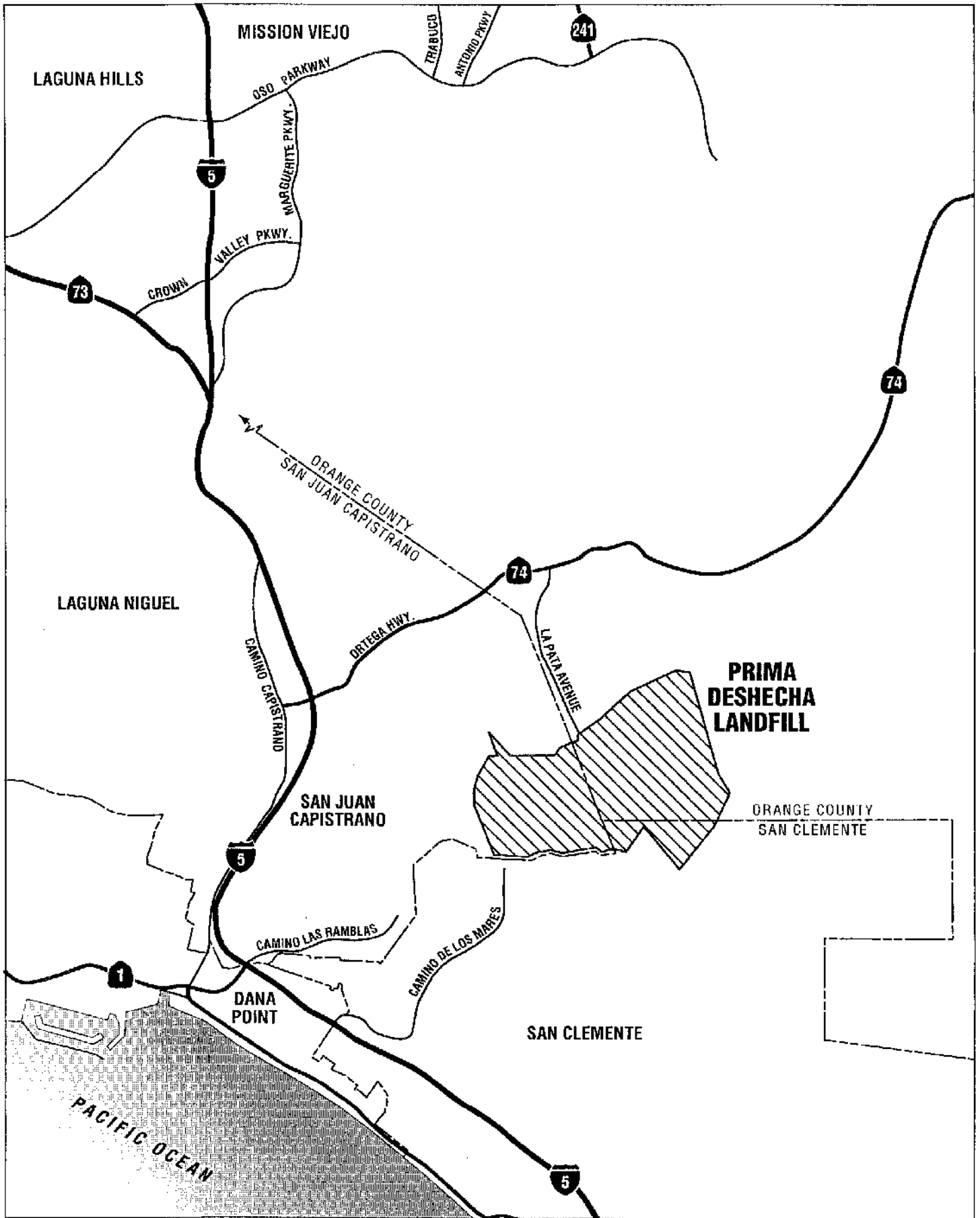
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### 1.1 Project Site Background

The IWMD currently owns and operates a portion of the project site that is utilized for landfill operations. The proposed project consists of the Second Amendment to the 2001 Prima Deshecha General Development Plan. A complete project description shall be submitted along with a formal application submittal to the resource agencies.





## 2.0 SUMMARY OF REGULATIONS

There are three (3) key agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The ACOE Regulatory Branch regulates activities pursuant to Section 404 of the Federal Clean Water Act (CWA), and Section 10 of the Rivers and Harbors Act. Of the State agencies, CDFG regulates activities under the Fish and Game Code Section 1600-1607, and the RWQCB pursuant to Section 401 of the CWA and the California Porter-Cologne Act.

### 2.1 Army Corps of Engineers

The ACOE has regulatory authority over the discharge of dredged or fill material into the waters of the United States under Section 404 of the CWA. The ACOE and Environmental Protection Agency (EPA) recently clarified and simplified the definition of "fill material" to include any "material placed in waters of the United States where the material has the effect of: (i) Replacing any portion of a water of the United States with dry land; or (ii) Changing the bottom elevation of any portion of the waters of the United States." Examples include, but are not limited to sand, rock, clay, construction debris, wood chips, and "materials used to create any structure or infrastructure in the waters of the United States." The term "waters of the United States" includes the following:

- (1) all waters that have, are, or may be used in interstate or foreign commerce (including sightseeing or hunting), including all waters subject to the ebb and flow of the tide;
- (2) wetlands;
- (3) all waters such as interstate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds; the use, degradation or destruction of which could affect interstate or foreign commerce;
- (4) all impoundments of water mentioned above;
- (5) all tributaries of waters mentioned above;
- (6) the territorial seas; and
- (7) all wetlands adjacent to the waters mentioned above.

Under this definition, and in the absence of wetlands, the limits of the ACOE's jurisdiction in non-tidal waters extend to the ordinary high water mark (OHWM), which is defined as "*...that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas* (33 CFR §328.3(e))."

Wetlands, a subset of jurisdictional waters, are jointly defined by the ACOE and EPA as "*those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions* (33 CFR §328.3(b))". Wetlands generally include swamps, marshes, bogs, and similar areas. The process in which jurisdictional areas (if any) are identified is further discussed in Section 3.0, *Methodology*.

It should be noted that a major change in wetland regulation occurred on January 9, 2001, when the U.S. Supreme Court issued the decision, *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers et al* (SWANCC). The SWANCC decision limited the scope of the ACOE's Section 404 CWA regulatory permitting program as applied to isolated waters. The Supreme Court struck down the ACOE's jurisdictional authority over isolated, non-navigable, intrastate waters that are not tributary or adjacent to navigable waters or tributaries (i.e., wetland conditions). Overall, the Court held that Congress did not intend for isolated, non-navigable water conditions to be covered within Section 404 of the CWA, since they are not considered to be true "waters of the U.S."

## 2.2 Regional Water Quality Control Board

The RWQCB is the primary agency responsible for protecting water quality in California. The RWQCB regulates discharges to surface waters under the Federal CWA and the California Porter-Cologne Water Quality Control Act. The RWQCB's jurisdiction extends to all waters of the State and to all waters of the United States, including wetlands (isolated and non-isolated conditions).

Section 401 of the CWA gives the RWQCB the authority to regulate through 401 Certification any proposed federally permitted activity, which may affect water quality. Among such activities are discharges of dredged or fill material permitted by the ACOE pursuant to Section 404 of the CWA. Section 401 requires the RWQCB to provide "certification that there is reasonable assurance that an activity which may result in the discharge to waters of the United States will not violate water quality standards." Water Quality Certification must be based on a finding that the proposed discharge will comply with water quality standards, of which are found as numeric and narrative objectives in each of the nine (9) Regional Board's Basin Plan.

The Porter-Cologne Water Quality Control Act gives the State very broad authority to regulate waters of the State, which are defined as any surface water or groundwater, including saline waters. The Porter-Cologne has become an important tool in the post SWANCC era, with respect to the State's authority over isolated waters. Generally, any person proposing to discharge waste into a water body that could affect its water quality must file a Report of Waste Discharge (should there be no Section 404 nexus). Although "waste" is partially defined as any waste substance associated with human habitation, the RWQCB also interprets this to *include fill* discharged into water bodies.

## 2.3 California Department of Fish and Game

Historically, the State of California regulated activities in rivers, streams, and lakes pursuant to Sections 1600-1607 of the California Fish and Game Code. Legislation that took effect on January 1, 2004 repealed Fish and Game Code sections 1600-1607 and added Fish and Game Code sections 1600-1616. The most important issue to note with this change is that now there is no separation between private/public notifications (previously 1601/1603). Fish and Game Code section 1602 requires any person, state or local governmental agency, or public utility to notify the CDFG before beginning any activity that will do one or more of the following:

- 1) substantially obstruct or divert the natural flow of a river, stream, or lake;
- 2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or

- 3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake.

This notification process is referred to as a 1602 Streambed Alteration Agreement (SAA). Fish and Game Code section 1602 applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the state.

Jurisdictional limits of the CDFG are not as clearly defined by regulation as those of the ACOE. While they closely resemble the limits described by ACOE regulations, they include riparian habitat supported by a river, stream, or lake regardless of the presence or absence of hydric soils and saturated soil conditions. Generally, the CDFG takes jurisdiction to the top of bank of the stream or to the outer limit of the adjacent riparian vegetation (outer drip line), whichever is greater. Notification is generally required for any project that will take place in or in the vicinity of a river, stream, lake, or their tributaries. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life and watercourses having a surface or subsurface flow that support or have supported riparian vegetation.

#### **2.4 Activities Requiring Permits**

Any development proposal that involves impacting drainages, streams, or wetlands on the site through filling, stockpiling, conversion to a storm drain, channelization, bank stabilization, road or utility line crossings, or any other modification would require permits from the ACOE, the RWQCB, and the CDFG before any development could commence on the project site. Both *permanent* and *temporary* impacts are regulated and would therefore trigger the need for permits.

There are two (2) different permit categories utilized by the ACOE, which include either a Nationwide Permit (NWP) or Individual Permit (IP). The specific permit required is primarily based on project description and jurisdictional impacts. The ACOE will not issue its authorization until the RWQCB completes the Section 401 Water Quality Certification. Processing of the 401 Certification with the RWQCB and SAA with the CDFG can occur concurrently with the ACOE permit process, since the agencies can utilize the same information and analysis. Applications to both the RWQCB and the CDFG require submittal of a valid California Environmental Quality Act (CEQA) document along with the application.



### 3.0 METHODOLOGY

Prior to visiting the project site, RBF conducted a review of United States Geological Survey (USGS) topographic maps, *aerial photographs*, the *Soil Survey of Orange County and Western Part of Riverside County, California* (dated 1978); and the *State of California Hydric Soils List*, (dated 1995), to identify areas that **may** fall under an agency's jurisdiction (refer to Section 3.4, *Literature Review*, for a complete discussion).

ACOE jurisdictional wetlands are delineated using the methods outlined in the *ACOE Wetland Delineation Manual* (1987). The methodology set forth in the 1987 Manual is based on the following **three (3)** indicators that are normally present in wetlands: (1) hydrology providing permanent or periodic inundation by groundwater or surface water, (2) hydric soils, and (3) hydrophytic vegetation. In order to be considered a wetland, an area must exhibit at least minimal hydric characteristics within these three parameters. As described in Section 2.0, ACOE non-wetland waters of the U.S. are delineated based on the limits of the OHWM as determined by erosion, the deposition of vegetation or debris, and changes in the vegetation. The RWQCB shares ACOE jurisdiction, unless isolated conditions are present. In the presence of isolated conditions, the RWQCB takes jurisdiction via the OHWM and/or the 3-parameter wetland methodology utilized by the ACOE. CDFG's jurisdiction is defined to the top of bank of the stream/channel or to the limit of the adjacent riparian vegetation.

Analysis presented in this document consists of field surveys and verification of current conditions conducted on May 5, 6, and 30, 2003. While in the field, jurisdictional areas were recorded onto a base map at an approximate scale of 1"= 300' using the topographic contours and visible landmarks as guidelines. It should be noted that areas within the northwestern portion of the landfill were not accessible during the course of this delineation due to current landfill activities. Once in the field, vegetation, soils, and evidence of hydrology were examined via the methodology listed below:

#### 3.1 Vegetation

Nearly 5,000 plant types in the United States may occur in wetlands. These plants, known as hydrophytic vegetation are listed in regional publications of the U.S. Fish and Wildlife Service (USFWS). Cover of vegetation is estimated and is ranked according to their dominance. Species that contribute to a cumulative total of 50% of the total dominant coverage, plus any species that comprise at least 20% (also known as the "50/20 rule") of the total dominant coverage are recorded on a wetland data sheet (included in Appendix A, *Wetland Data Forms*). Wetland indicator status is assigned to each species using *The List of Plant Species that Occur in Wetlands* (USFWS, 1988). If greater than 50% of the dominant species from all strata were Obligate, Facultative-wetland, or Facultative species, the criteria for wetland vegetation was considered to be met. Plant indicator status categories are described below:

- ◆ *Obligate Wetland (OBL)*: Plants that occur almost always (estimated >99 percent) in wetlands under natural conditions, but which may also occur rarely (estimated <1 percent) in non-wetlands (i.e., cattail or pickleweed).
- ◆ *Facultative Wetland (FACW)*: Plants that occur usually (estimated >67 to 99 percent) in wetlands, but also occur (estimated 1 to 33 percent) in non-wetlands (i.e., mulefat or willow).

- ◆ *Facultative (FAC)*: Plants with similar likelihood (estimated 33 to 67 percent) of occurring in both wetlands and non-wetlands.
- ◆ *Facultative Upland (FACU)*: Plants that occur sometimes (estimated 1 to <33 percent) in wetlands, but occur more often (estimated >67 to 99 percent) in non-wetlands.
- ◆ *Obligate Upland (UPL)*: Plants that occur rarely (estimated 1 percent) in wetlands, but occur almost always (estimated >99 percent) in non-wetlands under natural conditions.

### 3.2 Hydrology

If wetland vegetation criteria is met, the presence of wetland hydrology is evaluated at each transect by recording the extent of observed surface flows, depth of inundation, depth to saturated soils, and depth to free water in the soil test pits. In addition, indicators of wetland or riverine hydrology are recorded including the OHWM, drift lines, rack, debris, and sediment deposits. The lateral extent of the hydrology indicators are used as a guide for locating soil pits for evaluation of hydric soils and jurisdictional areas. In portions of the stream where the flow is divided by multiple channels with intermediate sand bars, the entire area between the channels is considered within the OHWM and the wetland hydrology indicator is considered met for the entire area.

### 3.3 Soils

There are approximately 2,000 named soils in the United States that occur in wetlands. Such soils, called hydric soils, have characteristics that indicate they were developed in conditions where soil oxygen is limited by the presence of saturated soil for long periods during the growing season.

Once in the field, soil characteristics are verified by digging soil pits along each transect to a depth of at least 16 inches. Soil pit locations are usually placed within the drainage invert or within adjoining vegetation. At each soil pit, the soil texture and color are recorded by comparison with standard plates within a *Munsell Soil Chart* (1994). Munsell Soil Charts aid in designating color labels to soils, based by degrees of three simple variables- hue, value, and chroma. Any indicators of hydric soils, such as redoximorphic features, buried organic matter, organic streaking, reduced soil conditions, gleyed or low-chroma soils, or sulfuric odor are also recorded. A hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions (as previously listed) in the upper 16 inches. The concept of hydric soils includes soils developed under sufficiently wet conditions to support the growth and regeneration of hydrophytic vegetation. Soils that are sufficiently wet because of artificial measures are included in the concept of hydric soils. It should also be noted that the limits of wetland hydrology indicators are used as a guide for locating soil pits. If any hydric soil features are located, progressive pits are dug moving laterally away from the active channel until hydric features are no longer present within the top 16 inches of the soil profile.

### 3.4 Literature Review

As previously mentioned, RBF conducted a review of USGS topographic maps, *San Juan Capistrano (Photorevised 1981)*, *Cañada Gobernadora (Photorevised 1997)*, *San Clemente (Photorevised 1975)*, and *Dana Point (Photorevised 1975)*, California Quadrangles; *aerial*

photographs, provided by Eagle Aerial (dated 2002); the *Soil Survey of Orange County and Western Part Riverside County, California* (1978); and the *State of California Hydric Soils List*, (1995) prior to visiting the site. Review of relevant literature and materials often help preliminarily identify areas that **may** fall under an agency's jurisdiction. Examples of relevant information include, USGS blue line streams, vegetation map or aerial photographs, and hydric soils as listed within the U.S. Department of Agriculture (USDA) Soil Surveys. A summary of RBF's literature review is provided below (refer to *Section 7.0*, for a complete list of references used during the course of this delineation):

- ◆ USGS Topographic Quadrangles, San Juan Capistrano (Photorevised 1981), Canada Gobernadora (Photorevised 1997), San Clemente (Photorevised 1975), and Dana Point (Photorevised 1975): The USGS maps show geological formations and their characteristics, describing the physical setting of an area through contour lines and major surface features including lakes, rivers, streams, buildings, landmarks, and other factors that may fall under an agency's jurisdiction. Additionally, the maps depict topography through color and contour lines, which are helpful in determining elevations and latitude and longitude within a project site.

Based on the USGS California Quadrangles, on-site topography ranges from approximately 300 to 1000 feet above mean sea level (msl). Seven (7) USGS blue line streams are located within the boundaries of the project site. Blue line streams are generally referred to as streams that flow at least during part of the year. A stream does not need to be a specific size to be considered a blue line; however, these streams are generally considered jurisdictional by State and Federal agencies, as they are often tributaries to larger "navigable" jurisdictional waters. No on-site lakes, marshes, or swamps were noted during the review of the USGS topographic map.

- ◆ Aerial Photograph: Prior to the May 2003 field visit, RBF reviewed an existing aerial photograph, provided by Eagle Aerial (flown in 2002) for the project site. Aerial photographs can be useful during the delineation process, as the photographs often indicate drainages and vegetation (i.e. riparian vegetation) present within the boundaries of the subject site (if any).

According to the aerial photograph, the eastern portion of the subject site consists of hilly topography. The western portion of the site consists of major grading, which is a result of current and historical landfill activities (Zones 1 and 2). Both riparian and upland habitat appear to be present on the aerial, with the riparian zones distinctly following areas of anticipated drainages.

- ◆ Soil Survey: Orange County and Western Part of Riverside, California (1978): On-site and adjoining soils were researched prior to the May 2003 field visit. The presence of hydric soils is initially investigated by comparing the mapped soil series for the site to the County list of hydric soils. Soil surveys furnish soil maps and interpretations originally needed in giving technical assistance to farmers and ranchers; in guiding other decisions about soil selection, use, and management; and in planning research and disseminating the results of the research. In addition, soil surveys are now heavily utilized in order to obtain soil information within respect to potential wetland environments and jurisdictional areas (i.e., soil characteristics, drainage, and color).

According to the Orange County and Western Part of Riverside County, California Soil Survey, dated 1978, the proposed project site is situated on (1) general soil association, the Alo-Basanko association. The Alo-Basanko association consists of strongly sloping to steep, well-drained clays on coastal foothills. In addition to general soil associations, the project site is underlain by nine (9) soil series with multiple phases. The following is a brief description of the series, which underlie the proposed project site:

**Alo clay, 9 to 15 percent slopes (100):** This strongly sloping soil generally occurs on ridges and toe slopes in the foothills. About 5 percent of this mapping soil is included in areas of Bosanko clay, 9 to 15 percent slopes; 5 percent Anaheim clay loam; and 3 percent Balcolm clay loam. If the soil is bare, runoff is medium and the erosion hazard is moderate. Available water capacity is 3.5 to 7.0 inches. Present land use is citrus, dryland barley, pasture, range, and urban development. Subgroup Typic Chromoxererts.

**Alo clay, 15 to 30 percent slopes (101):** This moderately steep soil generally occurs on broad ridge tops in the foothills. About 5 percent of this mapping unit is included areas of Bosanko clay, 15 to 30 percent slopes; 5 percent Anaheim clay loam, 15 to 30 percent slopes; 3 percent slopes; 3 percent Balcom clay loam, 15 to 30 percent slopes; and 2 percent gravelly soils on some ridge tops. If the soil is bare, runoff is rapid and erosion hazard is high. Available water capacity is 3.5 to 6.0 inches. Present land use is dryland barley, pasture, range, and urban development. Subgroup Typic Chromoxererts.

**Alo clay, 30 to 50 percent slopes (102):** This steep soil generally occurs on side slopes in the foothills. About 5 percent of this mapping unit is included areas of Anaheim clay loam, 30 to 50 percent slopes; 5 percent Calleguas clay loam, 50 to 75 percent slopes, eroded; 2 percent Balcom clay loam, 30 to 50 percent slopes; and 2 percent Basanko clay, 30 to 50 percent slopes. If the soil is bare, runoff is rapid and the erosion hazard is high. Available water capacity is 3.5 to 5.5 inches. Present land use is range and watershed. Subgroup Typic Chromoxererts.

**Anaheim clay loam, 15 to 30 percent slopes (108):** This moderately steep soil generally occurs on broad ridgetops and north-facing side slopes. About 5 percent of this mapping until is included areas of Alo clay; 5 percent Anaheim loam; 5 percent Nacimiento clay loam; 2 percent Cieneba sandy loam; and 3 percent Balcom clay loam. If the soil is bare, runoff is rapid and the erosion hazard is high. Permeability is moderately slow. Available water capacity is 4.0 to 7.0 inches. Present land use is pasture and range. Subgroup Pachic Haploxerolls.

**Balcom clay loam, 15 to 30 percent slopes (112):** This moderately steep soil generally occurs on hill ridgetops. About 5 percent of this mapping unit is included areas of Bosanko clay, 15 to 30 percent slopes; 4 percent Calleguas clay loam; 4 percent Cieneba sandy loam, 15 to 30 percent slopes; and some soils, similar to the Balcom soil, that have a dark gray surface layer. If the soil is bare, runoff is rapid and the erosion hazard is high. Available water capacity is 4 to 6 inches. Present land use is urban development, dryland barely, and dry pasture. Subgroup Calcixerollic Xerochrepts.

**Bosanko clay, 9 to 15 percent slopes (126):** This strongly sloping soil generally occurs on broad hilltop ridges and on toe slopes. About 5 percent of this mapping unit is included areas of Balcom clay loam, 9 to 15 percent slopes; 4 percent Alo clay, 9 to 15 percent slopes; and 10 percent soils that are similar to this Bosanko soil and are more than 40 inches deep. If the soil is bare, runoff is medium and the erosion hazard is moderate. Available water capacity is 3.5 to 6.5 inches. Present land use is citrus, dryland barley, pasture range, and urban development. Subgroup Chromic Pelloxererts.

**Bosanko clay, 15 to 30 percent slopes (127):** This moderately steep soil occurs on broad hilltop ridges. About 7 percent of this mapping unit is included areas of Balcom clay loam, 15 to 30 percent slopes; and 5 percent Alo clay, 15 to 30 percent slopes. If the soil is bare, runoff is rapid and the erosion hazard is moderate. Available water capacity is 3.5 to 6.0 inches. Present land use is dryland barley, pasture, range, and urban development. Subgroup Chromic Pelloxererts.

**Bosanko clay, 30 to 50 percent slopes (128):** This steep soil generally occurs on north-facing hillsides. About 7 percent of this mapping unit is included areas of Balcom clay loam, 30 to 50 percent slopes; and 5 percent Alo clay, 30 to 50 percent slopes. If the soil is bare, runoff is rapid and the erosion hazard is high. Available water capacity is 3.0 to 5.5 inches. Present land use is range and watershed. Subgroup Chromic Pelloxererts.

**Botella loam, 2 to 9 percent slopes (131):** This gently sloping to moderately sloping soil generally occurs on alluvial fans in long, narrow foothill valleys. About 5 percent of this mapping unit is included areas where slopes at the lower ends of fans or valleys are 0 to 2 percent; 5 percent Capistrano sandy loam, 2 to 9 percent slopes; 5 percent Botella clay loam, 2 to 9 percent slopes; and 3 percent Sorrento sandy loam, 2 to 9 percent slopes. If the soil is bare, runoff is medium and the erosion hazard is moderate. Present land use is irrigated citrus, dryland small grain, pasture, and range. Subgroup Pachic Argixerolls.

**Botella clay loam, 2 to 9 percent slopes (132):** This gently sloping to moderately sloping soil generally occurs on alluvial fans in narrow foothill valleys. About 5 percent of this mapping unit is included areas where slopes at the lower ends of fans or valleys are 0 to 2 percent; 5 percent Botella Loam, 2 to 9 percent slopes; 5 percent Sorrento clay loam; and 3 percent Mocho loam. If the soil is bare, runoff is medium and the erosion hazard is moderate. Present land use is irrigated citrus, dryland small grain, pasture, and range. Subgroup Pachic Argixerolls.

**Calleguas clay loam, 50 to 75 percent slopes, eroded (134):** This very steep soil generally has south-facing slopes. As much as 75 percent of the original surface layer has been lost in areas that have been cultivated, overgrazed, or burned because of sheet, rill, and gully erosion. Geologic erosion is active, and soil slipping is common. Many areas are a succession of short, vertical, exposures, or "cat steps". About 5 percent of this mapping unit is included areas of Cieneba sandy loam; 5 percent Balcom clay loam; 3 percent Anaheim clay loam; and 10 percent less sloping or steeper Calleguas clay loam. If the soil is bare, runoff is rapid and the erosion hazard is high. Present land use is range, watershed, and urban development. Subgroup Typic Xerorthents.

**Cropley clay, 2 to 9 percent slopes (149):** This gently sloping to moderately sloping soil generally occurs as irregular, oblong areas. About 10 percent of this mapping unit is included areas of Cropley clay, 0 to 2 percent slopes; 10 percent a soil that is very dark grayish brown to dark grayish brown clay but is otherwise similar to this Cropley soil; 7 percent Bosanko clay; and 3 percent Botella clay loam, 2 to 9 percent slopes. If the soil is bare, runoff is medium and the erosion hazard is slight. Present land use is citrus, barely, pasture, range, and urban development. Subgroup Chromic Pelloxererts.

**Soper gravelly loam, 30 to 50 percent slopes (202):** This steep soil generally occurs on hillsides. About 5 percent of this mapping unit is included areas of Yorba gravelly sandy loam, 2 percent Gabino gravelly clay loam, 5 percent Soper cobbly loam, 5 percent less sloping or steeper Soper gravelly loams, 2 percent Cieneba-Rock outcrop complex, and 2 percent Cieneba sandy loam. If the soil is bare, runoff is rapid and the erosion hazard is high. Available water capacity is 2.5 to 5.0 inches. Present land use is range, watershed, and wildlife habitat. Subgroup Typic Argixerolls.

**Soper-Rock outcrop complex, 30 to 75 percent slopes (204):** This mapping unit commonly occurs on hillsides and ridges. It is 10 to 15 percent Rock outcrop. The Soper soil is severely eroded. About 3 percent of this mapping unit is included areas of Anaheim loam, 5 percent Cieneba sandy loam, and 20 percent Soper cobbly loam. If the soil is bare, runoff is rapid and the erosion hazard is high. Available water capacity is 2.5 to 3.5 inches. Present land use is range, watershed, and wildlife habitat. Subgroup Typic Argixerolls.

**Sorrento clay loam, 2 to 9 percent slopes (209):** This gently sloping to moderately sloping soil generally occurs on upper valley fans and along stream channels in 10- to 100-acre areas. About 10 percent of this mapping unit is included areas of Sorrento loam, 2 to 9 percent slopes; 5 percent soils that are noncalcareous throughout but are otherwise similar to his Sorrento soil; 5 percent Mocho loam, 2 to 9 percent slopes; 3 percent Botella clay loam, 2 to 9 percent slopes; and 3 percent areas of this Sorrento soil where slopes are somewhat steeper than 9 percent. If the soil is bare, runoff is slow to medium and the erosion hazard is slight to moderate. Available water capacity is 11.0 to 13.0 inches. Present land use is irrigated crops, citrus, and urban development. Subgroup Calcic Haploxerolls.

Based on the Orange County and Western Part of Riverside County, California Soil Survey the above soil series are typical of hydric soils due to the low permeability and porosity characteristic of high clay content soils. Soil pits were dug throughout the subject site to verify the list findings (refer to Section 4.2, *Site Conditions-Soils*, for a discussion of on-site soils). Also, refer to Exhibit 4, *Soil Survey Map*, for an illustration of approximate on-site soil locations.

- ◆ *Hydric Soils List of California (1995):* RBF reviewed the Hydric Soils List of California, provided by the Natural Resources Conservation Service (NRCS), dated December 15, 1995 in an effort to verify whether or not on-site soils are considered to be hydric. Lists of hydric soils along with soil survey maps are good off-site ancillary tools to assist in wetland determinations, but as expected, they are not a substitute for on-site investigations. According to list, none of the above-mentioned soil series are listed as hydric.

- ◆ Local Climate: The local climate is typical of the Southern California Coastal Region. Winters are cool and moist; nearly all of the precipitation falls in winter. Summers are mild, warm, and dry. Average annual rainfall at most of the lower elevations of the region is approximately 14 inches. For this purposes of this delineation, the growing season is considered to be 365 days a year.
  
- ◆ Groundwater Depth: According to the soil survey mentioned above, soils within the project site generally reveal a groundwater depth of greater than six (6)-feet below ground surface (bgs).
  
- ◆ Coastal Zone: The project site is not located within the California Coastal Zone.



Source: U.S. Dept. of Agriculture, Soil Conservation Service, Orange Co., CA, Map Sheet Nos. 19 and 20, 1976

PRIMA DESHECHA LANDFILL • JURISDICTIONAL DELINEATION

# Soil Survey

Exhibit 4

**RBF** CONSULTING

22005, N. 10-102872-109' 4  
447-0524117  
2001'



## 4.0 SITE CONDITIONS

As described in Section 1.0, the proposed project is located in southern Orange County. On-site access is generally provided via existing paved roadways, specifically La Pata Avenue. Refer to Sections 4.1 through 4.3, below, for discussion with respect to the three (3) wetland parameters defined in Section 3.0.

### 4.1 Vegetation

The vegetation present on the project site primarily consists of Grasslands; Coastal Sage Scrub, which includes, Mulefat Scrub, Sagebrush Scrub, Coyote Bush Scrub, Southern Willow Scrub; Mixed Sage Scrub/Grassland Ecotone; Woodland; Freshwater and Alkali Marsh; and Riparian. The Riparian vegetation consists of freshwater marsh, alkali marsh, southern willow scrub, and mulefat scrub. The riparian vegetation is primarily located along Prima Deshecha Cañada (Drainage G), where vegetation is most abundant within the project site.

A large majority of the project site appeared to consist of non-native species (e.g., thistle and mustard) during the May 2003 field visits. This type of vegetation occurred within and outside of jurisdictional drainages and was often dominant. In cases where hydrophytic vegetation was present (i.e., on-site wetlands), evidence of hydrology and soil samples were then warranted. Dominant hydrophytic vegetation present within the boundaries of the project site during the May 2003 field visits included willow and mulefat; however, other hydrophytes were noted as well.

### 4.2 Hydrology

As discussed during the topographic map review, several blue line streams and unnamed drainages are located within the boundaries of the project site. Prima Deshecha Cañada is the dominant drainage and flows generally in a southwestern direction, originating in the eastern portion of the project site. The majority of jurisdictional waters on-site consist of ephemeral drainage tributaries of Prima Deshecha Cañada, which generally contain water flow only during storm events.

Water flow was observed within Prima Deshecha Cañada and within the associated on-site spring during the May 2003 field visits. Depth to surface water ranged from approximately 2 inches to 2.5 feet (within the spring/open water area). Many of the ephemeral on-site drainages displayed evidence of hydrology (via drift/debris lines, scouring, and cut) sufficient to document the OHWM, and therefore met the hydrology standard for both wetland and non-wetland waters.

### 4.3 Soils

Soils within the boundaries of the project site were found to be consistent with those previously mentioned during the literature review in Section 3.4. Generally, on-site soils consisted of clays and loams (limited to heavy flow areas). Evidence of organic matter from surrounding vegetation was noted near Wetland 1 and Drainage G. Overall, on-site soil colors were typically light brow/grey in nature (Munsell 10 YR 3/3, 3/1 and 5YR 4/2); on-site soils appeared to be dry to moist, depending on the drainage and location. Soils within riparian and hydrophytic areas were consistently hydric (gleyed soils), due to the clayey soil moisture content. Refer to Appendix A, *Wetland Data Forms*, for specific detail on each of the soil pits dug during the May 2003 field visits.



View looking at soil conditions (soil pit No. 2).



View looking at open water / wetland habitat within the northeastern portion of the project site.



Typical view of on-site environment on the hilly terrain (primarily comprised of non-native upland species).



View looking at hydrophytic vegetation (*Anemopsis californica*) located within Wetland No. 1.



Typical on-site drainage. Many drainages were not incised due to the dominant on-site soils (clays).



View looking upstream at Drainage V.



View of native riparian habitat (wetland) near the disturbed landslide remediation area.

### 4.3 Functions and Values

The project site is located within two (2) major watersheds, the Prima Deshecha Canada and Segunda Deshecha Canada watersheds. The project site primarily occupies the northernmost portion of the Prima Deshecha Cañada. In fact, the Prima Deshecha Canada watershed covers approximately 1,298 acres, which is roughly 84 percent of the project site. Prima Deshecha Canada is oriented such that flow occurs predominately in a southwesterly direction. A perennial spring is located in the northernmost reaches of Prima Deshecha Canada, at outcrops of the San Onofre Breccia near the head of the canyon. Surface flow continues over an area of approximately 1,200 linear feet, beyond which point all spring water has infiltrated into the alluvium of the streambed.

Wetlands and waters offer many functions and values beneficial to the general public and to the environment. Since each site is dynamic and unique, the functions and values vary greatly depending on hydrology, soil, vegetation, size, and location of the wetland in the region. Although jurisdictional areas may not serve all functions, each works together as part of a complex integrated system. A functional assessment of the jurisdictional areas on-site shall be provided during the formal resource agency application process.

## 5.0 FINDINGS

This delineation was prepared for the County of Orange IWM in order to delineate the ACOE's, CDFG's, and RWQCB's jurisdictional authority for drainages located within the Prima Deshecha Landfill. This report presents RBF's best effort at determining the jurisdictional boundaries using the most up-to-date regulations, written policy, and guidance from the regulatory agencies. However, as with any jurisdictional delineation, only the regulatory agencies can make a final determination of jurisdictional boundaries within a project site/property. Jurisdictional boundaries are broken down specifically by agency and are described below.

### 5.1 U.S. Army Corps of Engineers (ACOE)

#### Wetland Determination:

As previously noted in Section 2.1, an area must exhibit **all three (3)** of the wetland parameters described in the *ACOE Wetland Delineation Manual* to be considered a jurisdictional wetland. Based on the results of the field investigations, it was determined that portions of the project site contained all three parameters. Based on the site conditions, **3.39-acres** of ACOE jurisdictional wetlands are present within the boundaries of the project site (refer to Table 1 and Exhibit 6).

**Table 1**  
**ACOE Jurisdictional Summary (Wetlands)**

Wetland	ACOE Area (Acres)
W-1	0.40
W-2	0.76
W-3	0.30
W-4	1.77
W-5	0.02
W-6	0.14
<b>Totals</b>	<b>3.39</b>

#### Waters of the U.S. (non-wetland) Determination:

Areas within the project site exhibited water flow and evidence of hydrology (Drift and debris lines, scouring, and cut) sufficient to document the OHWM, thus meeting the criteria for ACOE jurisdictional waters (non-wetland). The OHWM ranged from 2 feet to 20 feet. Based on the results of the field observations and data collection, **6.56-acres** of ACOE jurisdictional "waters of the U.S." are located within the boundaries of the project site (refer to Table 2).

Figure 6

2000 Jurisdictional Map

Legend

- Water
- Wetlands
- Other
- Unlabeled Area
- Unlabeled Area

Scale: 1:50,000

Exhibit 7

COFC Jurisdictional Map

THE ZODIAC GROUP, INC.  
1997-1998  
1997-1998

1997-1998

1997-1998

1997-1998

1997-1998

1997-1998



**Table 2**  
**Jurisdictional Summary (ACOE Non-Wetland)**

Drainage	Linear Feet	Corps Width (feet)	Square Footage	Corps Area (Acres)
A	900	6	5,400	0.12
B	4,200	Varies	18,700	0.43
C	500	2	1,000	0.02
D	800	8	6,400	0.15
E	400	2	800	0.02
F	2,800	2	5,600	0.13
G	5,800	Varies	35,600	0.82
H	400	2	800	0.02
I	500	2	1,000	0.02
J	400	2	800	0.02
K	1,090	Varies	3,800	0.09
L	500	3	1,500	0.03
M	1,100	Varies	2,700	0.06
N	1,180	Varies	3,160	0.07
O	500	2	1,000	0.02
P	700	3	2,100	0.05
Q	3,550	Varies	10,500	0.24
R	2,000	3	6,000	0.14
S	500	2	1,000	0.02
T	2,800	Varies	13,600	0.31
U	1,300	2	2,600	0.06
V	2,200	Varies	25,800	0.59
W	300	2	600	0.01
X	2,000	2	4,000	0.09
Y	2,400	4	9,600	0.22
Z	2,000	Varies	14,600	0.34
AA	3,500	Varies	17,600	0.40
BB	600	4	2,400	0.05
"Spring"	NA	NA	NA	0.24
Basin	NA	NA	NA	1.78
<b>Totals</b>	<b>44,920</b>	<b>NA</b>	<b>198,660</b>	<b>6.56</b>

**5.2 California Regional Water Quality Control Board Determination (RWQCB)**

No isolated conditions were observed within the boundaries of the project site; therefore, the RWQCB follows that of ACOE jurisdictional "waters of the U.S."

**5.3 California Department of Fish and Game Determination (CDFG)**

The CDFG jurisdiction within the drainages extends from the top of bank to top of bank, and in areas of riparian vegetation, to the outer drip line. For the purposes of this delineation, the CDFG width for most drainages varied from 2 feet to 100 feet. Many times the jurisdiction



expanded due to the presence of stands of riparian vegetation such as willow and/or mulefat. Based on the results of the field observations and data collection, **16.08-acres** of CDFG jurisdiction is located within the boundaries of the project site (refer to Table 3 and Exhibit 7).

**Table 3**  
**Jurisdictional Summary (CDFG)**

<b>Streambed</b>	<b>Linear Feet</b>	<b>CDFG Width (In feet)</b>	<b>Square Footage</b>	<b>CDFG Area (Acres)</b>
A	900	6	5,400	0.12
B	4,200	Varies	26,700	0.61
C	500	2	1,000	0.02
D	800	8	6,400	0.15
E	400	4	1,600	0.04
F	2,800	Varies	9,600	0.22
G	10,600	Varies	203,200	7.21
H	400	10	4,000	0.09
I	500	2	1,000	0.02
J	400	16	6,400	0.15
K	1,090	Varies	11,800	0.27
L	700	Varies	11,000	0.25
M	1,170	Varies	3,170	0.07
N	1,180	Varies	6,960	0.16
O	500	10	5,000	0.11
P	700	6	4,200	0.10
Q	3,550	Varies	23,060	0.53
R	2,000	20	40,000	0.92
S	500	2	1,000	0.02
T	2,800	Varies	13,600	0.31
U	1,300	Varies	2,600	0.06
V	2,500	Varies	28,800	0.66
W	300	6	1,800	0.04
X	2,000	2	4,000	0.09
Y	2,400	Varies	19,200	0.44
Z	2,500	Varies	38,500	0.88
AA	3,500	Varies	29,100	0.67
BB	600	6	3,600	0.08
Basin	NA	NA	NA	1.78
<b>Totals</b>	<b>50,790</b>	<b>NA</b>	<b>512,690</b>	<b>16.08</b>

## 6.0 CONCLUSION OF REGULATORY APPROVAL PROCESS

The following is a summary of the various permits, agreements, and certifications required before construction activities take place within the above-mentioned jurisdictional areas.

### 6.1 U.S. Army Corps of Engineers (ACOE)

The ACOE regulates discharges of dredged fill material into "waters of the United States" pursuant to Section 404 of the CWA. A federal permit will be required from the ACOE Regulatory Branch-Los Angeles District Office since improvements associated with the proposed improvements will result in the discharge of material within the ACOE's jurisdiction.

The project is currently under preliminary design and conceptual planning; therefore, specific impacts (permanent and temporary) to jurisdictional areas remain undefined. Based on the amount of jurisdiction on-site, the type of proposed project (i.e., land filling), and based on preliminary correspondence with the ACOE, it is anticipated that the proposed activities can be authorized via an IP/Letter of Permission (LOP).

An IP usually has a 30-day comment period under public noticing, though the time limit can be as short as 15 days. Processing time generally takes 9-12 months, but it is not uncommon for the processing time to last 1-3 years depending on the complexity and size of the subject project. The IP process generally involves a Pre-Application Field Meeting; environmental documentation (e.g., jurisdictional delineation, site plans, project purpose, location, duration, etc.); submittal of a Pre-Construction Notification (PCN); consultations with other agencies (as appropriate); a Section 404(B)(1) Alternatives Analysis and compliance determination; and a final ACOE permit decision. Prior to issuance of the ACOE permit, a CWA Section 401 Water Quality Certification from the RWQCB must be obtained.

### 6.2 Regional Water Quality Control Board (RWQCB)

For the ACOE 404 permit to be approved, a 401 Water Quality Certification from the San Diego RWQCB will be required. The RWQCB requires that CEQA compliance be obtained prior to obtaining the 401 Certification.

Once an application has been deemed complete, the RWQCB has between 60 days and 1 year in which to make a decision. According to regulations of the ACOE, the State has 60 days from the date of receipt of a valid request for water quality standards certification (33 CFR Section 325.2 (b) (1) (ii)). The ACOE district engineer may specify a longer (up to one year) or shorter time, if he or she determines that a longer or shorter time is reasonable (33 CFR Section 325.2 (b) (1) (ii)). If processing and review of the 401 application will take more than 60 days, the RWQCB will request additional time from the ACOE. Please note that even when an application has been deemed complete, the RWQCB has the option of denial without prejudice. This is not a reflection on the project, but a means to stop the clock until the required information has been required.

As required by 23 California Code of Regulations (CCR) § 3858 (a), the RWQCB is required to have a *minimum 21 day public comment period* before any action is taken on a 401 application. The period closes when the RWQCB acts on the 401 application. The public comment period does not close after a certain number of days because proposed projects tend to change

through the 401 process and the public is allowed to review and comment on the changed project. The public comment period starts as soon as an application has been received.

Additionally, the RWQCB requires that water quality concerns related to urban storm water runoff be addressed. Any 401 Certification application submitted to the RWQCB should incorporate the use of BMPs for the treatment of pollutants carried by storm water runoff in order to be considered a complete application. The RWQCB also requires a 401 Certification Application Fee, which is dependent on the amount of impacts.

### **6.3 California Department of Fish and Game (CDFG)**

As noted within this delineation, on-site drainages within the project site meet the CDFG's definition as streambed. Since improvements associated with the proposed project will impact CDFG Jurisdiction, a 1602 Streambed Alteration Agreement (SAA) must be obtained prior to impact.

After the CDFG is notified, the CDFG will determine whether the notification package (application) is complete. The CDFG will make this determination within 30 calendar days of receiving the notification package if the application is for a regular agreement (i.e., an agreement for a term of five years or less). Once the notification package is complete, the CDFG will process it as described below. The 30-day time period does *not* apply to notifications for long-term agreements (i.e., agreements for a term greater than five years).

If a SAA is required, the CDFG conducts an onsite inspection, if necessary, and prepares a draft agreement. The draft agreement will include measures to protect fish and wildlife resources while conducting the project. For regular agreements, the CDFG will submit a draft agreement to the applicant within 60 calendar days after the notification is deemed complete. Again, the 60-day time period does not apply to notifications for long-term agreements, since these are often large or complex projects.

The applicant then has 30 calendar days to notify the CDFG whether the measures in the draft agreement are acceptable. After the CDFG receives the signed draft agreement, it will make it final by signing it. The CDFG Agreement will require a \$1390.50 fee and CEQA compliance is necessary in order for the SAA to be issued.

### **6.4 Global Recommendations**

#### Agency Concurrence and Pre-Application Field Meeting:

Prior to the application process, it is highly recommended that the delineation be forwarded to each of the regulatory agencies for their concurrence. Once the delineation is approved, RBF has found it extremely beneficial and pro-active to have an on-site meeting with the ACOE, CDFG, and RWQCB to discuss potential permitting strategies and mitigation opportunities (if any). In short, these Pre-Application Field Meetings often help streamline the permitting process.

Potential Mitigation:

Mitigation can take several forms. It can consist of (1) avoidance or minimization of impacts, (2) compensation in the form of habitat creation, or (3) compensation through participation in a mitigation bank. The first type of mitigation (avoidance or minimization of impacts) is preferred by the agencies and should be investigated to the maximum extent possible. For any project that impacts riparian vegetation, it is preferred by the agencies that compensation through the creation of habitat be performed on-site and in kind (i.e., riparian woodland for riparian woodland; sandy bottom for sandy bottom). The exact requirements of any special conditions established in the permit would be dictated by the regulatory agencies following review of the formally submitted project application.

## 7.0 REFERENCES

Aerial Photograph, provided by Eagle Aerial, flown in 2002.

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Vegetation Map, provided by BonTerra Consulting 2003.

## A) Wetland Data Forms

## Appendix

ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site	Prima Deshecha Landfill	Date	May 5, 2003
Applicant / Owner	County of Orange - IWMD	County	Orange
Investigator	R. Beck / C. Johnson	State	California
Do Normal Circumstances exist on the site?	YES NO	Community ID	Marsh
Is the site significantly disturbed (Atypical Situation)?	YES NO	Transect ID	—
Is the area a potential Problem Area? (If needed, explain on reverse)	YES NO	Plot ID	3-4

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Yerba Mansa	herb	# OBL	9		
2 Mulefat	Shrub	FACW	10		
3			11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 790%.

Remarks  
Limited weedy species noted.  
3-4 Mulefat shrubs.

HYDROLOGY

<input checked="" type="checkbox"/> Recorded Data (Describe in Remarks) <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs (Reviewed) <input type="checkbox"/> Other  <input checked="" type="checkbox"/> No Recorded Data Available		<b>WETLAND HYDROLOGY INDICATORS</b> Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input checked="" type="checkbox"/> Water Marks <input checked="" type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands	
FIELD OBSERVATIONS			
Depth of Surface Water	None	(in)	Secondary Indicators (2 or more Required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Depth to Free Water in Pit	716.0	(in)	
Depth to Saturated Soil	716.0	(in)	



**SOILS**

Map Unit Name (Series and Phase): <u>Calleguas clay loam</u>	Drainage Class: <u>WD</u>
Taxonomy (Subgroup) <u>Typic Xerorthents</u>	Field Observations Confirm Mapped Type? <u>YES</u> NO

**PROFILE DESCRIPTION**

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
1-2	O	10YR 3-1	None	NA	Organic Matk
2-16	A	10YR 3-1	None	NA	Clay
16-	B	2.5YR/2.5T	None	NA	Clay

**HYDRIC SOIL INDICATORS:**

- |   |  |
|---|--|
| <input type="checkbox"/> Histic Epipedon<br><input type="checkbox"/> Sulfidic Odor<br><input type="checkbox"/> Aquic Moisture Regime<br><input type="checkbox"/> Reducing Conditions<br><input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Concretions<br><input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils<br><input type="checkbox"/> Organic Streaking in Sandy Soils<br><input type="checkbox"/> Listed on Local Hydric Soils List<br><input type="checkbox"/> Listed on National Hydric Soils List<br><input type="checkbox"/> Other (Explain in Remarks) |
|---|--|

Remarks:

Moist soils, heavy organic material along top O layer.

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	<u>YES</u> NO	Is this Sampling Point Within a Wetland? <u>YES</u> NO
Wetland Hydrology Present?	<u>YES</u> NO	
Hydric Soils Present?	<u>YES</u> NO	

Remarks

15-17' wide, upstream of spring.  
Flat wetland area.

ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site	Prima Deshecha Landfill	Date	May 5, 2003
Applicant / Owner	County of Orange-IWMD	County	Orange
Investigator	R. Beck / C. Johnson	State	California
Do Normal Circumstances exist on the site?	<input checked="" type="radio"/> YES <input type="radio"/> NO	Community ID	Upland
Is the site significantly disturbed (Atypical Situation)?	<input type="radio"/> YES <input checked="" type="radio"/> NO	Transect ID	—
Is the area a potential Problem Area? (If needed, explain on reverse)	<input type="radio"/> YES <input checked="" type="radio"/> NO	Plot ID	2

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Thistle	Shrub	UPL	9		
2 Mulefat	Shrub	FACW	10		
3			11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 0%

Remarks  
Similar to plot ID 1. One (1) mulefat shrub noted.

HYDROLOGY

<input checked="" type="checkbox"/> Recorded Data (Describe in Remarks) <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs (Reviewed) <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available		<b>WETLAND HYDROLOGY INDICATORS</b> Primary Indicators: <b>OHWM 2 FT.</b> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands	
FIELD OBSERVATIONS			
Depth of Surface Water	None	(in)	Secondary Indicators (2 or more Required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Depth to Free Water in Pit	716.0	(in)	
Depth to Saturated Soil	716.0	(in)	

**SOILS**

Map Unit Name (Series and Phase): Alo clay      Drainage Class: \_\_\_\_\_

Taxonomy (Subgroup) Typic Chromoxererts      Field Observations Confirm Mapped Type? YES NO

**PROFILE DESCRIPTION**

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
1-16	A	10YR 3/2	None	NA	Silty-clay

**HYDRIC SOIL INDICATORS:**

- |  |   |
|--|---|
| <input type="checkbox"/> Histosol                    | <input type="checkbox"/> Concretions  |
| <input type="checkbox"/> Histic Epipedon             | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor               | <input type="checkbox"/> Organic Streaking in Sandy Soils                     |
| <input type="checkbox"/> Aquic Moisture Regime       | <input type="checkbox"/> Listed on Local Hydric Soils List                    |
| <input type="checkbox"/> Reducing Conditions         | <input type="checkbox"/> Listed on National Hydric Soils List                 |
| <input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks)                           |

Remarks:

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	YES <u>NO</u>	Is this Sampling Point Within a Wetland?    YES <u>NO</u>
Wetland Hydrology Present?	YES <u>NO</u>	
Hydric Soils Present?	<u>YES</u> NO	

Remarks

clayey soils, no dominant FAC + veg.

DATA FORM

ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site	Prima Deshecha Landfill	Date	May 5, 2003
Applicant / Owner	County of Orange-IWMD	County	Orange
Investigator	R. Beck / C. Johnson	State	California
Do Normal Circumstances exist on the site?	YES NO	Community ID	Non-native
Is the site significantly disturbed (Atypical Situation)?	YES NO	Transect ID	—
Is the area a potential Problem Area? (If needed, explain on reverse)	YES NO	Plot ID	1

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	Thistle sp.	shrub	UPL	9			
2				10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 0%

Remarks  
Area is invert dominated by thistle.

HYDROLOGY

<input checked="" type="checkbox"/> Recorded Data (Describe in Remarks) <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs (Reviewed) <input type="checkbox"/> Other  <input checked="" type="checkbox"/> No Recorded Data Available		<p>WETLAND HYDROLOGY INDICATORS</p> <p>Primary Indicators: evd. of scour/cut OHWM. 4FT.</p> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands	
FIELD OBSERVATIONS			
Depth of Surface Water	None (in)	Secondary Indicators (2 or more Required):	
Depth to Free Water in Pit	716.0 (in)	<input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)	
Depth to Saturated Soil	> 16.0 (in)		

**SOILS**

Map Unit Name (Series and Phase): Alo Clay Drainage Class: WD

Taxonomy (Subgroup) Typic Chromoxererts Field Observations Confirm Mapped Type? YES NO

**PROFILE DESCRIPTION**

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
1-16	A	2.5Y/3	None	NA	Silty-clay

**HYDRIC SOIL INDICATORS:**

- Histosol
- Histic Epipedon
- Sulfidic Odor
- Aquic Moisture Regime
- Reducing Conditions
- Gleyed or Low-Chroma Colors
- Concretions
- High Organic Content in Surface Layer in Sandy Soils
- Organic Streaking in Sandy Soils
- Listed on Local Hydric Soils List
- Listed on National Hydric Soils List
- Other (Explain in Remarks)

Remarks:  
Rock outcroppings, Scour noted.

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	YES <u>NO</u>	Is this Sampling Point Within a Wetland? YES <u>NO</u>
Wetland Hydrology Present?	YES <u>NO</u>	
Hydric Soils Present?	<u>YES</u> NO	

Remarks:  
Jurisdictional tributary (F)

ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site	Prima Deshecha Landfill	Date	May 2003
Applicant / Owner	County of Orange-FWMD	County	Orange
Investigator	R. Beck / C. Johnson	State	California
Do Normal Circumstances exist on the site?	YES NO	Community ID	March
Is the site significantly disturbed (Atypical Situation)?	YES NO	Transect ID	—
Is the area a potential Problem Area? (If needed, explain on reverse)	YES NO	Plot ID	5-6

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Yerba Mansa	herb	OBL	9		
2			10		
3			11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 790%.

Remarks  
Similar to plots 3-4, more water content. Thicker Veg. layer.

HYDROLOGY

<input checked="" type="checkbox"/> Recorded Data (Describe in Remarks) <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs (Reviewed) <input type="checkbox"/> Other  <input checked="" type="checkbox"/> No Recorded Data Available		<b>WETLAND HYDROLOGY INDICATORS</b> Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input checked="" type="checkbox"/> Water Marks <input checked="" type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands	
FIELD OBSERVATIONS			
Depth of Surface Water	None (mist) (in)		
Depth to Free Water in Pit	716.0 (in)		
Depth to Saturated Soil	716.6 (in)		
		Secondary Indicators (2 or more Required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)	

**SOILS**

Map Unit Name (Series and Phase): <u>Calleguas clay loam</u>	Drainage Class: <u>WD</u>
Taxonomy (Subgroup) <u>Typic Xerorthents</u>	Field Observations Confirm Mapped Type? <u>YES</u> NO

PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
1-2	O	10 YR 3-1	None	NA	O. Matter
2-16	A	10 YR 3-1	None	↓	Clay
16-	B	2.5 YR/2.5	None	↓	Clay

**HYDRIC SOIL INDICATORS:**

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Bleached or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	<u>YES</u> NO	Is this Sampling Point Within a Wetland? <u>YES</u> NO
Wetland Hydrology Present?	<u>YES</u> NO	
Hydric Soils Present?	<u>YES</u> NO	

Remarks

ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site	Prima Deshecha Landfill	Date	May 2003
Applicant / Owner	County of Orange - FWMD	County	Orange
Investigator	R. Beck / C. Johnson	State	California
Do Normal Circumstances exist on the site?	YES NO	Community ID	Marsh/Spring
Is the site significantly disturbed (Atypical Situation)?	YES NO	Transect ID	—
Is the area a potential Problem Area? (If needed, explain on reverse)	YES NO	Plot ID	7

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	Thistle	Shrub	UPL	9			
2	Cattail	Shrub	OBL	10			
3	Mudfat	Shrub	FACW	11			
4	Salt Grass	herb	OBL	12			
5	Mugwort	Shrub	FACW	13			
6				14			
7				15			
8				16			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 780%.

Remarks  
Thick vegetation. A top of spring.  
Water present.

HYDROLOGY

<input checked="" type="checkbox"/> Recorded Data (Describe in Remarks) <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs (Reviewed) <input type="checkbox"/> Other  <input checked="" type="checkbox"/> No Recorded Data Available		<b>WETLAND HYDROLOGY INDICATORS</b> Primary Indicators: <input checked="" type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands	
FIELD OBSERVATIONS			
Depth of Surface Water	2.0	(in)	Secondary Indicators (2 or more Required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Depth to Free Water in Pit	8.0	(in)	
Depth to Saturated Soil	1.0	(in)	



**SOILS**

Map Unit Name (Series and Phase): <u>Calleguas clay loam</u>	Drainage Class: <u>WD</u>
Taxonomy (Subgroup): <u>Typic Xerorthents</u>	Field Observations Confirm Mapped Type? <u>YES</u> NO

PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
<u>1-16</u>	<u>A</u>	<u>2.5Y/3.1</u>	<u>None</u>	<u>NA</u>	<u>Silty clay</u>

**HYDRIC SOIL INDICATORS:**

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input checked="" type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
--	--

Remarks:

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	<u>YES</u> NO	Is this Sampling Point Within a Wetland? <u>YES</u> NO
Wetland Hydrology Present?	<u>YES</u> NO	
Hydric Soils Present?	<u>YES</u> NO	

Remarks:

**ROUTINE WETLAND DETERMINATION**  
(1987 COE Wetlands Delineation Manual)

Project/Site	Prima Deshecha Landfill	Date	May 5, 2003
Applicant / Owner	County of Orange-IWMD	County	Orange
Investigator	R. Beck / C. Johnson	State	California
Do Normal Circumstances exist on the site?	<input checked="" type="radio"/> YES <input type="radio"/> NO	Community ID	Marsh / Spring
Is the site significantly disturbed (Atypical Situation)?	<input type="radio"/> YES <input type="radio"/> NO	Transect ID	—
Is the area a potential Problem Area? (If needed, explain on reverse)	<input type="radio"/> YES <input type="radio"/> NO	Plot ID	8

**VEGETATION**

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	Mulefat	Shrub	FACW	9			
2	Saltgrass	herb	OBL	10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			
Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 770 /							
Remarks Mulefat & Saltgrass along water's edge.							

**HYDROLOGY**

<input checked="" type="checkbox"/> Recorded Data (Describe in Remarks) <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs (Reviewed) <input type="checkbox"/> Other  <input checked="" type="checkbox"/> No Recorded Data Available		<b>WETLAND HYDROLOGY INDICATORS</b> Primary Indicators: <input type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated in Upper 12 Inches <input checked="" type="checkbox"/> Water Marks <input checked="" type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands	
FIELD OBSERVATIONS			
Depth of Surface Water	None	(in)	Secondary Indicators (2 or more Required):
Depth to Free Water in Pit	4.0	(in)	<input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches
Depth to Saturated Soil	2.0	(in)	<input type="checkbox"/> Water-Stained Leaves
			<input type="checkbox"/> Local Soil Survey Data
			<input type="checkbox"/> FAC-Neutral Test
			<input type="checkbox"/> Other (Explain in Remarks)

**SOILS**

Map Unit Name (Series and Phase): <i>Calleguas clay loam</i>	Drainage Class: <i>WD</i>
Taxonomy (Subgroup) <i>Typic Xerothents</i>	Field Observations Confirm Mapped Type? <input checked="" type="radio"/> YES <input type="radio"/> NO

PROFILE DESCRIPTION

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
<i>1-16</i>	<i>A</i>	<i>3/1 YR</i>	<i>None</i>	<i>NA</i>	<i>Silty Clay</i>

HYDRIC SOIL INDICATORS:

- |  |   |
|--|---|
| <input type="checkbox"/> Histosol                    | <input type="checkbox"/> Concretions  |
| <input type="checkbox"/> Histic Epipedon             | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input checked="" type="checkbox"/> Sulfidic Odor    | <input type="checkbox"/> Organic Streaking in Sandy Soils                     |
| <input type="checkbox"/> Aquic Moisture Regime       | <input type="checkbox"/> Listed on Local Hydric Soils List                    |
| <input type="checkbox"/> Reducing Conditions         | <input type="checkbox"/> Listed on National Hydric Soils List                 |
| <input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks)                           |

Remarks:

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> YES <input type="radio"/> NO	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> YES <input type="radio"/> NO
Wetland Hydrology Present?	<input checked="" type="radio"/> YES <input type="radio"/> NO	
Hydric Soils Present?	<input checked="" type="radio"/> YES <input type="radio"/> NO	

Remarks

*On-site spring.  
open water noted.*

ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site	Prima Deshecha Landfill	Date	May 5, 2003
Applicant / Owner	County of Orange - IWMD	County	Orange
Investigator	R. Beck / C. Johnson	State	California
Do Normal Circumstances exist on the site?	<input checked="" type="radio"/> YES <input type="radio"/> NO	Community ID	Marsh / Spring
Is the site significantly disturbed (Atypical Situation)?	<input type="radio"/> YES <input type="radio"/> NO	Transect ID	—
Is the area a potential Problem Area? (If needed, explain on reverse)	<input type="radio"/> YES <input type="radio"/> NO	Plot ID	9

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	Mulefat	Shrub	FACW	9			
2	Saltgrass	Herb	OBL	10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 770%

Remarks  
Mulefat x saltgrass along water's edge.

HYDROLOGY

<input checked="" type="checkbox"/> Recorded Data (Describe in Remarks) <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs (Reviewed) <input type="checkbox"/> Other  <input checked="" type="checkbox"/> No Recorded Data Available		<b>WETLAND HYDROLOGY INDICATORS</b> Primary Indicators: <input type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated in Upper 12 Inches <input checked="" type="checkbox"/> Water Marks <input checked="" type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands	
FIELD OBSERVATIONS			
Depth of Surface Water	None	(in)	Secondary Indicators (2 or more Required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Depth to Free Water in Pit	4.0	(in)	
Depth to Saturated Soil	2.0	(in)	

**SOILS**

Map Unit Name (Series and Phase): <u>Colleagues clay loam</u>	Drainage Class: <u>WD</u>
Taxonomy (Subgroup) <u>Typic Xerochrepts</u>	Field Observations Confirm Mapped Type? <span style="border: 1px solid black; border-radius: 50%; padding: 2px;"><u>YES</u></span> NO

PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
<u>1-16</u>	<u>A</u>	<u>3/1YR</u>	<u>None</u>	<u>NA</u>	<u>Silty-clay</u>

**HYDRIC SOIL INDICATORS:**

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input checked="" type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	<span style="border: 1px solid black; border-radius: 50%; padding: 2px;"><u>YES</u></span> NO	Is this Sampling Point Within a Wetland? <span style="border: 1px solid black; border-radius: 50%; padding: 2px;"><u>YES</u></span> NO
Wetland Hydrology Present?	<span style="border: 1px solid black; border-radius: 50%; padding: 2px;"><u>YES</u></span> NO	
Hydric Soils Present?	<span style="border: 1px solid black; border-radius: 50%; padding: 2px;"><u>YES</u></span> NO	

Remarks

On-site Spring  
open water noted.

**ROUTINE WETLAND DETERMINATION**  
(1987 COE Wetlands Delineation Manual)

Project/Site	Prima Deshecha Landfill	Date	May 5, 2003
Applicant / Owner	County of Orange - FWMD	County	Orange
Investigator	R. Beck / C. Johnson	State	California
Do Normal Circumstances exist on the site?	<input checked="" type="radio"/> YES <input type="radio"/> NO	Community ID	Marsh / Spring
Is the site significantly disturbed (Atypical Situation)?	<input type="radio"/> YES <input type="radio"/> NO	Transect ID	—
Is the area a potential Problem Area? (If needed, explain on reverse)	<input type="radio"/> YES <input type="radio"/> NO	Plot ID	10

**VEGETATION**

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Muefat	Shrubs	FACW	9		
2 Saltgrass	Herbs	OBL	10		
3			11		
4			12		
5			13		
6			14		
7			15		
8			16		
Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-)			> 70%		
Remarks					
Muefat & saltgrass along water's edge.					

**HYDROLOGY**

<input checked="" type="checkbox"/> Recorded Data (Describe in Remarks) <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs (Reviewed) <input type="checkbox"/> Other  <input checked="" type="checkbox"/> No Recorded Data Available		<b>WETLAND HYDROLOGY INDICATORS</b> Primary Indicators: <input type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated in Upper 12 Inches <input checked="" type="checkbox"/> Water Marks <input checked="" type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands	
FIELD OBSERVATIONS			
Depth of Surface Water	None	(in)	Secondary Indicators (2 or more Required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Depth to Free Water in Pit	4.0	(in)	
Depth to Saturated Soil	2.0	(in)	

**SOILS**

Map Unit Name (Series and Phase): <u>Calleguas clay loam</u>	Drainage Class:
Taxonomy (Subgroup) <u>Typic Xerothents</u>	Field Observations Confirm Mapped Type? <u>YES</u> NO

PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
<u>1-1 1/2</u>	<u>A</u>	<u>3/1YR</u>	<u>None</u>	<u>NA</u>	<u>Silty-clay</u>

**HYDRIC SOIL INDICATORS:**

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input checked="" type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	<u>YES</u> NO	Is this Sampling Point Within a Wetland? <u>YES</u> NO
Wetland Hydrology Present?	<u>YES</u> NO	
Hydric Soils Present?	<u>YES</u> NO	

Remarks

On-site spring  
Open water noted

ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site	Prima Deshecha Landfill	Date	May 5, 2003
Applicant / Owner	County of Orange - IWMD	County	Orange
Investigator	R. Beck / C. Johnson	State	California
Do Normal Circumstances exist on the site?	<input checked="" type="radio"/> YES <input type="radio"/> NO	Community ID	Marsh / Spring
Is the site significantly disturbed (Atypical Situation)?	<input type="radio"/> YES <input type="radio"/> NO	Transect ID	---
Is the area a potential Problem Area? (If needed, explain on reverse)	<input type="radio"/> YES <input type="radio"/> NO	Plot ID	//

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Muefat	Shrub	FACW	9		
2 Saltgrass	Herb	OBL	10		
3			11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 77%

Remarks  
Muefat & Saltgrass along water's edge

HYDROLOGY

<input checked="" type="checkbox"/> Recorded Data (Describe in Remarks) <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs (Reviewed) <input type="checkbox"/> Other  <input checked="" type="checkbox"/> No Recorded Data Available		<b>WETLAND HYDROLOGY INDICATORS</b> Primary Indicators: <input type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated in Upper 12 Inches <input checked="" type="checkbox"/> Water Marks <input checked="" type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands	
FIELD OBSERVATIONS			
Depth of Surface Water	None	(in)	Secondary Indicators (2 or more Required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Depth to Free Water in Pit	4.0	(in)	
Depth to Saturated Soil	2.0	(in)	



**SOILS**

Map Unit Name (Series and Phase): <i>Calleguas clay loam</i>	Drainage Class: <i>WD</i>
Taxonomy (Subgroup) <i>Typic Xerothents</i>	Field Observations Confirm Mapped Type? <input checked="" type="radio"/> YES <input type="radio"/> NO

PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
<i>1-16</i>	<i>A</i>	<i>3/1 YR</i>	<i>None</i>	<i>NA</i>	<i>Silty-clay</i>

**HYDRIC SOIL INDICATORS:**

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input checked="" type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> YES	<input type="radio"/> NO	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> YES <input type="radio"/> NO
Wetland Hydrology Present?	<input checked="" type="radio"/> YES	<input type="radio"/> NO	
Hydric Soils Present?	<input checked="" type="radio"/> YES	<input type="radio"/> NO	

Remarks

*On-site Spring  
open water noted*

ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site	Prima Deshecha Landfill	Date	May 5, 2003
Applicant / Owner	County of Orange - FWMD	County	Orange
Investigator	R. Beck / C. Johnson	State	California
Do Normal Circumstances exist on the site?	YES NO	Community ID	upland
Is the site significantly disturbed (Atypical Situation)?	YES NO	Transect ID	—
Is the area a potential Problem Area? (If needed, explain on reverse)	YES NO	Plot ID	12

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	Thistle	Shrub	UPL	9			
2	Mulefat	Shrub	FACW	10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 450 %

Remarks  
Thistle, limited mulefat.

HYDROLOGY

<input checked="" type="checkbox"/> Recorded Data (Describe in Remarks) <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs (Reviewed) <input type="checkbox"/> Other  <input checked="" type="checkbox"/> No Recorded Data Available		<b>WETLAND HYDROLOGY INDICATORS</b> Primary Indicators: <i>OHWM noted 2 FT</i> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands	
FIELD OBSERVATIONS			
Depth of Surface Water	None	(in)	Secondary Indicators (2 or more Required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Depth to Free Water in Pit	716.0	(in)	
Depth to Saturated Soil	716.0	(in)	

**SOILS**

Map Unit Name (Series and Phase): Calleguas clay loam      Drainage Class:

Taxonomy (Subgroup) Typic Xerorthents      Field Observations Confirm Mapped Type? YES NO

PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
<u>1-16</u>	<u>A</u>	<u>10YR 3/2</u>	<u>None</u>	<u>NA</u>	<u>Silty Clay.</u>

- HYDRIC SOIL INDICATORS:**
- |  |   |
|--|---|
| <input type="checkbox"/> Histosol                    | <input type="checkbox"/> Concretions  |
| <input type="checkbox"/> Histic Epipedon             | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor               | <input type="checkbox"/> Organic Streaking in Sandy Soils                     |
| <input type="checkbox"/> Aquic Moisture Regime       | <input type="checkbox"/> Listed on Local Hydric Soils List                    |
| <input type="checkbox"/> Reducing Conditions         | <input type="checkbox"/> Listed on National Hydric Soils List                 |
| <input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks)                           |

Remarks:

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	YES <u>NO</u>	Is this Sampling Point Within a Wetland?    YES <u>NO</u>
Wetland Hydrology Present?	YES <u>NO</u>	
Hydric Soils Present?	<u>YES</u> NO	

Remarks

Jurisdictional Tributary.

ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site	Prima Deshecha Landfill	Date	May 5, 2003
Applicant / Owner	County of Orange - IWMD	County	Orange
Investigator	R. Beck / C. Johnson	State	California
Do Normal Circumstances exist on the site?	<input checked="" type="radio"/> YES <input type="radio"/> NO	Community ID	Riparian
Is the site significantly disturbed (Atypical Situation)?	<input type="radio"/> YES <input type="radio"/> NO	Transect ID	—
Is the area a potential Problem Area? (If needed, explain on reverse)	<input type="radio"/> YES <input type="radio"/> NO	Plot ID	13-14

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Mulefat	Shrub	FACW	9		
2 Saltgrass	herb	OBL	10		
3			11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 750%.

Remarks

hydrophytic vegetation in drainage.

HYDROLOGY

<input checked="" type="checkbox"/> Recorded Data (Describe in Remarks) <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs (Reviewed) <input type="checkbox"/> Other  <input checked="" type="checkbox"/> No Recorded Data Available		<b>WETLAND HYDROLOGY INDICATORS</b> Primary Indicators: <input type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input checked="" type="checkbox"/> Drift Lines <input checked="" type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands	
FIELD OBSERVATIONS			
Depth of Surface Water	20.5	(in)	Secondary Indicators (2 or more Required):
Depth to Free Water in Pit	4.0	(in)	<input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches
Depth to Saturated Soil	4.0	(in)	<input type="checkbox"/> Water-Stained Leaves
			<input type="checkbox"/> Local Soil Survey Data
			<input type="checkbox"/> FAC-Neutral Test
			<input type="checkbox"/> Other (Explain in Remarks)

**SOILS**

Map Unit Name (Series and Phase): <i>Calleguas clay loam</i>	Drainage Class:
Taxonomy (Subgroup) <i>Typic Xerorthents</i>	Field Observations Confirm Mapped Type? <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">YES</span> NO

PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
<i>1-16</i>	<i>A</i>	<i>10YR 3/1</i>	<i>None</i>	<i>NA</i>	<i>Silty-clay</i>

**HYDRIC SOIL INDICATORS:**

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input checked="" type="checkbox"/> Sulfidic Odor ( <i>Minor odor</i> ) <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
--	--

Remarks:

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	<span style="border: 1px solid black; border-radius: 50%; padding: 2px;">YES</span>	NO	Is this Sampling Point Within a Wetland? <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">YES</span> NO
Wetland Hydrology Present?	<span style="border: 1px solid black; border-radius: 50%; padding: 2px;">YES</span>	NO	
Hydric Soils Present?	<span style="border: 1px solid black; border-radius: 50%; padding: 2px;">YES</span>	NO	

Remarks:

ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site	Prima Deshecha Landfill	Date	May 5, 2003
Applicant / Owner	County of Orange - IWMD	County	Orange
Investigator	R. Beck / C. Johnson	State	California
Do Normal Circumstances exist on the site?	YES NO	Community ID	Near Road
Is the site significantly disturbed (Atypical Situation)?	YES NO	Transect ID	—
Is the area a potential Problem Area? (If needed, explain on reverse)	YES NO	Plot ID	15-18

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Mulefat	Shrub		9		
2 thistle	Shrub		10		
3			11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 750%

Remarks  
Some vegetation appeared to be graded / Filled over near unimproved road. Mulefat in area ~

HYDROLOGY

<input checked="" type="checkbox"/> Recorded Data (Describe in Remarks) <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs (Reviewed) <input type="checkbox"/> Other  <input checked="" type="checkbox"/> No Recorded Data Available		<b>WETLAND HYDROLOGY INDICATORS</b> Primary Indicators: <input type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated in Upper 12 Inches <input checked="" type="checkbox"/> Water Marks <input checked="" type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands	
FIELD OBSERVATIONS			
Depth of Surface Water	2.0	(in)	Secondary Indicators (2 or more Required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Depth to Free Water in Pit	2.0	(in)	
Depth to Saturated Soil	4.0	(in)	

**SOILS**

Map Unit Name (Series and Phase): <u>Ala clay</u>				Drainage Class:	
Taxonomy (Subgroup) <u>Typic Chromoxererts</u>			Field Observations Confirm Mapped Type? <u>YES</u> NO		
PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
<u>1-16</u>	<u>A</u>	<u>10YR 3/1</u>	<u>None</u>	<u>NA</u>	<u>Silty Clay</u>

**HYDRIC SOIL INDICATORS:**

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input checked="" type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:  
Very wet, moist clays.

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	<u>YES</u> NO	Is this Sampling Point Within a Wetland? <u>YES</u> NO
Wetland Hydrology Present?	<u>YES</u> NO	
Hydric Soils Present?	<u>YES</u> NO	
Remarks <u>Area disturbed. Roughly 48ft wide.</u>		

ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site	Prima Deshecha Landfill	Date	May 5, 2003
Applicant / Owner	County of Orange - FWMD	County	Orange
Investigator	R. Beck / C. Johnson	State	California
Do Normal Circumstances exist on the site?	YES NO	Community ID	Riparian
Is the site significantly disturbed (Atypical Situation)?	YES NO	Transect ID	—
Is the area a potential Problem Area? (If needed, explain on reverse)	YES NO	Plot ID	19

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	Mulefat	Shrub	FACW	9			
2				10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 780%.

Remarks: Primarily all mulefat. Some non-natives within center

HYDROLOGY

<input checked="" type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> <li><input type="checkbox"/> Stream, Lake, or Tide Gauge</li> <li><input checked="" type="checkbox"/> Aerial Photographs (Reviewed)</li> <li><input type="checkbox"/> Other</li> </ul> <input checked="" type="checkbox"/> No Recorded Data Available		<b>WETLAND HYDROLOGY INDICATORS</b>	
<b>FIELD OBSERVATIONS</b>		Primary Indicators:	
Depth of Surface Water	None (in)	<input type="checkbox"/> Inundated	<input type="checkbox"/> Saturated in Upper 12 Inches
Depth to Free Water in Pit	716.0 (in)	<input checked="" type="checkbox"/> Water Marks	<input type="checkbox"/> Drift Lines
Depth to Saturated Soil	716.0 (in)	<input checked="" type="checkbox"/> Sediment Deposits	<input type="checkbox"/> Drainage Patterns in Wetlands
		Secondary Indicators (2 or more Required):	
		<input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches	<input type="checkbox"/> Water-Stained Leaves
		<input type="checkbox"/> Local Soil Survey Data	<input type="checkbox"/> FAC-Neutral Test
		<input type="checkbox"/> Other (Explain in Remarks)	



**SOILS**

Map Unit Name (Series and Phase): <i>Calleguas clay loam</i>	Drainage Class:
Taxonomy (Subgroup) <i>Typic Xerorthents</i>	Field Observations Confirm Mapped Type? <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">YES</span> NO

PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
<i>1-16</i>	<i>A</i>	<i>10YR 3/1</i>	<i>None</i>	<i>NA</i>	<i>silty-clay</i>

**HYDRIC SOIL INDICATORS:**

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:  
*Rocky on sides of drainage.*

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	YES	NO	Is this Sampling Point Within a Wetland?    YES    NO
Wetland Hydrology Present?	YES	NO	
Hydric Soils Present?	YES	NO	

Remarks

ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site	Prima Deshecha Landfill	Date	May 5, 2003
Applicant / Owner	County of Orange - IWMD	County	Orange
Investigator	R. Beck / C. Johnson	State	California
Do Normal Circumstances exist on the site?	<input checked="" type="radio"/> YES <input type="radio"/> NO	Community ID	Riparian
Is the site significantly disturbed (Atypical Situation)?	YES <input checked="" type="radio"/> NO	Transect ID	—
Is the area a potential Problem Area? (If needed, explain on reverse)	YES <input checked="" type="radio"/> NO	Plot ID	20

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1			9		
2			10		
3			11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 70%

Remarks

Same as Plot 19 w/ mulefat.

HYDROLOGY

<input checked="" type="checkbox"/> Recorded Data (Describe in Remarks) <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs (Reviewed) <input type="checkbox"/> Other  <input checked="" type="checkbox"/> No Recorded Data Available		<b>WETLAND HYDROLOGY INDICATORS</b> Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands	
FIELD OBSERVATIONS			
Depth of Surface Water		(in)	Secondary Indicators (2 or more Required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Depth to Free Water in Pit		(in)	
Depth to Saturated Soil		(in)	

# SOILS

Map Unit Name (Series and Phase): <i>Calleguas clay loam</i>	Drainage Class:
Taxonomy (Subgroup) <i>Typic Xerorthents</i>	Field Observations Confirm Mapped Type? <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">YES</span> NO

PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.

**HYDRIC SOIL INDICATORS:**

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

# WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<span style="border: 1px solid black; border-radius: 50%; padding: 2px;">YES</span> NO	Is this Sampling Point Within a Wetland? <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">YES</span> NO
Wetland Hydrology Present?	<span style="border: 1px solid black; border-radius: 50%; padding: 2px;">YES</span> NO	
Hydric Soils Present?	<span style="border: 1px solid black; border-radius: 50%; padding: 2px;">YES</span> NO	

Remarks

*Continuation of Plot 19.*

ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site	Prima Deshecha Landfill	Date	May 5, 2003
Applicant / Owner	County of Orange - IWMD	County	Orange
Investigator	R. Beck / C. Johnson	State	California
Do Normal Circumstances exist on the site?	YES NO	Community ID	<del>State</del> Rip. Veg
Is the site significantly disturbed (Atypical Situation)?	YES NO	Transect ID	—
Is the area a potential Problem Area? (If needed, explain on reverse)	YES NO	Plot ID	21

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	Mulefat	Shrub	FACW	9			
2	Willow	Tree	FACW	10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 100%

Remarks: Near cowbird station.

HYDROLOGY

<input checked="" type="checkbox"/> Recorded Data (Describe in Remarks) <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs (Reviewed) <input type="checkbox"/> Other  <input checked="" type="checkbox"/> No Recorded Data Available		<b>WETLAND HYDROLOGY INDICATORS</b> Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input checked="" type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input checked="" type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands	
FIELD OBSERVATIONS			
Depth of Surface Water	None	(in)	Secondary Indicators (2 or more Required):
Depth to Free Water in Pit	76.0	(in)	<input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches
Depth to Saturated Soil	76.0	(in)	<input type="checkbox"/> Water-Stained Leaves
			<input type="checkbox"/> Local Soil Survey Data
			<input type="checkbox"/> FAC-Neutral Test
			<input type="checkbox"/> Other (Explain in Remarks)

**SOILS**

Map Unit Name (Series and Phase): <i>Calleguas clay loam</i>	Drainage Class:
Taxonomy (Subgroup) <i>Typic Xerorthents</i>	Field Observations Confirm Mapped Type? <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">YES</span> NO

PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
<i>1-16</i>	<i>A</i>	<i>10YR 3/1</i>	<i>None</i>	<i>NA</i>	<i>Clay</i>

**HYDRIC SOIL INDICATORS:**

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:  
*Soils typical of area. Very clayey*

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	<span style="border: 1px solid black; border-radius: 50%; padding: 2px;">YES</span> NO	Is this Sampling Point Within a Wetland? <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">YES</span> NO
Wetland Hydrology Present?	<span style="border: 1px solid black; border-radius: 50%; padding: 2px;">YES</span> NO	
Hydric Soils Present?	<span style="border: 1px solid black; border-radius: 50%; padding: 2px;">YES</span> NO	

Remarks:  
*Near road.*

**ROUTINE WETLAND DETERMINATION**  
(1987 COE Wetlands Delineation Manual)

Project/Site	Prima Deshecha Landfill	Date	May 5, 2003
Applicant / Owner	County of Orange - IWMD	County	Orange
Investigator	R. Beck / C. Johnson	State	California
Do Normal Circumstances exist on the site?	YES <input checked="" type="radio"/> NO <input type="radio"/>	Community ID	Rip Veg.
Is the site significantly disturbed (Atypical Situation)?	YES <input type="radio"/> NO <input checked="" type="radio"/>	Transect ID	—
Is the area a potential Problem Area? (If needed, explain on reverse)	YES <input type="radio"/> NO <input checked="" type="radio"/>	Plot ID	23

**VEGETATION**

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	Mulefat	Shrub	FACW	9			
2	Willow	Tree	FACW	10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 100%

## Remarks

Near cowbird station

**HYDROLOGY**

<input checked="" type="checkbox"/> Recorded Data (Describe in Remarks) <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs (Reviewed) <input type="checkbox"/> Other  <input checked="" type="checkbox"/> No Recorded Data Available		<b>WETLAND HYDROLOGY INDICATORS</b> Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input checked="" type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input checked="" type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands	
FIELD OBSERVATIONS			
Depth of Surface Water	None	(in)	Secondary Indicators (2 or more Required):
Depth to Free Water in Pit	> 16.0	(in)	<input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches
Depth to Saturated Soil	> 16.0	(in)	<input type="checkbox"/> Water-Stained Leaves
			<input type="checkbox"/> Local Soil Survey Data
			<input type="checkbox"/> FAC-Neutral Test
			<input type="checkbox"/> Other (Explain in Remarks)

**SOILS**

Map Unit Name (Series and Phase): <i>Calleguas clay loam</i>	Drainage Class:
Taxonomy (Subgroup) <i>Typic Xerorthents</i>	Field Observations Confirm Mapped Type? <span style="border: 1px solid black; border-radius: 50%; padding: 2px;"><b>YES</b></span> NO

PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
<i>1-16</i>	<i>A</i>	<i>10YR 3/1</i>	<i>None</i>	<i>NA</i>	<i>Clay</i>

**HYDRIC SOIL INDICATORS:**

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

*Soils typical of area. Very clayey.*

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	<span style="border: 1px solid black; border-radius: 50%; padding: 2px;"><b>YES</b></span> NO	Is this Sampling Point Within a Wetland? <span style="border: 1px solid black; border-radius: 50%; padding: 2px;"><b>YES</b></span> NO
Wetland Hydrology Present?	<span style="border: 1px solid black; border-radius: 50%; padding: 2px;"><b>YES</b></span> NO	
Hydic Soils Present?	<span style="border: 1px solid black; border-radius: 50%; padding: 2px;"><b>YES</b></span> NO	

Remarks:

*Near road.*

ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site	Prima Deshecha Landfill	Date	May 6, 2003
Applicant / Owner	County of Orange - FWMD	County	Orange
Investigator	R. Beck / C. Johnson	State	California
Do Normal Circumstances exist on the site?	YES NO	Community ID	Upland
Is the site significantly disturbed (Atypical Situation)?	YES NO	Transect ID	—
Is the area a potential Problem Area? (If needed, explain on reverse)	YES NO	Plot ID	24

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Thistle.	Shrub	OPL	9		
2 Mulefat < 10%	Shrub	FACW	10		
3			11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 450%

Remarks  
Near road, thistle abundant.

HYDROLOGY

<input checked="" type="checkbox"/> Recorded Data (Describe in Remarks) <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs (Reviewed) <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available		<p>WETLAND HYDROLOGY INDICATORS</p> <p>Primary Indicators: <u>OTW M noted 3 FT.</u></p> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands	
FIELD OBSERVATIONS			
Depth of Surface Water	<u>None</u> (in)	Secondary Indicators (2 or more Required):	
Depth to Free Water in Pit	<u>716.0</u> (in)	<input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)	
Depth to Saturated Soil	<u>716.0</u> (in)		



**SOILS**

Map Unit Name (Series and Phase): <b>Alo clay, 15 to 30 percent slopes</b>	Drainage Class: <b>WD</b>
Taxonomy (Subgroup) <b>Typic Chromoxererts</b>	Field Observations Confirm Mapped Type? <b>YES</b> NO

PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
1-16	A	10YR3/3	—	—	Clay-barry

**HYDRIC SOIL INDICATORS:**

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:  
*Soils dry, clays intermixed with sands.*

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	Is this Sampling Point Within a Wetland? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
Wetland Hydrology Present?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
Hydric Soils Present?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	

Remarks:  
*Jurisdictional drainage.*

ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site	Prima Deshecha Landfill	Date	May 6, 2003
Applicant / Owner	County of Orange - IWMD	County	Orange
Investigator	R. Beck / C. Johnson	State	California
Do Normal Circumstances exist on the site?	<input checked="" type="radio"/> YES <input type="radio"/> NO	Community ID	S. EAST Area.
Is the site significantly disturbed (Atypical Situation)?	YES <input type="radio"/> <input checked="" type="radio"/> NO	Transect ID	---
Is the area a potential Problem Area? (If needed, explain on reverse)	YES <input type="radio"/> <input checked="" type="radio"/> NO	Plot ID	25

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 see notes.			9		
2			10		
3			11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-)

Remarks

Bare area, some poison oak. Possible past slide. Mulefat just down stream. (see plot 26).

HYDROLOGY

<input checked="" type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> <li><input type="checkbox"/> Stream, Lake, or Tide Gauge</li> <li><input checked="" type="checkbox"/> Aerial Photographs (Reviewed)</li> <li><input type="checkbox"/> Other</li> </ul>		<p>WETLAND HYDROLOGY INDICATORS</p> <p>Primary Indicators: <b>OHWM of 12 FT.</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Inundated</li> <li><input type="checkbox"/> Saturated in Upper 12 Inches</li> <li><input type="checkbox"/> Water Marks</li> <li><input type="checkbox"/> Drift Lines</li> <li><input type="checkbox"/> Sediment Deposits</li> <li><input type="checkbox"/> Drainage Patterns in Wetlands</li> </ul>
<input checked="" type="checkbox"/> No Recorded Data Available		
FIELD OBSERVATIONS		
Depth of Surface Water	None (in)	<p>Secondary Indicators (2 or more Required):</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</li> <li><input type="checkbox"/> Water-Stained Leaves</li> <li><input type="checkbox"/> Local Soil Survey Data</li> <li><input type="checkbox"/> FAC-Neutral Test</li> <li><input type="checkbox"/> Other (Explain in Remarks)</li> </ul>
Depth to Free Water in Pit	7/6.0 (in)	
Depth to Saturated Soil	7/6.6 (in)	

**SOILS**

Map Unit Name (Series and Phase): <b>Bosanko clay, 9 to 15 percent slope</b>	Drainage Class:
Taxonomy (Subgroup) <b>Chromic Ferraloxerpts</b>	Field Observations Confirm Mapped Type? <b>YES</b> NO

PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
1-6	A	10YR 3/3	None	NA	clayey
		3/1			

**HYDRIC SOIL INDICATORS:**

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	YES	NO <b>(NO)</b>	Is this Sampling Point Within a Wetland? YES <b>(NO)</b>
Wetland Hydrology Present?	YES	NO <b>(NO)</b>	
Hydric Soils Present?	<b>(YES)</b>	NO	

Remarks

End of non-wetland jurisdictional drainage 2.

**ROUTINE WETLAND DETERMINATION**  
(1987 COE Wetlands Delineation Manual)

Project/Site	Prima Deshecha Landfill	Date	May 6, 2003
Applicant / Owner	County of Orange-IWMD	County	Orange
Investigator	R. Beck / C. Johnson	State	California
Do Normal Circumstances exist on the site?	<input checked="" type="radio"/> YES <input type="radio"/> NO	Community ID	S. East Area.
Is the site significantly disturbed (Atypical Situation)?	YES <input type="radio"/> <input checked="" type="radio"/> NO	Transect ID	—
Is the area a potential Problem Area? (If needed, explain on reverse)	YES <input type="radio"/> <input checked="" type="radio"/> NO	Plot ID	26

**VEGETATION**

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	Saltgrass	herb	OBL	9			
2	Mulefat	SMIB.	FAEW	10			
3	Pickleweed <10%	herb	OBL	11			
4				12			
5				13			
6				14			
7				15			
8				16			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-)? **80%**

Remarks  
Pickleweed on slope. Very small & minor.  
Mulefat w/in invert.

**HYDROLOGY**

<input checked="" type="checkbox"/> Recorded Data (Describe in Remarks) <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs (Reviewed) <input type="checkbox"/> Other  <input checked="" type="checkbox"/> No Recorded Data Available		<b>WETLAND HYDROLOGY INDICATORS</b> Primary Indicators: <b>strong cut @ 12 FT.</b> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input checked="" type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input checked="" type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands	
<b>FIELD OBSERVATIONS</b>			
Depth of Surface Water	None	(in)	Secondary Indicators (2 or more Required):
Depth to Free Water in Pit	716.0	(in)	<input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches
Depth to Saturated Soil	716.0	(in)	<input type="checkbox"/> Water-Stained Leaves
			<input type="checkbox"/> Local Soil Survey Data
			<input type="checkbox"/> FAC-Neutral Test
			<input type="checkbox"/> Other (Explain in Remarks)

**SOILS**

Map Unit Name (Series and Phase): <b>Bosanko clay 9-15% slopes</b>	Drainage Class: <b>WD</b>
Taxonomy (Subgroup) <b>Chromic Pelloxerepts</b>	Field Observations Confirm Mapped Type? <b>YES</b> NO

PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
1-16	A	10YR 3/1	None	NA	Clayey

**HYDRIC SOIL INDICATORS:**

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	<b>YES</b> NO	Is this Sampling Point Within a Wetland? <b>YES</b> NO
Wetland Hydrology Present?	<b>YES</b> NO	
Hydric Soils Present?	<b>YES</b> NO	

Remarks:  
*Wetland habitat near site boundary.*

**ROUTINE WETLAND DETERMINATION**  
(1987 COE Wetlands Delineation Manual)

Project/Site	Prima Deshecha Landfill	Date	May 6, 2003
Applicant / Owner	County of Orange - FWMD	County	Orange
Investigator	R. Beck / C. Johnson	State	California
Do Normal Circumstances exist on the site?	<input checked="" type="radio"/> YES <input type="radio"/> NO	Community ID	S. East Area
Is the site significantly disturbed (Atypical Situation)?	YES <input checked="" type="radio"/> NO	Transect ID	—
Is the area a potential Problem Area? (If needed, explain on reverse)	YES <input checked="" type="radio"/> NO	Plot ID	27

**VEGETATION**

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Saltgrass	herb	OBL	9		
2 Mulefat	Shrub	FACW	10		
3 Pickleweed <10%	herb	OBL	11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) > 80%

Remarks  
Pickleweed on slope. Very small & minor.  
Mulefat w/in invert

**HYDROLOGY**

<input checked="" type="checkbox"/> Recorded Data (Describe in Remarks) <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs (Reviewed) <input type="checkbox"/> Other  <input checked="" type="checkbox"/> No Recorded Data Available		<b>WETLAND HYDROLOGY INDICATORS</b> Primary Indicators: <b>Strong cut @ 12ft.</b> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input checked="" type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input checked="" type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands	
FIELD OBSERVATIONS			
Depth of Surface Water	None	(in)	Secondary Indicators (2 or more Required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Depth to Free Water in Pit	>16.0	(in)	
Depth to Saturated Soil	>16.0	(in)	

**SOILS**

Map Unit Name (Series and Phase): <i>Bosanka clay, 9 to 13 % slopes</i>	Drainage Class: <i>WD</i>
Taxonomy (Subgroup) <i>Chromic Pellicxerents</i>	Field Observations Confirm Mapped Type? <span style="border: 1px solid black; border-radius: 50%; padding: 2px;"><i>YES</i></span> NO

PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
<i>1-16</i>	<i>A</i>	<i>10YR 3/1</i>	<i>None</i>	<i>NA</i>	<i>Clayey</i>

**HYDRIC SOIL INDICATORS:**

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	<span style="border: 1px solid black; border-radius: 50%; padding: 2px;"><i>YES</i></span> NO	Is this Sampling Point Within a Wetland? <span style="border: 1px solid black; border-radius: 50%; padding: 2px;"><i>YES</i></span> NO
Wetland Hydrology Present?	<span style="border: 1px solid black; border-radius: 50%; padding: 2px;"><i>YES</i></span> NO	
Hydric Soils Present?	<span style="border: 1px solid black; border-radius: 50%; padding: 2px;"><i>YES</i></span> NO	

Remarks

*Wetland habitat near site boundary*

ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site	Prima Deshecha Landfill	Date	May 30, 2003
Applicant / Owner	County of Orange - IWMD	County	Orange
Investigator	R. Beck / C. Johnson	State	California
Do Normal Circumstances exist on the site?	<input checked="" type="radio"/> YES <input type="radio"/> NO	Community ID	Riparian
Is the site significantly disturbed (Atypical Situation)?	<input type="radio"/> YES <input checked="" type="radio"/> NO	Transect ID	---
Is the area a potential Problem Area? (If needed, explain on reverse)	<input type="radio"/> YES <input checked="" type="radio"/> NO	Plot ID	28

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1	Muhlenbergia	FACW	9		
2			10		
3			11		
4			12		
5			13		
6			14		
7			15		
8			16		
Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) < 20%					
Remarks Thistle on slopes. non-natives.					

HYDROLOGY

<input checked="" type="checkbox"/> Recorded Data (Describe in Remarks) <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs (Reviewed) <input type="checkbox"/> Other  <input checked="" type="checkbox"/> No Recorded Data Available		<b>WETLAND HYDROLOGY INDICATORS</b> Primary Indicators: <b>OHWM @ 4 FT</b> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands	
FIELD OBSERVATIONS			
Depth of Surface Water	Nbre	(in)	Secondary Indicators (2 or more Required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Depth to Free Water in Pit	716.0	(in)	
Depth to Saturated Soil	716.0	(in)	



**SOILS**

Map Unit Name (Series and Phase): *Calleguas clay loam* | Drainage Class: *WD*

Taxonomy (Subgroup) *Typic xerorthents* : Field Observations Confirm Mapped Type?  YES  NO

PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
<i>1-16</i>	<i>A</i>	<i>10R 5/3</i>			<i>clay</i>

- HYDRIC SOIL INDICATORS:**
- |  |   |
|--|---|
| <input type="checkbox"/> Histosol                    | <input type="checkbox"/> Concretions  |
| <input type="checkbox"/> Histic Epipedon             | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor               | <input type="checkbox"/> Organic Streaking in Sandy Soils                     |
| <input type="checkbox"/> Aquic Moisture Regime       | <input type="checkbox"/> Listed on Local Hydric Soils List                    |
| <input type="checkbox"/> Reducing Conditions         | <input type="checkbox"/> Listed on National Hydric Soils List                 |
| <input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks)                           |

Remarks:  
*No hydric indicators present in Brannick clays.*

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	YES <input type="radio"/> NO <input checked="" type="radio"/>	Is this Sampling Point Within a Wetland? YES <input type="radio"/> NO <input checked="" type="radio"/>
Wetland Hydrology Present?	YES <input type="radio"/> NO <input checked="" type="radio"/>	
Hydric Soils Present?	YES <input type="radio"/> NO <input checked="" type="radio"/>	

Remarks

ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site	Prima Deshecha Landfill	Date	May 30, 2003
Applicant / Owner	County of Orange - FWMD	County	Orange
Investigator	R. Beck / C. Johnson	State	California
Do Normal Circumstances exist on the site?	YES <input checked="" type="radio"/> NO <input type="radio"/>	Community ID	Riparian
Is the site significantly disturbed (Atypical Situation)?	YES <input type="radio"/> NO <input checked="" type="radio"/>	Transect ID	—
Is the area a potential Problem Area? (If needed, explain on reverse)	YES <input type="radio"/> NO <input checked="" type="radio"/>	Plot ID	29

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 W. Willow	<del>EF</del>	FACW	9		
2	Shrub/Tree		10		
3 Scirpus s/10%			11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 100%

Remarks  
Solid willow stand. Pit @ end near disturbed grading.

HYDROLOGY

<input checked="" type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> <li><input type="checkbox"/> Stream, Lake, or Tide Gauge</li> <li><input checked="" type="checkbox"/> Aerial Photographs (Reviewed)</li> <li><input type="checkbox"/> Other</li> </ul> <input checked="" type="checkbox"/> No Recorded Data Available		<p>WETLAND HYDROLOGY INDICATORS</p> <p>Primary Indicators:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Inundated</li> <li><input type="checkbox"/> Saturated in Upper 12 Inches</li> <li><input checked="" type="checkbox"/> Water Marks</li> <li><input checked="" type="checkbox"/> Drift Lines</li> <li><input checked="" type="checkbox"/> Sediment Deposits</li> <li><input type="checkbox"/> Drainage Patterns in Wetlands</li> </ul> <p>Secondary Indicators (2 or more Required):</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</li> <li><input type="checkbox"/> Water-Stained Leaves</li> <li><input type="checkbox"/> Local Soil Survey Data</li> <li><input type="checkbox"/> FAC-Neutral Test</li> <li><input type="checkbox"/> Other (Explain in Remarks)</li> </ul>	
FIELD OBSERVATIONS			
Depth of Surface Water	None	(in)	
Depth to Free Water in Pit	>16.0	(in)	
Depth to Saturated Soil	716.0	(in)	

**SOILS**

Map Unit Name (Series and Phase): <i>Botella clay loam</i>				Drainage Class: <i>WD</i>	
Taxonomy (Subgroup) <i>Pachic Argixerolls</i>			Field Observations Confirm Mapped Type? <input checked="" type="radio"/> YES <input type="radio"/> NO		
PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
<i>1-16</i>	<i>A</i>	<i>10YR 3/2</i>	<i>5Y 2.5/1</i>	<i>20%</i>	<i>Silty Clay</i>

**HYDRIC SOIL INDICATORS:**

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:  
*One horizon  
 Dark mottle streaking.  
 Oxidized root channels.*

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> YES	<input type="radio"/> NO	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> YES <input type="radio"/> NO
Wetland Hydrology Present?	<input checked="" type="radio"/> YES	<input type="radio"/> NO	
Hydric Soils Present?	<input checked="" type="radio"/> YES	<input type="radio"/> NO	

Remarks

ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site	Prima Deshecha Landfill	Date	May 30, 2003
Applicant / Owner	County of Orange - IWMD	County	Orange
Investigator	R. Beck / C. Johnson	State	California
Do Normal Circumstances exist on the site?	<input checked="" type="radio"/> YES <input type="radio"/> NO	Community ID	Riparian
Is the site significantly disturbed (Atypical Situation)?	<input type="radio"/> YES <input checked="" type="radio"/> NO	Transect ID	—
Is the area a potential Problem Area? (If needed, explain on reverse)	<input type="radio"/> YES <input checked="" type="radio"/> NO	Plot ID	<del>29</del> 30-31

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Willow	Tree	FACW			
2			9		
3			10		
4			11		
5			12		
6			13		
7			14		
8			15		
			16		
Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-)			100%		
Remarks					

HYDROLOGY

<input checked="" type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> <li><input type="checkbox"/> Stream, Lake, or Tide Gauge</li> <li><input checked="" type="checkbox"/> Aerial Photographs (Reviewed)</li> <li><input type="checkbox"/> Other</li> </ul> <input checked="" type="checkbox"/> No Recorded Data Available		<p style="text-align: center;">WETLAND HYDROLOGY INDICATORS</p> <p>Primary Indicators:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Inundated</li> <li><input type="checkbox"/> Saturated in Upper 12 Inches</li> <li><input checked="" type="checkbox"/> Water Marks</li> <li><input checked="" type="checkbox"/> Drift Lines</li> <li><input checked="" type="checkbox"/> Sediment Deposits</li> <li><input type="checkbox"/> Drainage Patterns in Wetlands</li> </ul>	
FIELD OBSERVATIONS			
Depth of Surface Water	0.5" (in)	<p>Secondary Indicators (2 or more Required):</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</li> <li><input type="checkbox"/> Water-Stained Leaves</li> <li><input type="checkbox"/> Local Soil Survey Data</li> <li><input type="checkbox"/> FAC-Neutral Test</li> <li><input type="checkbox"/> Other (Explain in Remarks)</li> </ul>	
Depth to Free Water in Pit	7/6.0 (in)		
Depth to Saturated Soil	7/6.0 (in)		

**SOILS**

Map Unit Name (Series and Phase): <i>Botella clay loam</i>	Drainage Class: <i>WD</i>
Taxonomy (Subgroup) <i>Pachic Argixerolls</i>	Field Observations Confirm Mapped Type? <input checked="" type="radio"/> YES <input type="radio"/> NO

PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
<i>1-16</i>	<i>A</i>	<i>10YR 3/2</i>			<i>Clay.</i>
		<i>3/1</i>			

**HYDRIC SOIL INDICATORS:**

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: *Moist soils.*

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> YES	<input type="radio"/> NO	Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> YES <input type="radio"/> NO
Wetland Hydrology Present?	<input checked="" type="radio"/> YES	<input type="radio"/> NO	
Hydric Soils Present?	<input checked="" type="radio"/> YES	<input type="radio"/> NO	

Remarks:

ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site	Prima Deshecha Landfill	Date	May 30, 2003
Applicant / Owner	County of Orange - IWMD	County	Orange
Investigator	R. Beck / C. Johnson	State	California
Do Normal Circumstances exist on the site?	<input checked="" type="radio"/> YES <input type="radio"/> NO	Community ID	Riparian
Is the site significantly disturbed (Atypical Situation)?	<input type="radio"/> YES <input checked="" type="radio"/> NO	Transect ID	—
Is the area a potential Problem Area? (If needed, explain on reverse)	<input type="radio"/> YES <input checked="" type="radio"/> NO	Plot ID	209 32-33

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	Willow	Tree	FACW	9			
2	Mulata	Shrub	FACW	10			
3	Thistle < 20%			11			
4				12			
5				13			
6				14			
7				15			
8				16			
Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-)					90%		
Remarks							

HYDROLOGY

<input checked="" type="checkbox"/> Recorded Data (Describe in Remarks) <ul style="list-style-type: none"> <li><input type="checkbox"/> Stream, Lake, or Tide Gauge</li> <li><input checked="" type="checkbox"/> Aerial Photographs (Reviewed)</li> <li><input type="checkbox"/> Other</li> </ul> <input checked="" type="checkbox"/> No Recorded Data Available		<p>WETLAND HYDROLOGY INDICATORS</p> <p>Primary Indicators:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Inundated</li> <li><input type="checkbox"/> Saturated in Upper 12 Inches</li> <li><input checked="" type="checkbox"/> Water Marks</li> <li><input checked="" type="checkbox"/> Drift Lines</li> <li><input checked="" type="checkbox"/> Sediment Deposits</li> <li><input type="checkbox"/> Drainage Patterns in Wetlands</li> </ul> <p>Secondary Indicators (2 or more Required):</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches</li> <li><input type="checkbox"/> Water-Stained Leaves</li> <li><input type="checkbox"/> Local Soil Survey Data</li> <li><input type="checkbox"/> FAC-Neutral Test</li> <li><input type="checkbox"/> Other (Explain in Remarks)</li> </ul>	
FIELD OBSERVATIONS			
Depth of Surface Water	None	(in)	
Depth to Free Water in Pit	7/16.0	(in)	
Depth to Saturated Soil	7/16.0	(in)	

**SOILS**

Map Unit Name (Series and Phase): Butella clay loam Drainage Class: WD

Taxonomy (Subgroup) Pachic Argixevolls Field Observations Confirm Mapped Type? YES NO

PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
<u>1-16</u>	<u>A</u>	<u>10YR 5/2</u>	<u>-</u>	<u>-</u>	<u>Clayey</u> <u>- Some loam</u> <u>3 in</u> <u>on h</u>

- HYDRIC SOIL INDICATORS:**
- |   |   |
|---|---|
| <input type="checkbox"/> Histosol                               | <input type="checkbox"/> Concretions  |
| <input type="checkbox"/> Histic Epipedon                        | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor                          | <input type="checkbox"/> Organic Streaking in Sandy Soils                     |
| <input type="checkbox"/> Aquic Moisture Regime                  | <input type="checkbox"/> Listed on Local Hydric Soils List                    |
| <input type="checkbox"/> Reducing Conditions                    | <input type="checkbox"/> Listed on National Hydric Soils List                 |
| <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks)                           |

Remarks:

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	<u>YES</u> NO	Is this Sampling Point Within a Wetland? <u>YES</u> NO
Wetland Hydrology Present?	<u>YES</u> NO	
Hydric Soils Present?	<u>YES</u> NO	

Remarks

**ROUTINE WETLAND DETERMINATION**  
(1987 COE Wetlands Delineation Manual)

Project/Site	Prima Deshecha Landfill	Date	May 30, 2003
Applicant / Owner	County of Orange-IWMD	County	Orange
Investigator	R. Beck / C. Johnson	State	California
Do Normal Circumstances exist on the site?	<input checked="" type="radio"/> YES <input type="radio"/> NO	Community ID	Drainage
Is the site significantly disturbed (Atypical Situation)?	YES <input checked="" type="radio"/> NO	Transect ID	—
Is the area a potential Problem Area? (If needed, explain on reverse)	YES <input checked="" type="radio"/> NO	Plot ID	34 <del>35</del>

**VEGETATION**

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	Mulefat	Shrub	FACW	9			
2	Willow	Shrub	FACW	10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 780%.

Remarks  
Globeberry / toyon noted on slopes.

**HYDROLOGY**

<input checked="" type="checkbox"/> Recorded Data (Describe in Remarks) <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs (Reviewed) <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available		<b>WETLAND HYDROLOGY INDICATORS</b> Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input checked="" type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input checked="" type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands	
FIELD OBSERVATIONS			
Depth of Surface Water	None	(in)	Secondary Indicators (2 or more Required):
Depth to Free Water in Pit	716.0	(in)	<input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches
Depth to Saturated Soil	716.0	(in)	<input type="checkbox"/> Water-Stained Leaves
			<input type="checkbox"/> Local Soil Survey Data
			<input type="checkbox"/> FAC-Neutral Test
			<input type="checkbox"/> Other (Explain in Remarks)



**SOILS**

Map Unit Name (Series and Phase): *Calleguas clay loam*      Drainage Class:

Taxonomy (Subgroup) *Typic Xerorthents*      Field Observations Confirm Mapped Type? **YES** NO

PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
<i>1-16</i>	<i>A</i>	<i>5Y4/2</i>	<i>—</i>	<i>—</i>	<i>Clayey</i>

- HYDRIC SOIL INDICATORS:**
- |   |   |
|---|---|
| <input type="checkbox"/> Histosol                               | <input type="checkbox"/> Concretions  |
| <input type="checkbox"/> Histic Epipedon                        | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor                          | <input type="checkbox"/> Organic Streaking in Sandy Soils                     |
| <input type="checkbox"/> Aquic Moisture Regime                  | <input type="checkbox"/> Listed on Local Hydric Soils List                    |
| <input type="checkbox"/> Reducing Conditions                    | <input type="checkbox"/> Listed on National Hydric Soils List                 |
| <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks)                           |

Remarks:  
*soils somewhat leached. possible slide from slope.*

**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	<b>YES</b> NO	Is this Sampling Point Within a Wetland? <b>YES</b> NO
Wetland Hydrology Present?	<b>YES</b> NO	
Hydric Soils Present?	<b>YES</b> NO	

Remarks

ROUTINE WETLAND DETERMINATION  
(1987 COE Wetlands Delineation Manual)

Project/Site	Prima Deshecha Landfill	Date	May 30, 2003
Applicant / Owner	County of Orange - IWMD	County	Orange
Investigator	R. Beck / C. Johnson	State	California
Do Normal Circumstances exist on the site?	YES NO	Community ID	Riparian
Is the site significantly disturbed (Atypical Situation)?	YES NO	Transect ID	—
Is the area a potential Problem Area? (If needed, explain on reverse)	YES NO	Plot ID	35

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1 Mulefat	Shrub	FACW	9		
2 Saltgrass <10%	herb	OBL	10		
3			11		
4			12		
5			13		
6			14		
7			15		
8			16		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 100%

Remarks  
Small mulefat shrubs in drainage.

HYDROLOGY

<input checked="" type="checkbox"/> Recorded Data (Describe in Remarks) <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs (Reviewed) <input type="checkbox"/> Other  <input checked="" type="checkbox"/> No Recorded Data Available		<b>WETLAND HYDROLOGY INDICATORS</b> Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input checked="" type="checkbox"/> Drift Lines <input checked="" type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands	
FIELD OBSERVATIONS			
Depth of Surface Water	None	(in)	Secondary Indicators (2 or more Required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Depth to Free Water in Pit	716.0	(in)	
Depth to Saturated Soil	716.0	(in)	

**SOILS**

Map Unit Name (Series and Phase): Calleguas clay loam Drainage Class: WD

Taxonomy (Subgroup) Typic Xerorthents Field Observations Confirm Mapped Type? YES NO

PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
1-16	A	5Y 4/2	7.5YR 6/8	10-20%	Clayey

- HYDRIC SOIL INDICATORS:
- Histasol
  - Histic Epipedon
  - Sulfidic Odor
  - Aquic Moisture Regime
  - Reducing Conditions
  - Gleyed or Low-Chroma Colors
  - Concretions
  - High Organic Content in Surface Layer in Sandy Soils
  - Organic Streaking in Sandy Soils
  - Listed on Local Hydric Soils List
  - Listed on National Hydric Soils List
  - Other (Explain in Remarks)

Remarks: mottles present. clayey, moist soils within invert.

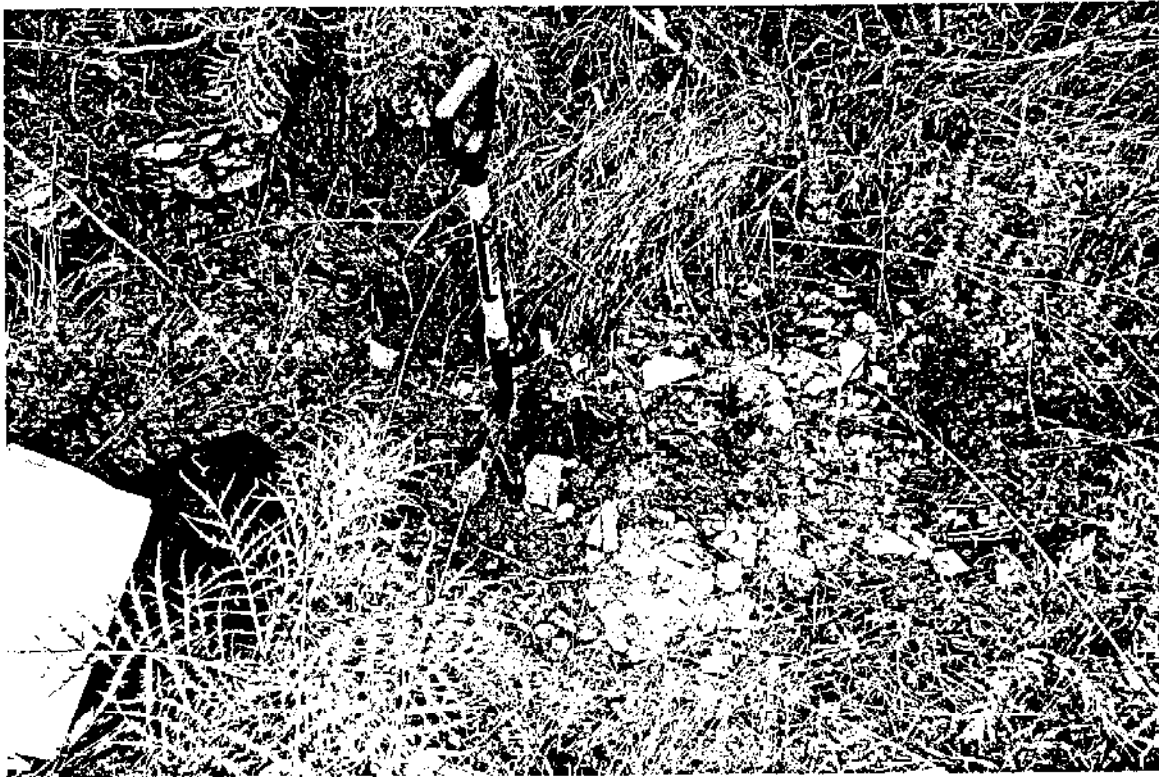
**WETLAND DETERMINATION**

Hydrophytic Vegetation Present?	<u>YES</u> NO	Is this Sampling Point Within a Wetland? <u>YES</u> NO
Wetland Hydrology Present?	<u>YES</u> NO	
Hydric Soils Present?	<u>YES</u> NO	

Remarks

**B) Additional Site Photographs**

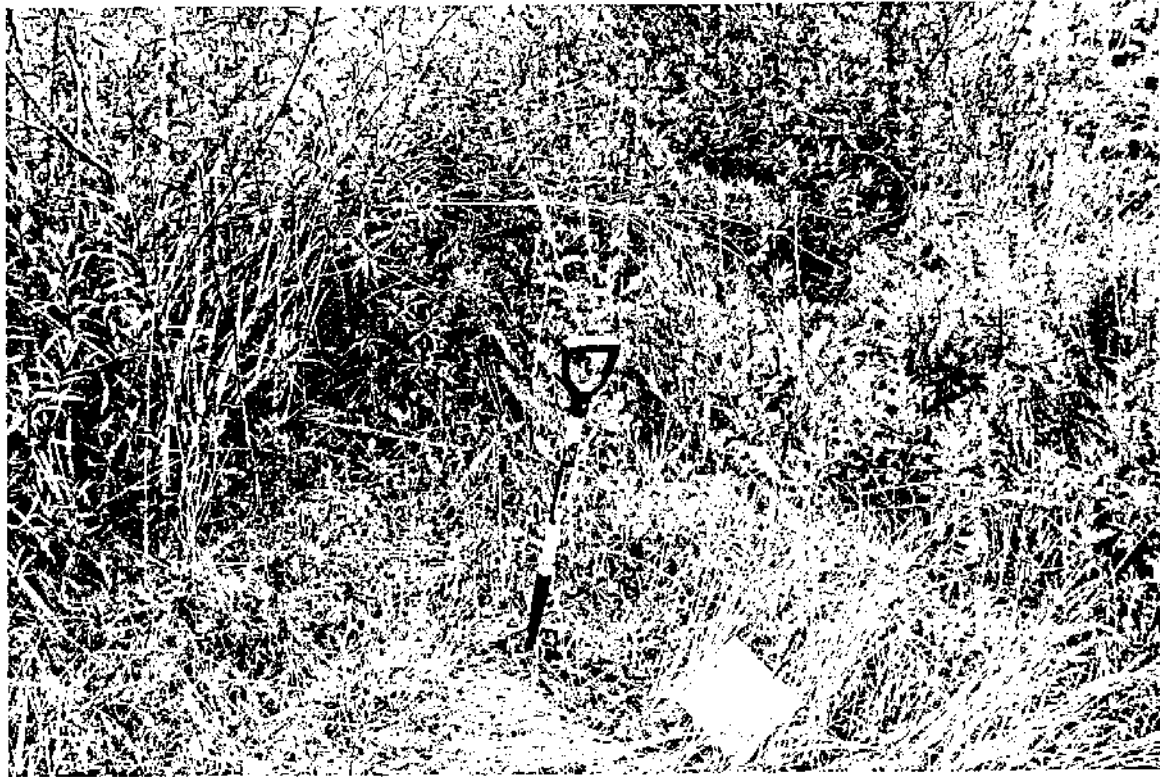




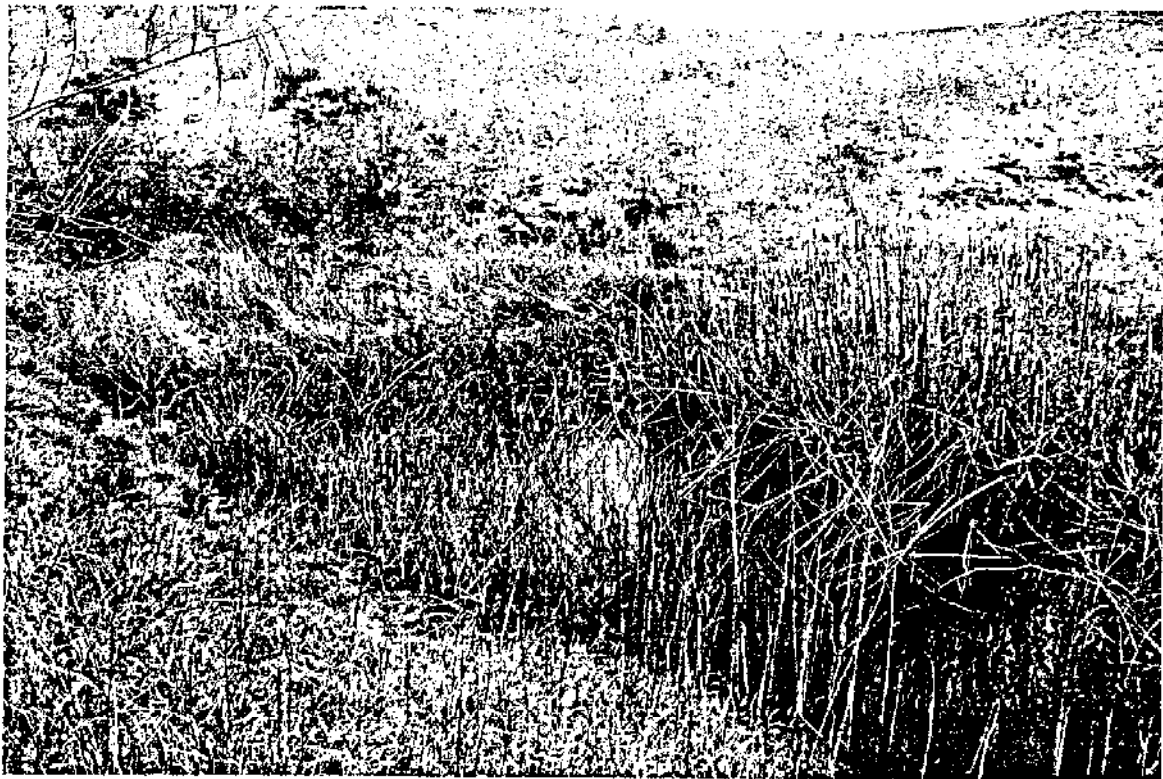








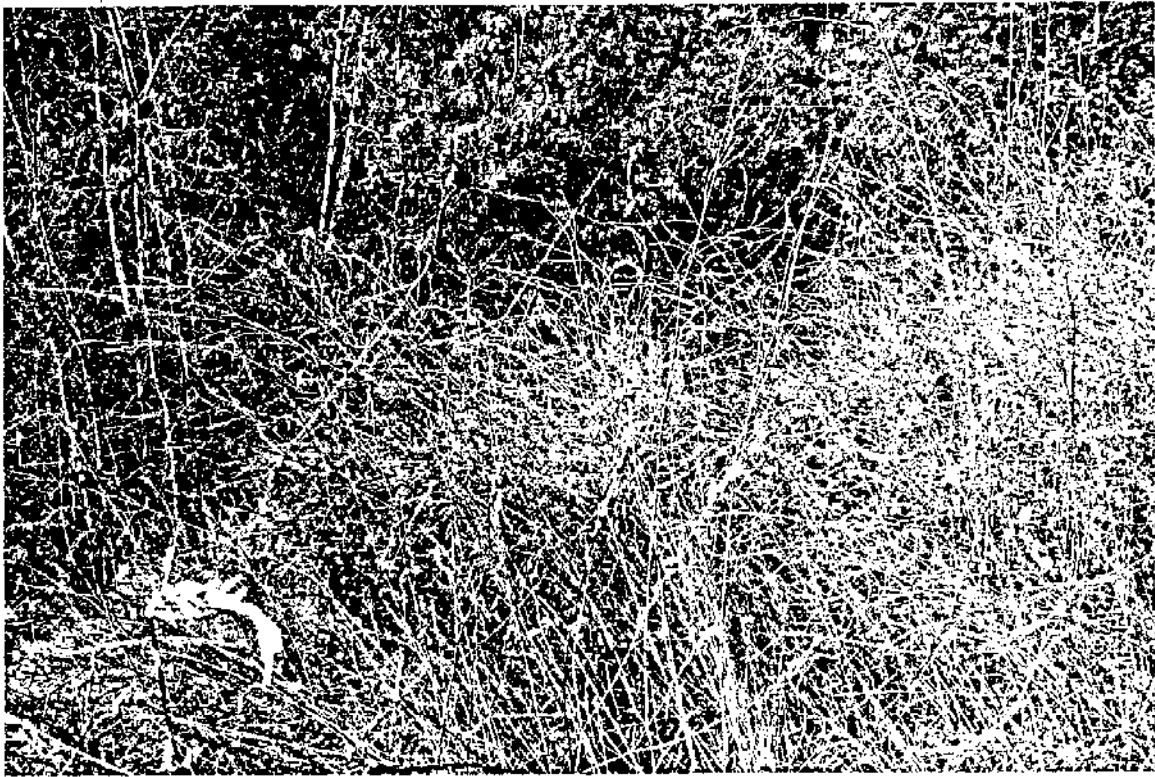
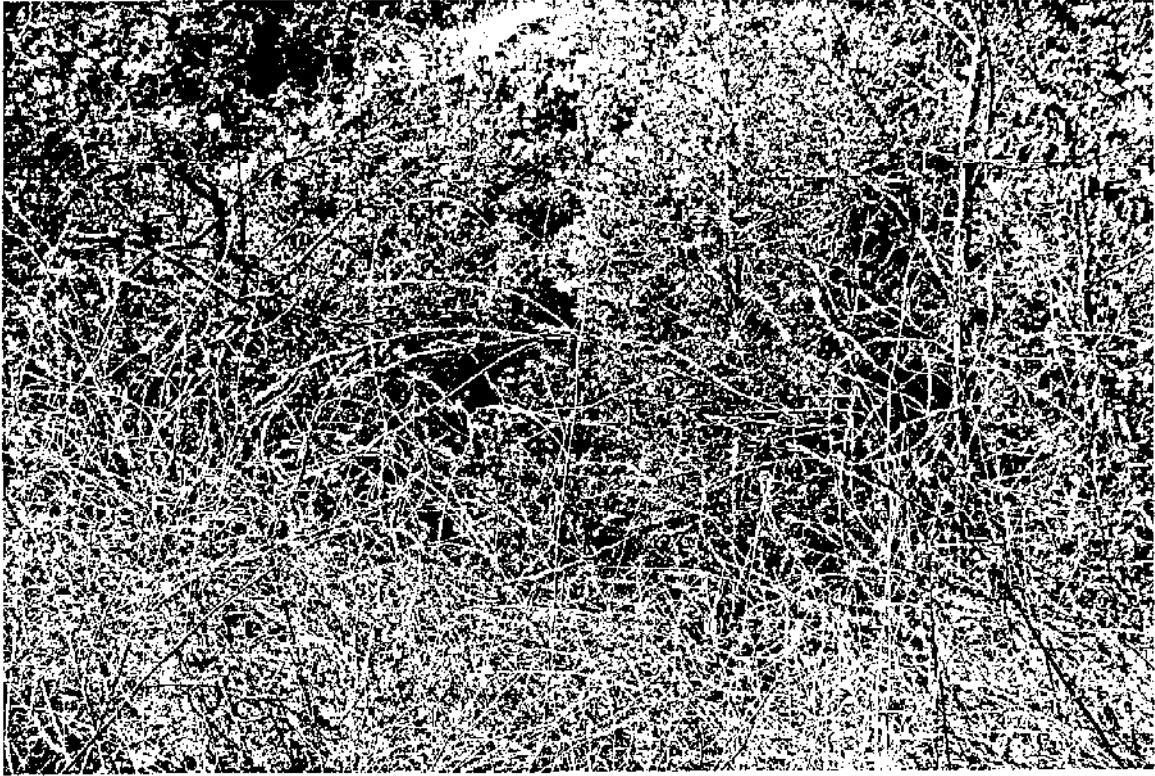








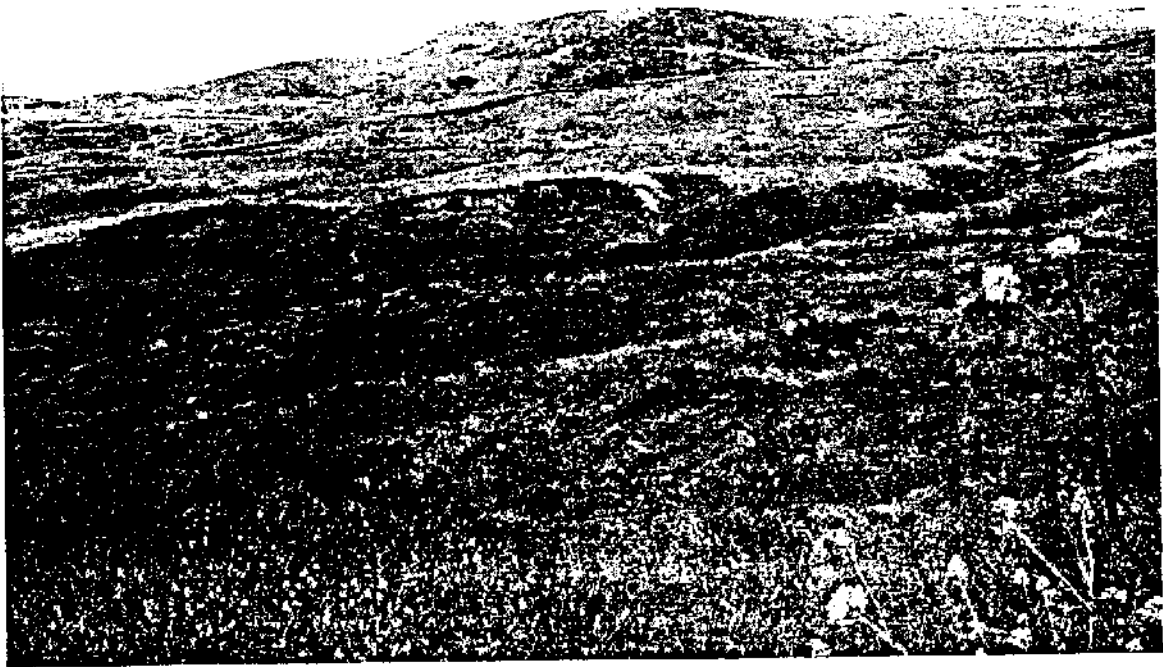


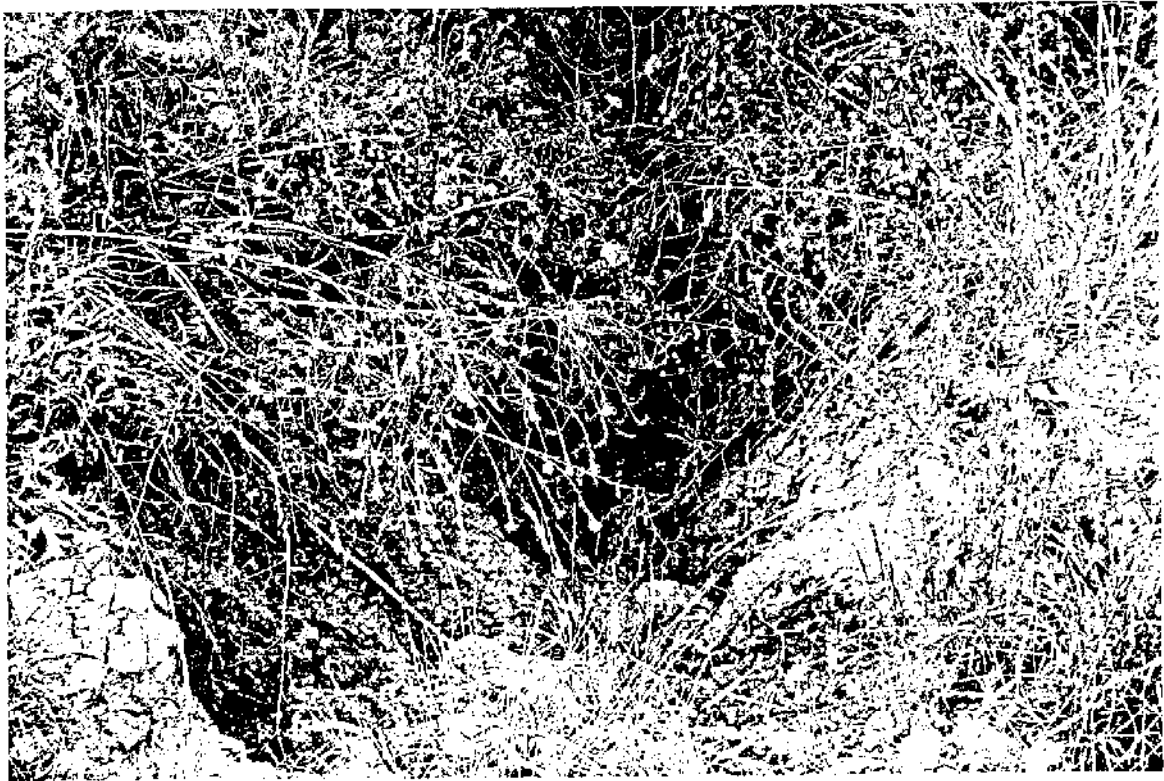


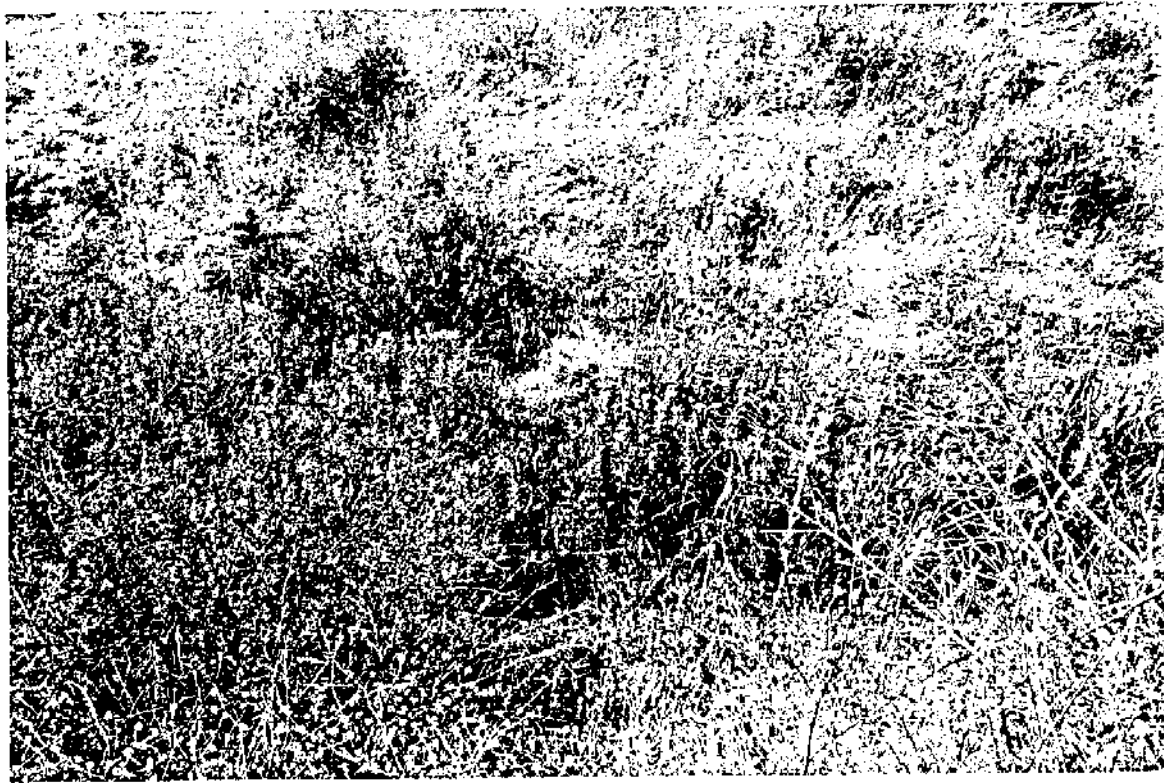
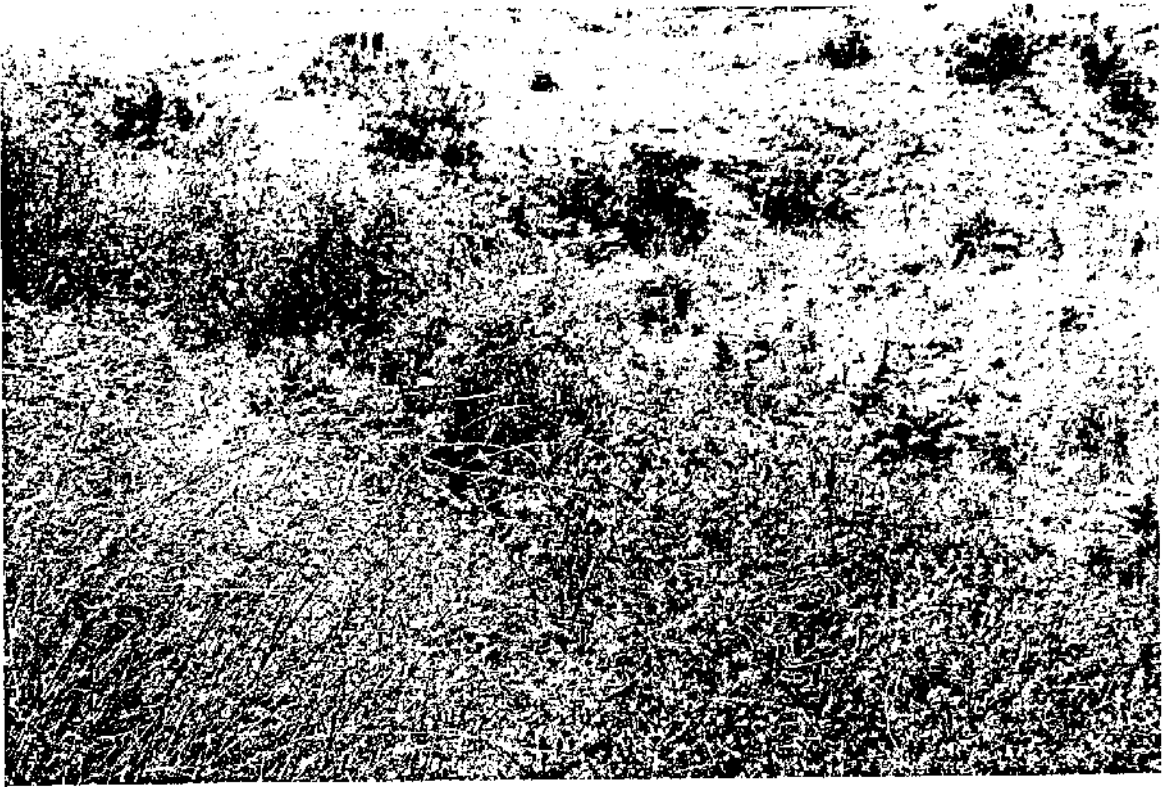


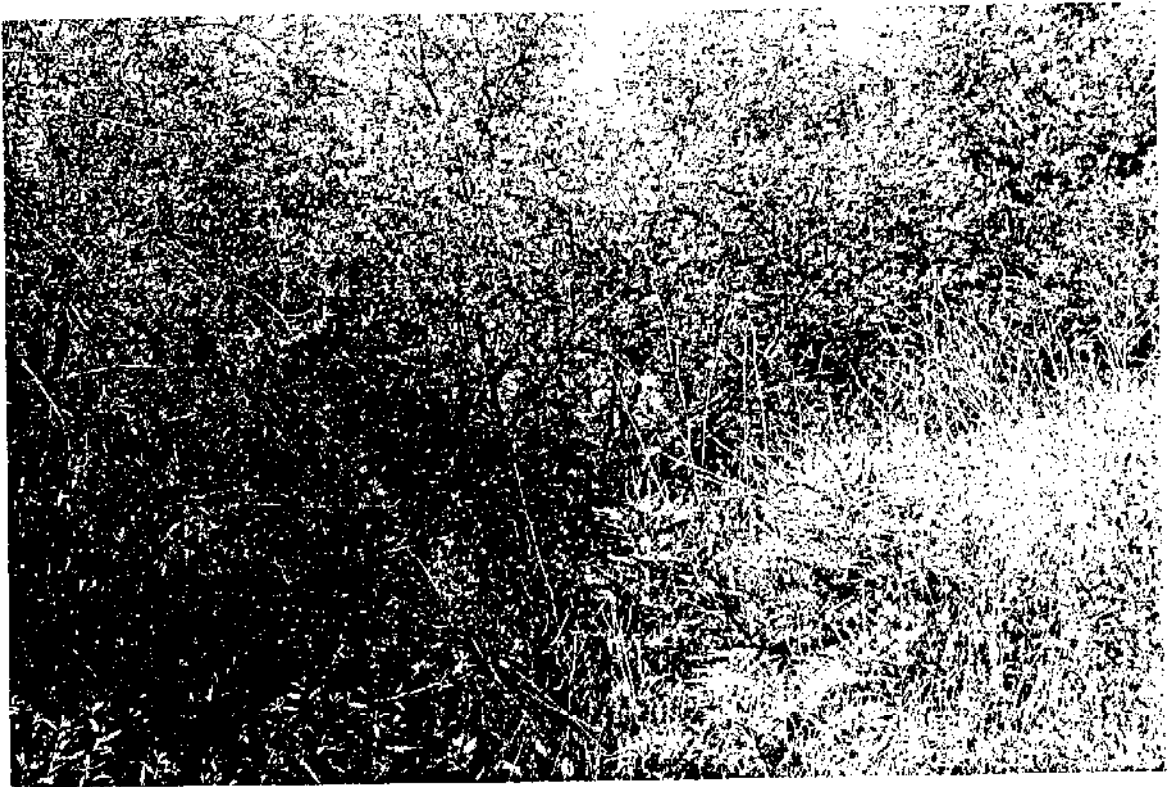


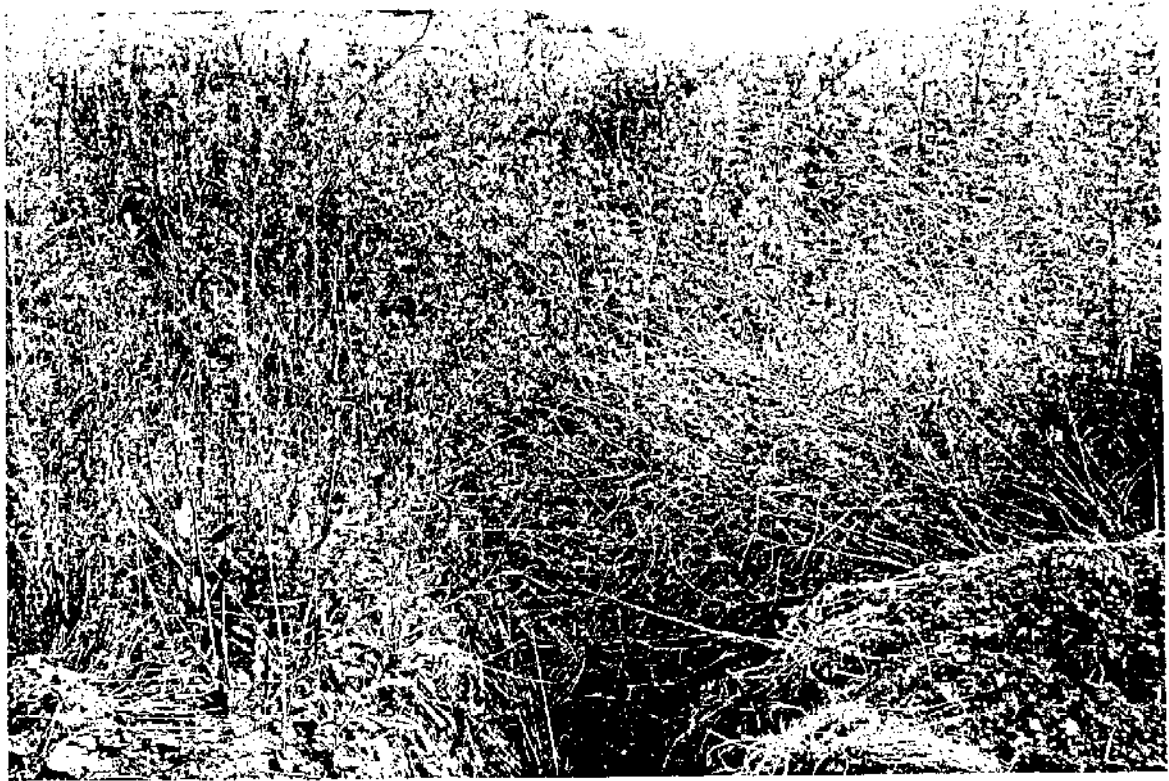












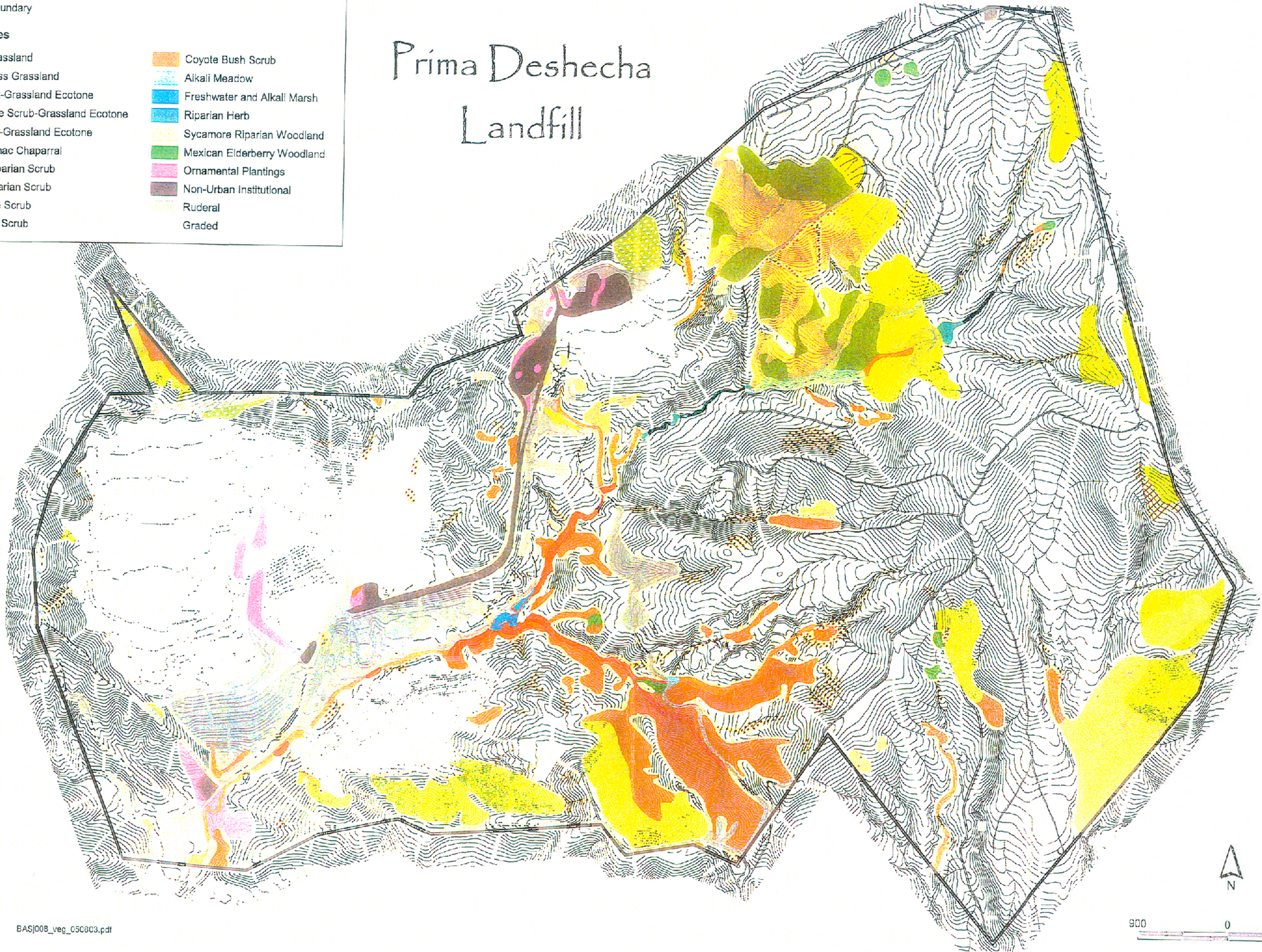
### C) Vegetation Map

# Prima Deshecha Landfill

Landfill Boundary

**Vegetation Types**

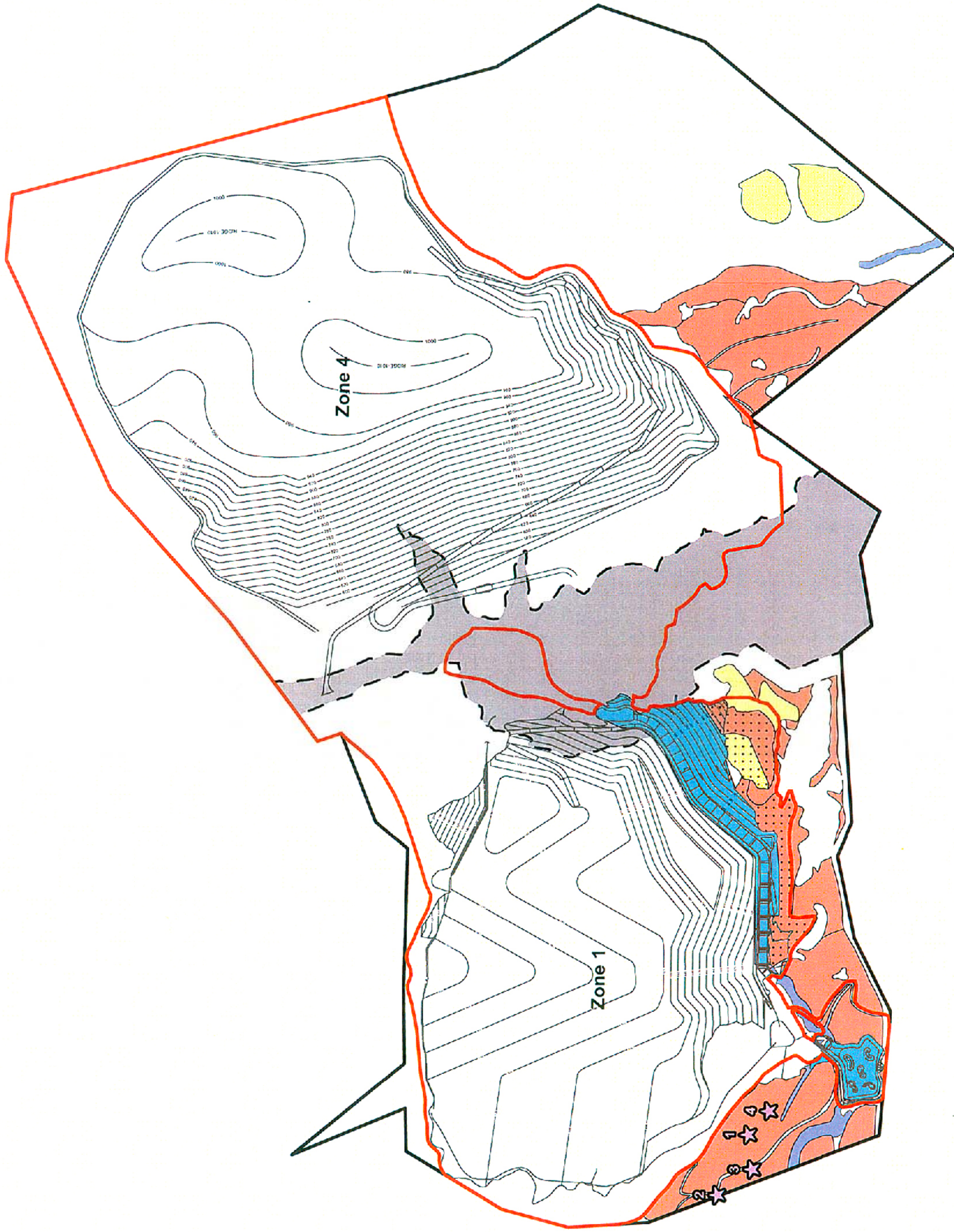
- |                                    |                             |
|------------------------------------|-----------------------------|
| Annual Grassland                   | Coyote Bush Scrub           |
| Needlegrass Grassland              | Alkali Meadow               |
| Buckwheat-Grassland Ecotone        | Freshwater and Alkali Marsh |
| Mixed Sage Scrub-Grassland Ecotone | Riparian Herb               |
| Sagebrush-Grassland Ecotone        | Sycamore Riparian Woodland  |
| Toyon Sumac Chaparral              | Mexican Elderberry Woodland |
| Mulefat Riparian Scrub             | Ornamental Plantings        |
| Willow Riparian Scrub              | Non-Urban Institutional     |
| Black Sage Scrub                   | Ruderal                     |
| Sagebrush Scrub                    | Graded                      |





**APPENDIX G**

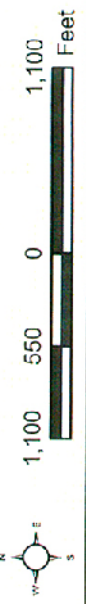
**Pre-Mitigation Plan**



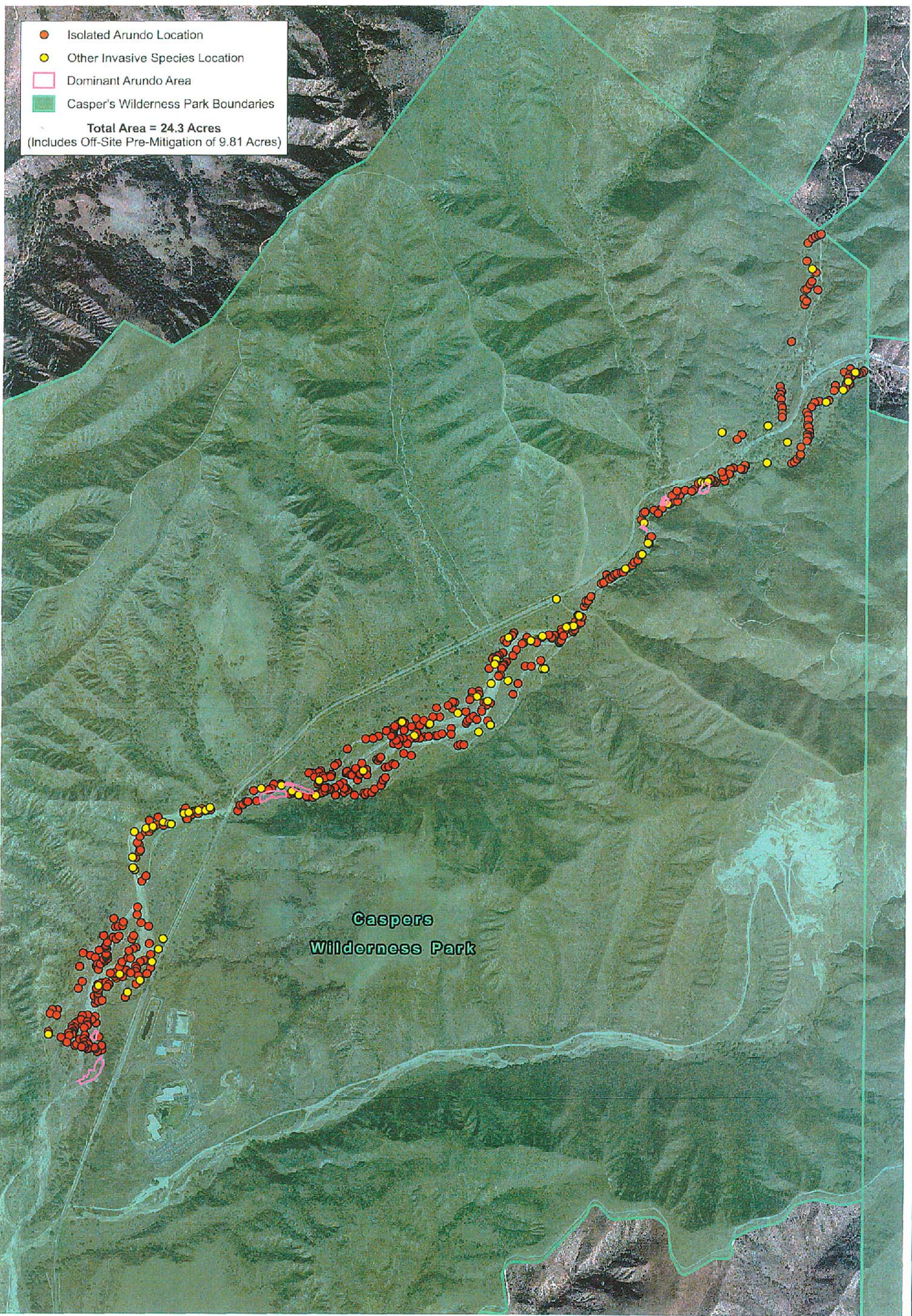
- Project Boundary
- Area of Disturbance - 1069.36 Acres
- Grading Contours
- Existing Pre-Mitigation (Phase 1)**
  - Existing Coastal Sage Scrub - 14.28 Acres
  - Existing Native Grass - 2.92 Acres
- Proposed Pre-Mitigation (Phases 2 & 3)**
  - Coastal Sage Scrub - 108.14 Acres
  - Native Grass - 15.3 Acres
  - Riparian mfs - 6.0 Acres
  - Brodiaea Relocation Sites
- Other Areas**
  - Existing Landslide Remediation Mitigation
  - La Pata Ave. Feasibility Study Area

### On-Site Pre-Mitigation Location

Pre-Mitigation Program Summary  
Prima Deshecha Landfill



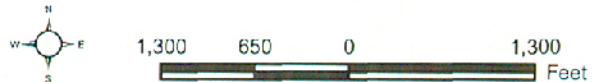
- Isolated Arundo Location
  - Other Invasive Species Location
  - Dominant Arundo Area
  - Casper's Wilderness Park Boundaries
- Total Area = 24.3 Acres**  
(Includes Off-Site Pre-Mitigation of 9.81 Acres)



**Offsite Pre-Mitigation Location (San Juan Creek Invasive Exotic Plant Species Removal)**

**Exhibit G-2**

Regional Enhancement Opportunities Plan  
Prima Deshecha Landfill



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## **APPENDIX H**

# **Regional Environmental Enhancement Opportunities Plan (REEOP)**

### **Regional Environmental Enhancement Opportunities Program (REEOP):**

The Regional Environmental Enhancement Opportunities Plan (REEOP) identifies restoration, enhancement, and creation opportunities on the PDL property that can be made available to satisfy potential mitigation requirements for (non-PDL) public and private projects in the region. The REEOP document will serve to identify these opportunities in conjunction with state and federal resource agency permit authorizations. SEIR 597 provides the CEQA documentation that would allow other public agencies or private landowners to use areas within Prima identified by the REEOP at the time of landfill closure for restoration mitigation purposes, if IWMD authorizes this activity and the entity has received the required regulatory permits needed to authorize impacts to resources under jurisdiction of the regulatory agencies.

The area available for regional enhancement opportunities can be found both outside the ultimate limits of active landfilling operations, as well as within completed areas of phased landfill development (Exhibit H-1, Environmental Opportunities). Consistent with the planning approach used for the Pre-Mitigation Plan, the conceptual REEOP design has been developed to accommodate the potential future expansion of Camino de los Mares through the southwestern portion of the project site. This plan primarily provides for native grassland and coastal sage scrub opportunities based on existing site soils and hydrology. Please note that once a final alignment for the extension of La Pata Avenue is approved, the REEOP will be revised accordingly to incorporate the refined rights-of-way and to identify additional mitigation area opportunities.

The conceptual design of the Regional Enhancement Opportunities Plan is based on the following goals:

- **Select areas that are currently disturbed or contain non-native plant species.** Enhancement of these areas will involve the overall net habitat values of the area.
- **Select potential restoration opportunity areas within the landfill property limits.** Selection will be based on site constraints such as landfill final cover protection, recreation uses identified by the 2001 GDP, and long-term operation and maintenance including landslide remediation/stabilization.
- **Select appropriate habitat restoration types.** Select appropriate habitat restoration types based on soils, slope, aspect, hydrology, and other site conditions.
- **Incorporate viewshed protection elements.** Incorporate viewshed protection requirements from City/County MOUs and agreements with adjacent landowners.
- **Maintain consistency with the commitments, reservations and restrictions contained in the agreement between the County and the Rancho Mission Viejo Company.** Ensure that use of the restoration areas and opportunities identified in the REEOP upholds the Right of First Refusal (after County requirements are met) for the Rancho Mission Viejo Company within the Burdened Property.

- Project Boundary
  - Area of Disturbance
  - Grading Contours
- ENVIRONMENTAL OPPORTUNITIES**
- Coastal Sage Scrub - 555.3 Acres
  - Native Grass - 362.4 Acres
  - Riparian Mule Fat Scrub - 10.4 Acres
- LANDFILL MITIGATION AREAS**
- Existing Pre-Mitigation (Phase 1)**
- Existing Coastal Sage Scrub
  - Existing Native Grass
- Existing Landslide Mitigation**
- Coastal Sage Scrub
  - Riparian
- Proposed Pre-Mitigation (Phases 2 & 3)**
- Coastal Sage Scrub
  - Native Grass
  - Brodiaea Relocation Sites
- GENERAL PLAN ZONES**
- Zone 2 Alignments
  - Zone Boundaries for Zones 1, 3, and 4
- OTHER AREAS**
- Existing Native Habitat
  - La Pata Ave Grading Area (Zone 5)
  - Not A Part

Note: Areas shown on this exhibit as regional environmental restoration opportunities within Zone 1 and Zone 4 that are outside of proposed pre mitigation areas will be further evaluated as part of the Recreational Needs Assessment to be completed at landfill closure consistent with the recreation/open space objectives contained in the 2001 GDP.

**Environmental Opportunities**  
 Regional Environmental Opportunities Plan  
 Prima Deshecha Landfill

