FINAL
PROGRAM ENVIRONMENTAL IMPACT REPORT FOR REVISIONS TO SOLID WASTE FACILITIES PERMIT 36-AA-0045 FOR THE EXPANSION OF THE VICTORVILLE SANITARY LANDFILL

SCH No. 2002091132

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FINAL PROGRAM ENVIRONMENTAL IMPACT REPORT

F.1 INTRODUCTION TO FINAL EIR

This Final Program Environmental Impact Report (Final EIR) for the Victorville Sanitary Landfill Expansion project (SCH#20022091132) has been prepared in accordance with the California Environmental Quality Act (CEQA) and the State and County guidelines for implementating of CEQA. The public comment period for the Draft EIR ran from October 3, 2003 through November 17, 2003. The Final EIR consists of the following:

- The Introduction to the Final EIR
- A Summary of Revisions Made to the Draft EIR
- The Revised Draft EIR based on comments made during the public review period
- Public Comments on the Draft EIR and Lead Agency Responses (Chapter 10.0)

This compiled document constitutes the whole of the Program EIR as defined under CEQA Guidelines Section 15162.

F.2 REVISIONS TO THE DRAFT EIR

A number of revisions to the Draft EIR have been made in response to comments received during the public review period. However, none of these revisions constitute "substantial changes" or "significant new information" requiring recirculation of the Draft EIR (CEQA Guidelines Section 15088.5). Revisions made to the EIR are summarized here, and new pages, with the revisions highlighted, have been inserted into the Final EIR. Minor revisions to correct typographical errors have not been highlighted.

CHAPTER 2.0 - SUMMARY

1. Table 2-2, Page 2-30, Mitigation Measure 1p has been revised to clarify the California Department of Fish and Game requirement for implementation of a raven management plan as follows (new text is underlined, ~~deleted text is stricken through~~):

   A landfill operations program addressing wind-blown litter arising from site operation, as well as ~~other potential~~ the development of a raven (Corvus corax) management plan ~~provisioning impacts arising from landfill operations~~, shall be implemented that will facilitate the most effective refuse control practices, while minimizing potential provisioning of desert tortoise predators. The raven management plan developed shall be approved by CDFG.

2. Table 2-2, page 2-31, has been revised to include the new Impact and Mitigation discussion related to the burrowing owl in response to comments made by the California Department of Fish and Game as follows:

TABLE 2-2
SUMMARY OF IMPACTS AND MITIGATION MEASURES/REGULATORY REQUIREMENTS FOR THE PROPOSED PROJECT

IDENTIFIED IMPACTS	LEVEL OF SIGNIFICANCE (Before Mitigation)	MITIGATION MEASURES/ REGULATORY REQUIREMENTS	LEVEL OF SIGNIFICANCE (After Mitigation)
BIOLOGICAL RESOURCES (Continued)			
BIO-4: Development of the proposed project would result in the taking of desert plant species protected by the California Desert Native Plants Act and the County of San Bernardino Code, Division 9, Chapter 4 – Desert Native Plant Protection.	Potentially Significant Impact	**BIO-4:** The operator/construction contractor shall remove all species protected by the California Native Plants Act and the County of San Bernardino Code deemed suitable for transplanting by a qualified botanist/horticulturist. These plants will be used as landscaping onsite, be maintained in an onsite nursery area for future revegetation efforts or transported for use at another County facility.	Less than significant
BIO-5: The proposed project could impact burrowing owl, a special status species.	Potentially Significant Impact	**BIO-5:** Prior to disturbance of previously undisturbed land in Phases 2 and 3, SWMD shall survey areas to be disturbed and adjacent areas for burrowing owls in accordance with Department of Fish and Game protocol. Results of the survey shall be documented and a reported to CDFG for review.	Less than significant
CULTURAL RESOURCES			
CR-1 – Paleontologic Resources: Development of the proposed project may have an adverse impact on the paleontological resources that may exist on the site.	Potentially Significant Impact	**CR-1:** A qualified vertebrate paleontologist must develop a program to mitigate impacts to nonrenewable paleontologic resources. This mitigation program should be consistent with the provisions of the California Environmental Quality Act, as well as with regulations currently implemented by the County of San Bernardino and the proposed guidelines of the Society of Vertebrate Paleontology. This program should include, but not be limited to: 1. Pre-excavation sampling of the observed Neotoma middens, to better determine their potential antiquity;	Less than significant

CHAPTER 3.0 - PROJECT DESCRIPTION

3. Page 3-15. A new paragraph has been added following paragraph 3 in response to comment made by the Regional Water Quality Control Board, Lahontan Region as follows:

   The maximum depth of excavation (shown as feet above mean sea level) for each development Phase within the expansion area is shown below:

   - Maximum Excavation Depth –Phase 1A: 3,008 feet
   - Maximum Excavation Depth –Phase 1B: 2,886 feet
   - Maximum Excavation Depth –Phase 2: 2,918 feet
   - Maximum Excavation Depth –Phase 3: 2,748 feet

4. Page 3-16. Figure 3-8 has been revised to show "legible" contour lines, in response to a comment made by the Regional Water Quality Control Board, Lahontan Region.

5. Page 3-17. Figure 3-9 has been revised to indicate that the graphic shows Phases 1A and 1B Fill Plan and Phase 2 Excavation, in response to a comment made by the California Integrated Waste Management Board.

6. Page 3-19. The first sentence of the first paragraph under Section 3.5.3, Description of Phasing, has been revised to clarify that Phase 1A would be completed in one phase, in response to a comment made by the Regional Water Quality Control Board, Lahontan Region, as follows (new text is underlined):

   Phase 1A is scheduled to begin in January 2010 and would be completed in one phase...

7. Page 3-20. The fourth paragraph under Phase 1B has been revised to clarify how the liner and LRCS would be tied to adjacent phases in response to a comment made by the Regional Water Quality Control Board, Lahontan Region, as follows (new text is underlined):

   Phase 1B would be excavated to establish a 1.5 percent grade along the floor to allow any leachate to drain to the lowest point in the southwest corner and be collected in a sump for disposal. The liner and LCRS system for each construction stage will directly tie into the previous adjacent stage during incremental filling until the individual phase is complete.

8. Page 3-21. Figure 3-10 has been revised to show "legible" contour lines, in response to a comment made by the Regional Water Quality Control Board, Lahontan Region.

9. Page 3-29. The second paragraph has been revised (beginning after the second sentence) to more specifically describe the leachate collection and removal system in response to a

comment made by the Regional Water Quality Control Board, Lahontan Region, as follows (new text is underlined):

> ... The system(s) were designed to handle twice the anticipated leachate production including factors of safety to allow for clogging due to biofouling, settlement, etc., over the active life of the landfill and through post-closure. The liquids would be collected in on-site storage tanks prior to treatment and disposal.

10. Page 3-29. The discussion of Surface and Groundwater Monitoring has been expanded in response to a comment made by the California Integrated Waste Management Board. New text has been inserted into the discussion after the first paragraph as follows:

> Groundwater elevations within the existing landfill footprint and downgradient of the Victorville Landfill have generally decreased since 1998, when the septage impoundments at the northwestern corner of the facility were closed (proposed Phase 1A). Well VSL-7, which is located immediately downgradient of the septage ponds, has been dry for three years. Similar trends in groundwater elevation decreases have been observed in wells VSL-5 and VSL-9, which are also downgradient of the septage ponds.
>
> Table 3-6 compares the most recent groundwater elevation and the historical high groundwater elevation measured at each monitoring well with the adjacent base grade of the proposed landfill expansion.

Table 3-6
Historical Groundwater Elevations

Well	November 2003 Groundwater Elevation (feet amsl)	Highest Groundwater Elevation/Date Measured		Adjacent Landfill Base Elevation
VSL-1	2849.63	2849.98	February, 2003	3016
VSL-3	2676.03	2677.89	May, 1993	2900
VSL-4	2993.74	2994.09	August, 2002	2920
VSL-5	2744.30	2773.86	August, 1993	3008
VSL-6	2670.64	2675.53	January, 1994	2800
VSL-7	Dry	2768.76	November, 1996	3008
VSL-8	2671.17	2674.45	August, 2001	2860
VSL-9	2741.11	2767.11	June, 1996	3008
VSL-10	2675.96	2686.34	May, 2001	2900
VSL-11	2675.96	2676.41	August, 2001	2900
VSL-12	2676.98	2677.40	August, 2003	2780
VSL-13	2675.90	2675.90	April, 2001	2780
VSL-14	2799.29	2799.56	February, 2003	2820
VSL-15	2831.11	2831.11	April, 2001	2960
VSL-16	2697.16	2697.16	April, 2001	2940
VSL-17	2675.97	2676.34	May, 2003	2900

Notes: Wells VSL-10, VSL-11, VSL-12, VSL-13, VSL-14, VSL-15, VSL-16, and VSL-17 were constructed in 2001.

As shown on Table 3-6, all areas of proposed expansion will be at least five feet above the highest measured groundwater elevation in an adjacent well or as interpreted from groundwater equipotential surface contours. In fact, most areas will be at least 100 feet above the highest anticipated groundwater elevation. Groundwater potentiometric surface elevation contours were constructed using April 2001 data to compare estimated groundwater elevations with the proposed sub-grade configuration. There are no areas of the site where the groundwater is less than five feet below the landfill sub-grade. The historical groundwater elevation data show very little fluctuation in response to regional climatic phenomena, such as the unusually heavy rains associated with the 1993 and 1997/1998 El Nino events. As a result, use of the April 2001 data set is considered representative of historical and anticipated conditions. Based on this information, a minimum five-foot separation between waste and the groundwater table is anticipated throughout the site's active life and post-closure maintenance period.

CHAPTER 4.0 - ENVIRONMENTAL IMPACT EVALUATION

Section 4.3 Biological Resources

11. Page 4.3-19. Mitigation Measure 1p has been revised in response to a comment made by the California Department of Fish and Game that the County must prepare a separate raven management plan rather than deal with potential raven issues in the context of a more general landfill operations program (new test is underlined, ~~deleted text is stricken out~~).

    A landfill operations program addressing wind-blown litter arising from site operation, as well as ~~other potential~~ the development of a raven (Corvus corax) management plan ~~provisioning impacts arising from landfill operations~~, shall be implemented that will facilitate the most effective refuse control practices, while minimizing potential provisioning of desert tortoise predators .The raven management plan developed shall be approved by CDFG.

12. Page 4.3-21. A new discussion of the potential for burrowing owl to use the site has been added at the end of the page as Impact BIO-5 in response to comments made by the California Department of Fish and Game as follows:

    Impact BIO-5

    The proposed project could impact burrowing owl, a special status species. This is a potentially significant impact.

    The burrowing owl (*Athene cunicularia*) is a special status species (federal and state) not seen on-site during field surveys, but is commonly reported from the area, has been observed in adjacent regions, could occur in the same habitat type as found on-site, and may with some certainty be observed within the project vicinity. CDFG is currently reviewing a request from the Center for Biological Diversity to formally list

the Western burrowing owl as threatened or endangered (request submitted May 2003).

Effects to this species would be the potential loss of nesting and foraging habitat over the life of the project (76 years) and potential loss of eggs and young if the specie were to breed on site, and if construction takes place during the nesting season (late February to July). So although the species was not identified on site in previous surveys, it is mobile and could occupy the site in the future.

The protocol is to survey the area and identify occupancy then conduct a forced dispersal (outside the nesting season) and eliminate the burrows. If nests are encountered, they cannot be disturbed during the nesting season.

Mitigation Measure BIO-5

Prior to disturbance of previously undisturbed land in Phases 2 and 3, SWMD shall survey areas to be disturbed and adjacent areas for burrowing owls in accordance with Department of Fish and Game protocol. Results of the survey shall be documented and a reported to CDFG for review.

Level of Significance After Mitigation

Less than significant.

Section 4.7 - Hydrology and Water Quality

13. Page 4.7-1. The third sentence in the third paragraph under Section 4.7.1 has been revised to include a citation for a new Figure 4.7-1 in the discussion of flooding potential in response to a comment made by Regional Water Quality Control Board, Lahontan Region as follows (new text is underlined):

    … Floodplain information, as shown in Figure 4.7-1, indicates that the area immediately southwest of the site is located within a special flood hazard zone that could be inundated by a 100-year flood. …

14. Page 4.7-2. New Figure 4.7-1 has been added to this section and existing figures 4.7-1 and 4.7-2 have been renumbered accordingly.

CHAPTER 8.0 - REFERENCES

Section 8.3 Bibliography

15. Page 8-2. Several cited documents were inadvertently omitted from the Bibliography. These are included here as follows:

Bryan A. Stirrat & Associates, July 2002. *Victorville Sanitary Landfill Expansion Project Description.*

Catching, R.D., B.F. Cox, M.R. Goldman, G. Gandhok, M.J. Donmgler, P. Martin, A. Christensen, and D. Horta, 2000, *Subsurface Structure and Seismic Velocities as Determined from High-Resolution Seismic Imaging in the Victorville, California Area: Implications for Water Resources and Earthquake Hazards, U.S. Geological Survey Open-File Report 00-123.*

Federal Emergency Management Agency, Map Number 06071C5810 F, March 18, 1996, *Flood Insurance Rate Map, San Bernardino County, California and Incorporation Areas, Panel 5810 of 9400.*

Golder Associates, Janurary 2003. *Engineering Review of Proposed Victorville Sanitary Landfill Expansion* (Golder Associates, January 2003).

U.S. Department of Interior Bureau of Land Management, October 1997. *Environmental Assessment for the Proposed Conveyance of Federally-Managed Public Lands to the County of San Bernardino for Uses Related to Solid Waste Management.*

CHAPTER 9.0 - MITIGATION MONITORING AND REPORTING PROGRAM

16. Table 9-1. Mitigation Measure 1p has been revised in response to a comment made by the California Department of Fish and Game that the County must prepare a separate raven management plan rather than deal with potential raven issues in the context of a more general landfill operations program (new test is underlined, ~~deleted text is stricken out~~).

    A landfill operations program addressing wind-blown litter arising from site operation, as well as ~~other potential~~ the development of a raven (Corvus corax) management plan ~~provisioning impacts arising from landfill operations~~, shall be implemented that will facilitate the most effective refuse control practices, while minimizing potential provisioning of desert tortoise predators. The raven management plan developed shall be approved by CDFG.

17. Page 9-11. The new Mitigation Measure Bio-5 for burrowing owl has been added to the MMRP as follows:

Table 9-1
Victorville Sanitary Landfill Mitigation Monitoring and Compliance Program

Mitigation Measure From EIR	Responsible for Implementation	Implementation/Verification	Date Completed
BIOLOGICAL RESOURCES (Continued)			
BIO-3: Prior to disturbance of previously undisturbed land, SWMD shall conduct clearance surveys in areas scheduled for disturbance. Biologists shall comply with mitigation measures BIO-1a through BIO-1p for desert tortoise. Results of the clearance surveys shall be documented and a report of findings submitted to the resource agencies.	SWMD	Prior to land disturbance.	
BIO-4: The operator/construction contractor shall relocate all species protected by the California Native Plants Act and the County of San Bernardino Code deemed suitable for transplanting by a qualified botanist/horticulturist. These plants will be used as landscaping onsite, be maintained in an onsite nursery area for future revegetation efforts or transported for use at another County facility.	SWMD	Relocation Plan shall be implemented prior to new land disturbance. The Plan would include criteria for ensuing success and identify measures for replacement of plants that do not survive relocation. Success rate shall be documented annually for a period of three years.	
BIO-5: Prior to disturbance of previously undisturbed land in Phases 2 and 3, SWMD shall survey areas to be disturbed and adjacent areas for burrowing owls in accordance with Department of Fish and Game protocol. Results of the survey shall be documented and a reported to CDFG for review.	SWMD	Prior to land disturbance.	
CULTURAL RESOURCES			
CR-1: A qualified vertebrate paleontologist must develop a program to mitigate impacts to nonrenewable paleontologic resources. This mitigation program should be consistent with the provisions of the California Environmental Quality Act, as well as with regulations currently implemented by the County of San Bernardino and the proposed guidelines of the Society of Vertebrate Paleontology. This program should include, but not be limited to: 1. Pre-excavation sampling of the observed Neotoma middens, to better determine their potential antiquity;	SWMD	Within one year of issuance of a revised SWFP by LEA.	

SWMD – Solid Waste Management Department
LEA – Local Enforcement Agency
SWFP – Solid Waste Facilities Permit
RWQCB – Regional Water Quality Board
DPW – Department of Public Works

1.0 INTRODUCTION

1.1 PROJECT UNDER REVIEW

This Draft Program Environmental Impact Report (EIR) (State Clearinghouse No. 2002091132) has been prepared by the County of San Bernardino to evaluate the environmental effects of the expansion of the Victorville Sanitary Landfill, an existing non-hazardous solid waste landfill located in an unincorporated portion of San Bernardino County, adjacent to the northerly corporate boundary of the City of Victorville. The Victorville Sanitary Landfill is a Class III landfill that has been accepting non-hazardous municipal wastes since 1965.

The proposed project consists of the expansion of the existing Victorville Sanitary Landfill from its currently permitted 67-acre footprint to a 341-acre footprint over a period of approximately 76 years (2081); increasing the permitted height by 52 feet from 3,130 feet above mean sea level (msl) to 3,182 feet above msl; and increasing the overall size of the landfill site from 80 acres to 491 acres.

1.2 PURPOSE OF THE ENVIRONMENTAL IMPACT REPORT

This EIR was prepared in accordance with the California Environmental Quality Act (CEQA); the State Guidelines for Implementation of CEQA (as amended); and the County's Guidelines for CEQA Implementation to document existing environmental conditions and evaluate the potentially significant environmental effects that could result from the implementation of the proposed landfill expansion project at the Victorville Sanitary Landfill.

1.2.1 Lead Agency

The County of San Bernardino is the lead agency as defined in Section 15051(a) of the CEQA Guidelines. This section states that "If the project will be carried out by a public agency, that agency shall be the lead agency even if the project would be located within the jurisdiction of another public agency." In this case, the project site is within the sphere of influence of the City of Victorville.

Correspondence on this Draft EIR should be sent to the following County representative:

County of San Bernardino
Land Use Services Department
Advanced Planning Division
385 N. Arrowhead Avenue, First Floor
San Bernardino, CA 92415-0182
Attn: Matthew Slowik, Senior Associate Planner

1.2.2 EIR as an Informational Document

The purpose of an EIR is to serve as an informational document that will inform public agency decisionmakers and the public generally of the significant environmental effects associated with a proposed project, identify ways to minimize or eliminate the significant effects, and evaluate a reasonable range of alternatives to the project that would meet the major objectives of the proposed project but further reduce or avoid significant environmental effects. The EIR provides objective planning and environmental information to guide and assist decisionmakers, lead agency staff and the public in their evaluation of the potential environmental effects that may result from implementation of the project as proposed. CEQA Guidelines Section 15151 contains the following standards of adequacy:

> "An EIR should be prepared with a sufficient degree of analysis to provide decisionmakers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection; but for adequacy, completeness and a good faith effort at full disclosure."

1.3 DETERMINATION TO PREPARE A PROGRAM EIR

CEQA Guidelines Section 15168 describes a Program EIR as an environmental document prepared for an agency program or series of actions that make up a large project. Because of the size of the project and length of time SWMD anticipates the landfill would operate, a Program EIR is being prepared.

This Program EIR is a first-tier document that describes the broad-scale impacts of the proposed landfill expansion. According to CEQA Guidelines Section 15152, tiering refers to the use of the analysis of general matters contained in a broader Program EIR with later EIR or negative declarations focused on specific projects within the broader landfill expansion project.

The proposed project, to expand the landfill to allow solid waste disposal for a 76-year period, goes beyond any horizon year generally used to evaluate environmental impacts. For example traffic impact analyses are conducted for a maximum 25-year period. Because the proposal calls for an extended site life, environmental impacts could be identified in the future that are not known today. These would likely be due to increased population in the region. Because there are unknowns associated with the longevity of the proposed project, this EIR has been prepared as a Program EIR with the understanding that issues may arise in the future, such as listing of new endangered species, increased traffic congestion, or encroaching land uses that could be incompatible.

A sanitary landfill SWFP must be reviewed by the Local Enforcement Agency (LEA) every five years or whenever there are proposed changes in design and operation. As such landfill operation and design would come under scrutiny by various regulatory agencies on a regular basis. An

update or revision to a SWFP requires environmental review under CEQA. Therefore, it is anticipated that subsequent environmental documents (subsequent EIR or Mitigated Negative Declaration) would be prepared at approximate five-year intervals. As existing conditions change in the region, they would be reflected in these CEQA documents.

Because of this regulatory requirement, SWMD has not requested an increase in the number of vehicles/trips to the landfill. As currently permitted, the facility can receive up to 1,600 tons per day and a maximum of 400 vehicles round trips per day. At the rate of disposal identified in the Diminishing Capacity Table (see Appendix C) the landfill would not reach this maximum number of trips until sometime after 2050. Therefore, SWMD has not requested an increase in maximum number of types in this permit update. At each future permit update, this and other permit conditions and requirements, as outlined in Table 2-4 (Chapter 2.0, Summary), would be reevaluated.

1.4 ENVIRONMENTAL REVIEW PROCESS

1.4.1 Initial Study

Although not required when a Lead Agency has made the determination that an EIR shall be prepared (CEQA Guidelines Section 15063), an Initial Study was prepared by the County of San Bernardino, Land Use Services Department, in September 2002 to identify areas where the proposed project could have an adverse effect on the environment. The Initial Study identified issues that would not be affected by the proposed project and focused on those issues that should be evaluated in the Draft EIR. Issues that did not require further evaluation are summarized in Chapter 2.0 Summary. The Initial Study and a subsequent Public Scoping Meeting held on November 6, 2002, identified a number of issues requiring additional review in the EIR including: Aesthetics, Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Public Health and Safety, Groundwater and Water Quality, Traffic and Circulation, and Public Utilities and Infrastructure.

1.4.2 Notice of Preparation

A Notice of Preparation (NOP) was prepared for the project and circulated (with the Initial Study attached) to all responsible agencies and interested parties beginning on September 27, 2002 for a period of 30 days (CEQA Guidelines Section 15082). A NOP states that an EIR will be prepared and must be sent to any responsible government agency involved in approving the project and to trustee agencies responsible for natural resources that may be affected by the project. A responsible agency is an agency other than the lead agency that has discretionary approval power over the project. A trustee agency is an agency that has jurisdiction over natural resources that may be affected by the proposed project. Other interested parties are also notified that an EIR will be prepared.

Letters submitted in response to the NOP have been considered and are incorporated into the Draft EIR where appropriate. The NOP, including the Initial Study and comment letters, is included in this EIR in Appendix A.

1.4.3 Draft EIR

Circulation of the Draft EIR begins when a Notice of Completion (NOC) is filed with the State Office of Planning and Research Clearinghouse (State Clearinghouse) (CEQA Guidelines Section 15085). Filing the NOC starts the review period for the Draft EIR; generally lasting 45 days. Concurrent with the filing of the NOC, the lead agency will also provide a Notice of Availability of the Draft EIR to all organizations and individuals that have previously requested such notice or are located in proximity to the project site. This notice briefly describes the proposed project; identifies the date when comments must be received and where they are to be sent; and provides locations where copies of the Draft EIR can be reviewed (CEQA Guidelines Section 15087).

In conjunction with the preparation of the Draft EIR, a Mitigation Monitoring and Reporting Program (MMRP) has been prepared (CEQA Section 21081.6). The MMRP contains the mitigation measures along with the action that must be taken to implement them and the method that will be used to document or verify fulfillment of the measure. A procedure for determining and recording compliance is outlined for each action that must be implemented in order to mitigate impacts as identified in the EIR and adopted when the project is approved. This procedure identifies what action will be taken and when, designates who will be responsible for implementing the action, and to whom and when compliance will be reported. The MMRP is included in this EIR in Chapter 9.0.

1.4.4 Final EIR

At the end of the public review period, written comments received on the Draft EIR will be compiled and responses will be prepared for inclusion in the Final EIR. A Final EIR consists of the following: 1) the Draft EIR, 2) a list of all persons, organizations and public agencies commenting on the Draft EIR; 3) copies of the comments received on the Draft EIR; 4) responses to comments; and 5) any other pertinent information added by the lead agency (CEQA Guidelines Section 15132).

The Final EIR will serve as the CEQA compliance document for the County of San Bernardino and any other agencies that may be responsible for review of the proposed project and issuance of required permits to construct and operate the expanded landfill.

1.5 ORGANIZATION OF THE EIR

The Draft EIR is organized into the following chapters:

- Chapter 1.0 - Introduction: Provides an introduction and overview that describes the intended use of the document and authority under CEQA. Also provides a list of acronyms and a glossary of terms used to describe and evaluate the project.

- Chapter 2.0 – Summary of the Findings of the Draft EIR: Summarizes the proposed project, areas of controversy, regulatory compliance requirements, the potential

environmental effects that may result from the implementation of the proposed project, the mitigation measures proposed to reduce or eliminate significant effects, and a summary of the proposed alternatives.

- Chapter 3.0 - Project Description: Provides a detailed description of the existing and proposed excavation and landfilling activities associated with the landfill expansion. Also discusses the project objectives and provides background data on the project and project site.

- Chapter 4.0 – Environmental Setting and Impact Evaluation: Describes the existing environmental conditions on the site and in the vicinity of the project site, and the regulatory environment. Describes the project's characteristics related to each environmental issue and states the significance criteria used to evaluate potentially significant effects of the proposed project. Evaluates the potential environmental effects, identifies mitigation measures to reduce or eliminate effects found to be significant, and identifies the level of significance of the effect after measures have been implemented.

- Chapter 5.0 - Cumulative Impacts: Evaluates cumulative environmental effects of the project in relationship to the effects of other approved and/or reasonably foreseeable projects in the area that when combined, would be significant.

- Chapter 6.0 - Alternatives to the Proposed Project: Describes a reasonable range of alternatives to the project that would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects identified in the environmental analysis of the project.

- Chapter 7.0 - Other CEQA Required Analysis: Includes descriptions of: 1) ways in which the project may foster economic or population growth and thereby be growth inducing; 2) any significant irreversible environmental changes which may result with the implementation of the proposed project; and 3) a summary of impacts found not to be significant.

- Chapter 8.0 – References: Includes a list of lead agency staff members who participated in the preparation of the EIR as well as the consultants who prepared the technical reports to support the environmental analysis. Chapter 8.0 also includes a bibliography of information used to prepare the EIR and lists persons and organizations consulted during report preparation.

- Chapter 9.0 – Mitigation Monitoring and Reporting Program: Includes a list of all mitigation measures, responsible department or agency to oversee implementation of the measures, timing of implementation and description of whether the measure is time specific or on-going.

1.6 DOCUMENTS INCORPORATED BY REFERENCE

Pertinent documents relating to this EIR have been cited and incorporated by reference, in accordance with Section 15150 of the CEQA Guidelines as a means of reducing the redundancy and length of environmental impact reports.

The following documents are available for public review at the County Government Center, 385 North Arrowhead Avenue, First Floor, San Bernardino, and are hereby incorporated by reference into this EIR. Information contained within these documents has been used for the preparation of chapters throughout this EIR.

- County of San Bernardino General Plan and Background Reports, 1989.
- Negative Declaration for the revisions to the Solid Waste Facilities Permit for the Victorville Sanitary Landfill, September, 1996.
- County of San Bernardino Solid Waste Partnership Strategy Implementation Plan, 1996.
- US Fish and Wildlife Service, Biological Opinion for the Land Transfer, 1999
- Bureau of Land Management, Environmental Assessment of the Land Transfer, 1996

1.7 ACRONYMS

AAQS	Ambient air quality standards
ADC	Alternative daily cover
ADT	Average daily traffic
AQMD	Air Quality Management District
AQMP	Air Quality Management Program
BACT	Best available control technology
BLM	Bureau of Land Management
BMP	Best Management Practices
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CARB	California Air Resources Board
CCL	Compacted Clay Liner
CCR	California Code of Regulations
CDCA	California Desert Conservation Area
CDFG	California Department of Fish and Game
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CHIEF	Cumulative Human Impact Evaluation Forms
CIWMB	California Integrated Waste Management Board
CIWMP	California Integrated Waste Management Plan

CNEL	Community noise equivalent level
CNPS	California Native Plant Society
CO	Carbon monoxide
CO_2	Carbon dioxide
DWMA	Desert Wildlife Management Area
EIR	Environmental Impact Report
EFS	Engineering Feasibility Study
EMP	Evaluation Monitoring Program
ESA	Endangered Species Act
EPA	Environmental Protection Agency
F	Fahrenheit
FAA	Federal Aviation Administration
FCR	Field Contact Representative
FESA	Federal Endangered Species Act
GCL	Geosynthetic Clay Liner
H_2S	Hydrogen Sulfide
HCP	Habitat Conservation Plan
HDPE	High-Density Polyethylene
ISM	Instantaneous Surface Monitoring
IWM	Integrated Waste Management
LCRS	Leachate Collection and Removal System
LEA	Local Enforcement Agency
LFG	Landfill gas
LOS	Level of service
MCE	Maximum Credible Earthquake
MCY	Million Cubic Yards
MDAB	Mojave Desert Air Basin
MDAQMD	Mojave Desert Air Quality Management District
MDPA	Mojave Desert Planning Area
Mg/L	Milligrams per liter
$\mu g/m^3$	Micrograms per cubic meter
Mg	Megagrams (one million grams)
MMCP	Mitigation Monitoring and Compliance Program
MMRP	Mitigation Monitoring and Reporting Program
MPE	Maximum probable [earthquake] event
mph	Miles per hour
MPRR	Monitoring Program and Reporting Requirements
MSL	Mean sea level
M_w	Magnitude
NAAQS	National ambient air quality standards
NDDB	Natural Diversity Data Base (California Department of Fish and Game)
NMOC	Nonmethane organic compound
NO_2	Nitrogen dioxide
NOC	Notice of Completion
NOI	Notice of Intent

NOP	Notice of Preparation
NO_x	Nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NPPA	California Native Plant Protection Act of 1997
NRCS	Natural Resources Conservation Service
O_3	Ozone
Pb	Lead
PCE	Passenger car equivalent-generally one truck being equal to approximately 1.5 to 2 cars
PM_{10}	10-micron particulate matter
POC	Point of Compliance
ppm	Parts per million
ppm_v	Parts per million by volume
PSIP	Partnership Strategy Implementation Plan
RCRA	Resource Conservation and Recovery Act
RDSI	Report of Disposal Site Information
ROG	Reactive organic gases
RWQCB	Regional Water Quality Control Board
SANBAG	San Bernardino Associated Governments
SBCM	San Bernardino County Museum
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCIA	Southern California International Airport
SIP	Strategic Implementation Plan
SO_2	Sulfur dioxide
SWFP	Solid Waste Facilities Permit
SWMD	Solid Waste Management Division
SWPPP	Stormwater Pollution Prevention Program
SWRCB	State Water Resources Control Board
TAC	Toxic air contaminants
TDS	Total dissolved solids
TOC	Total organic carbon
TPD	Tons Per Day
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VOC	Volatile organic compound
WDR	Waste discharge requirements
WMD Plan	Western Mojave Desert Plan

1.8 GLOSSARY OF TERMS

Acre-foot: Volume of liquid or solid required to cover an area of one acre to a depth of one foot.

Active fault: Geologic fault with recent seismic activity that has displaced materials not more than 12,000 years old.

Air Space: The vertical space extending from the ground surface upward over a particular area of land or real estate.

Alluvium: A geologic term for general deposits made by streams, riverbeds, or floodplains. A deposit of silt clay laid down during time of flood.

Alquist-Priolo Fault Zone: State-identified areas of potentially active and recently active faults.

Alquist-Priolo Special Studies Zones Act: Places specific responsibilities on local governments for identification and evaluation of seismic and geologic hazards, and formulation of programs and regulations to reduce risk in identified locations.

Aquifer: A geological formation that is sufficiently permeable to conduct groundwater and to yield significant quantities of water to wells and springs.

BACT: Best Available Control Technology

Bedrock: The solid rock that underlies other superficial material.

California Endangered Species Act: California state legislation, enacted in 1984, with the intent to protect floral and faunal species by listing them as "rare," "threatened" "endangered," or "candidate" and by providing a consultation process for the determination and resolution of potential adverse impact to the species.

California Environmental Quality Act (CEQA): Policies enacted in 1970, and subsequently amended, the intent of which is the maintenance of a quality environment for the people of California now and in the future.

CO_2: Carbon Dioxide

CO: Carbon Monoxide

Cell: A waste disposal/receptacle unit of undefined dimension within a landfill.

Cenozoic era: Geologic time span comprising both the Tertiary and the Quaternary periods (65 million years ago to the present).

Class III landfill: Facility that allows only the disposal of "nonhazardous municipal solid waste and construction debris waste."

Commercial waste: Waste materials originating in wholesale, retail, institutional, or service establishments such as office buildings, stores, markets, theatres, hotels, and warehouses.

Composite liner: A multi-layered synthetic liner that is designed to contain and prevent the migration of leachate and landfill gas that might be generated by the disposal of waste at a landfill.

CNEL: Community Noise Equivalent Level-a noise index that accounts for the greater annoyance of noise during evening and nighttime hours.

Contact water: Surface water run-on that comes into contact with waste at a landfill.

Cretaceous period: Geologic time approximately 135 million years ago (compare Mesozoic era).

Crystalline rock: A rock consisting of minerals in an obvious crystalline state. Inexact synonym for "igneous and metamorphic rock: as opposed to "sedimentary."

Discretionary actions: Conditions which can be imposed on a project action prior to approval for implementation. The approval would thus be "at the discretion" of an agency.

Endangered species: A CEQA definition of a species whose prospects of survival and reproduction in the wild are in immediate jeopardy from one or more causes.

Environmental Impact Report (EIR): Document in which the impacts of any state or local, public or private project action which may have a significant environmental effect are evaluated prior to its construction or implementation, as required by the California Environmental Quality Act.

Fault: A geologic fracture or fracture zone along which there has been displacement of the sides relative to one another.

Federal Drinking Water Standards: Primary health-protective standards for consumption of water by humans. Criteria set in 1962 by the U.S. Public Health Service that are used in determining the suitability of water for drinking and culinary purposes. The standards establish mandatory limits of maximum permissible concentration for certain chemical constituents and nonmandatory but recommended limits for others.

Geomembrane liner: Plastic landfill liner (see composite liner), underlain by a low-permeability soil liner layer with a low hydraulic conductivity.

Geotextile filter: A synthetic cushion layer placed over the geomembrane component of a composite liner to protect the geomembrane from overlying coarse, granular materials used to construct a leachate collection and removal system.

Groundwater basin: Underground geologic formation with sides and bottom of relatively imperious material in which groundwater is held or retained. Aquifer or system of aquifers with well-defined boundaries.

Groundwater gradient: The slope of the profile of the water table under unconfined groundwater conditions, or the slope of the imaginary surface to which groundwater rises due to hydrostatic pressure under confined conditions (wells and springs).

Hazardous material: Substance which, because of its potential for either corrosivity, toxicity, ignitability, chemical reactivity, or explosiveness, may cause injury to persons or damage to property.

Hazardous waste: Defined in Section 1004(5) of the federal Resource Conservation and Recovery Act (RCRA) as, :...a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may: (a) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (b) pose a substantial present or potential hazard to human health or the environmental when improperly treated, stored, transported, or disposed of, or otherwise managed."

Holocene, or Recent, epoch: Geologic time within the quaternary period from approximately 12,000 years ago to the present time.

Household hazardous waste: Items such as nail polish, paint, cleaning products, insecticides, automotive and appliance batteries, aerosol cans, and other common household goods which contain hazardous constituents subject to disposal as hazardous wastes.

Hydrogeology: The study of surface and subsurface water.

Landfill condensate: Liquid from the landfill gas which results from the temperature decline as the gas goes through during collection.

Landfill cover: Low-permeability compacted soil placed over completed sections of a landfill to minimize percolation of surface waters through the refuse and to prevent scavenging.

Landfill gas (LFG): Gas produced as part of the biological decomposition of the organic matter present in solid waste; methane is the principal component of this gas.

Landfill leachate: Liquid resulting from the contact of water with the decomposing waste of a landfill and which now contains dissolved waste materials.

Landfill liner: Layer of low-permeability soil (clay) applied to the bottom of the landfill to direct leachate to the leachate collection system and minimize leakage in cases of leachate production.

Leachate: Leachate is water that has infiltrated through, and come in contact with, landfill waste and as a result contains both suspended and dissolved substances from the waste material.

Level of Service (LOS): An indicator or traffic conditions at an intersection or on a stretch of roadway, and of the delay that can be expected in the general area; A is the best (no delay) and F is the worst.

Local Enforcement Agency (LEA): The San Bernardino County Division of Environmental Health is the LEA acting for the California Integrated Waste Management Board. It will issue the County solid waste facilities permit.

Mesozoic era: Geologic time span comprising the Triassic, Jurassic, and Cretaceous periods (230 to 135 million years ago).

Metamorphic rock: Any rock derived from pre-existing rocks in response to marked changes in temperature, pressure, stress, etc.

Methane: An odorless, colorless, flammable, arid explosive gas produced by municipal solid waste undergoing anaerobic decomposition. Methane is emitted from municipal solid waste landfills.

Middle Pleistocene Orogeny. A period in which mountains while forming went through a process such as folding, faulting, and thrusting. Sediments are buckled and deformed as they are compressed into long, linear mountain chains.

Miocene epoch: Geologic time within the Tertiary period corresponding to approximately 20 million years ago.

Municipal solid waste: A synonym for nonhazardous solid waste, as defined in Title 23 of the California Code of Regulations, which consist of all putrescible and nonputrescible solid and semisolid wastes, including: a) garbage, trash, refuse, paper, rubbish, and ashes; b) industrial, demolition, and construction wastes; c) abandoned vehicles and parts of thereof; d) discarded home and industrial appliances; e) manure and animal solids; f) dewatered sewage sludge; and g) other solid or semisolid waste, which does not contain hazardous wastes or hazardous waste components.

Noncontact water: Surface water runoff that does not come into contact with either waste or daily cover within the active area of a landfill.

Notice of Preparation (NOP): A brief notice sent by the public agency with principal responsibility for carrying out or approving a project to notify other agencies that an EIR is being prepared.

NO_2: Nitrogen dioxide.

NO_x: A generic term for various oxides of nitrogen.

Ozone (O_3): An end product of complex reactions between reactive organic gases (or non-methane hydrocarbons) and nitrogen oxides (NO_x) in the presence of intense ultraviolet radiation.

Packer truck: A vehicle used for trash collection which hydraulically compacts the refuse as it is picked up.

Paleozoic era: Geologic time span from 600 to 230 million years ago.

Permeability: The capacity of porous rock, sediment, or soil for transmitting a fluid.

Permit to Operate: Written permit pursuant to Rule 203, Regulation II, of the South Coast Air Quality Management District which must be obtained from the Air Pollution Control District before the article, machine, or contrivance subject to an Authority to Construct is put into operation.

pH: Measure of acidity; the logarithm to the base 10 of the reciprocal of the H+ concentration ([H+], i.e., the negative logarithm of the [H+]).

Pleistocene epoch: Geologic time within the Quaternary period corresponding to approximately 600,000 years ago.

Pliocene epoch: Geologic time within the Tertiary period corresponding to approximately 10 million years ago.

Point of Compliance (POC): The point established by the RWQCB in waste discharge requirements, as the hydraulically downgradient limit of the waste management unit (i.e. landfill footprint) that extends through the uppermost aquifer underlying the unit.

Precambrian era: Geologic time span 4.5 to 2 billion years ago.

Quaternary period: Geologic time span comprising both the Pleistocene and Holocene epochs (6000,000 years ago to the present).

Rare species: A species which, although not presently threatened with extinction, is in such small numbers throughout its range that it may become endangered if its present environmental worsens.

Regional Water Quality Control Board (RWQCB): Agency which administers the requirements of the California Administrative Code, Title 23, Division 3, Chapter 15 (Section 2595,g,7) to ensure the highest possible water quality consistent with all demands.

Responsible agency: The organization that has the lead duty to ensure that developers comply with the appropriate rules and regulations.

Right-of-way (ROW): The right to pass over property owned by another. The strip of land over which facilities such as roadways, railroads, or power lines are built.

Scat: Fecal evidence of wildlife presence.

Seismicity: The likelihood of an area being subject to earthquakes.

Sensitive species: Generic term for any plant or animal species which is recognized by the government or by any conservation group as being depleted, rare, threatened, or endangered.

Significant environmental impact: As defined by CEQA, Chapter 3, Article 1, Section 15002(g), "a substantial adverse change in the physical conditions which exist in the area affected by the proposed project."

Silt: Mud or fine earth suspended in water.

Source reduction: In this context, measures to reduce the amount of types of municipal solid waste generated.

South Coast Air Quality Management District (SCAQMD): The air quality regulatory agency for the entire South Coast Air Basin. The SCAQMD CEQA Air Quality Handbook was used to evaluate air equality impacts in the absence of an MDAQMD handbook.

SO_2: sulfur dioxide.

Subtitle D: The solid, nonhazardous waste section of the Resource Conservation and Recovery Act.

Tertiary period: Geologic time span comprising the Paleocene, Eocene, Oligocene, Miocene, and Pliocene epochs (65 to 10 million years ago).

Threatened Species: Species which, although not presently threatened with extinction, is likely to become endangered in the foreseeable future in the absence of special protection and management efforts.

Total dissolved solids (TDS): The dry residue from the dissolved matter in a water sample that remains after the sample ahs evaporated. The TDS serve as an indicator of the chemical quality of waters.

Transfer Station: A local facility for accumulating municipal waste from individual collection trucks for subsequent transport to a disposal site.

Vehicle delay: Cumulative amount of time vehicles are delayed at a railroad crossing. This delay is a function of the length of time crossing is blocked by a train and of the arrival and departure

rate per minute for each vehicle stopped at the crossing. Thus, if 60 vehicles are delayed for 1 minute, the vehicle delay for the crossing is said to be 60 minutes.

Volatile organic compound (VOC): Any organic compound having a vapor pressure greater than 3.0 pounds per square inch as determined by the methods of the American Society of Testing and Materials.

Waste discharge requirements: Regulation described in Title 23, Division 3, Chapter 15, of the California Code of Regulations which governs discharge of wastes to land in order to preserve the quality of the state's surface and groundwaters.

Wasteshed: The geographic area (e.g., a county) within which waste in generated for ultimate disposal.

Wastestream: The total sum of waste materials present from origin to disposal.

Watershed: A region bounded by a narrow tract of high ground which divides the flow of surface waters. A region that contributes water to a particular stream channel or system of channels.

Water table: The upper water level of a body of groundwater.

Waste discharge requirements: Regulation described in Title 23, Division 3, Chapter 15, of the California Code of Regulations which governs discharge of wastes to land in order to preserve the quality of the state's surface and groundwaters.

Working face: Portion of the landfill where solid wastes are presently being disposed and covered with daily cover.

2.0 SUMMARY

2.1 PROJECT UNDER REVIEW

This Environmental Impact Report (EIR) (State Clearinghouse No. 200209112) was prepared to evaluate the potential environmental effects associated with the expansion of the Victorville Sanitary Landfill owned and operated by the County of San Bernardino Solid Waste Management Division (SWMD). The existing landfill is located within an unincorporated area of the County of San Bernardino adjacent to the northerly corporate boundary of the City of Victorville and is surrounded on the west, north and east by federal lands administered by the Bureau of Land Management (BLM) or other private undeveloped land. Access to the landfill site is from Stoddard Wells Road west of the Interstate 15 (I-15) freeway. Stoddard Wells Road has an interchange with the I-15 freeway. Figure 2-1 shows the regional location of the project site.

The Victorville Sanitary Landfill is a Class III landfill that has been accepting non-hazardous municipal solid waste since 1965. The County's intent in proposing the expansion of the landfill is to implement an environmentally safe landfill project to serve the future needs of the greater Victor Valley region of San Bernardino County.

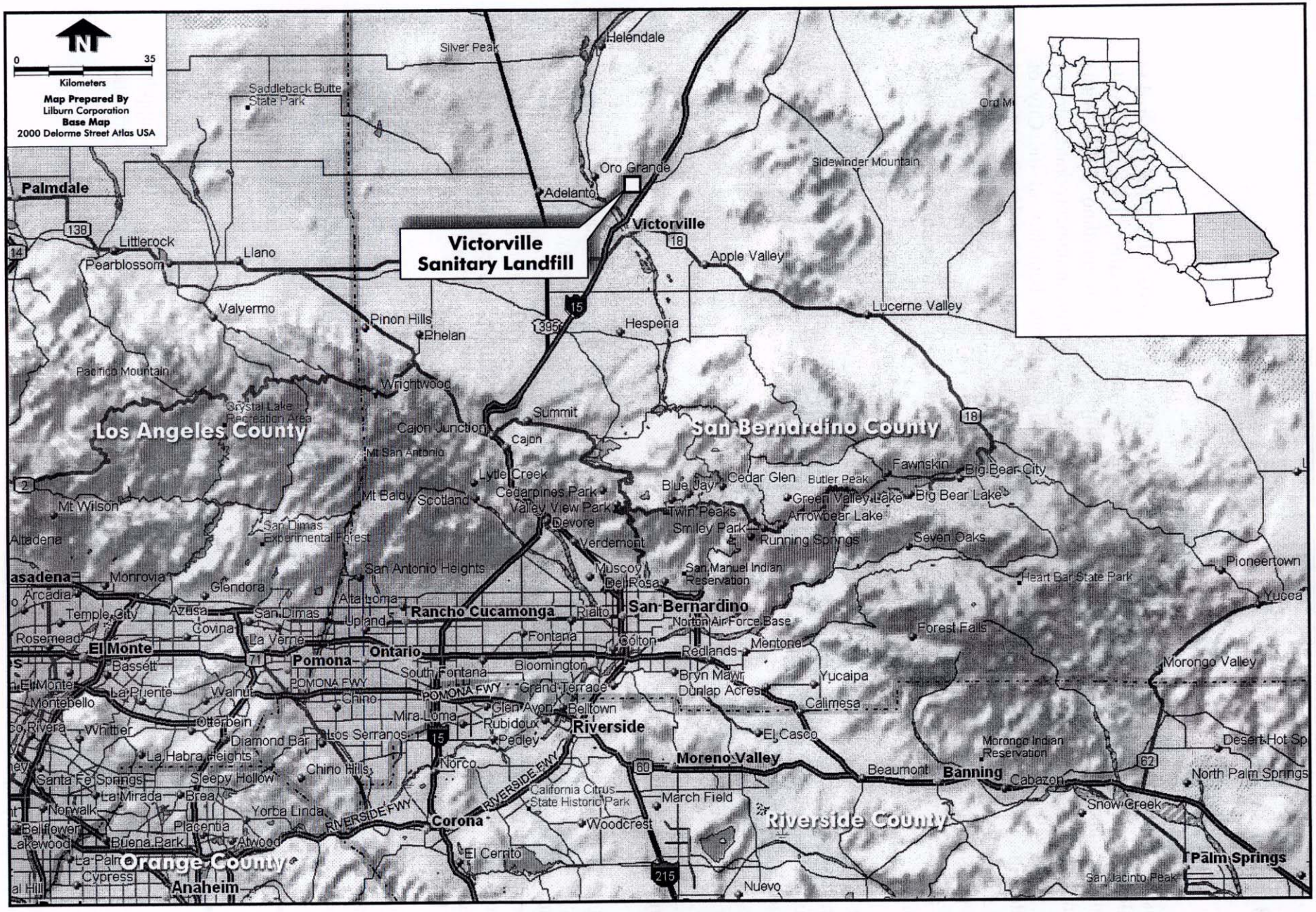
2.2 PROJECT BACKGROUND

Partnership Strategy Implementation Plan (PSIP)

The proposed landfill expansion would compliment a portion of the countywide management of the waste disposal program as described herein. In October 1996, the County of San Bernardino Board of Supervisors adopted the *Solid Waste Partnership Strategy Implementation Plan* (PSIP) to provide a framework for reducing the number of County-operated landfills into a consolidated system of five regional landfills, with a network of transfer stations and community collection centers providing service in the San Bernardino Valley, Victor Valley, Mountain, North Desert and East Desert regions of the County, as defined in the PSIP.

The solution for waste disposal needs in the Victor Valley region under the PSIP was the consolidation of waste disposal at one regional landfill – the Victorville Sanitary Landfill. SWMD consolidated solid waste management in the Victor Valley by taking the following actions:

- Ceased accepting municipal solid waste at the Phelan, Hesperia, and Apple Valley Sanitary Landfills;
- Revised the Victorville Sanitary Landfill Solid Waste Facilities Permit (SWFP) to allow for changes in operational activities such as increasing the daily tonnage and traffic entering the landfill, and increasing the maximum elevation of the landfill, to support diversion of the Victor Valley's waste stream from other landfills to the Victorville Sanitary Landfill as a regional landfill facility;



Regional Location

Victorville Sanitary Landfill
San Bernardino County, California

LILBURN CORPORATION

Figure 2-1

- Constructed transfer operations at the Phelan, Apple Valley and Hesperia landfill sites to support the local communities; and
- Rerouted commercial solid waste haulers directly to the Victorville Sanitary Landfill from local communities currently being served by the Apple Valley and Hesperia Sanitary Landfills.

The environmental effects of designating the Victorville Sanitary Landfill as a regional facility and diverting all solid waste to this landfill were addressed in a Negative Declaration adopted by the County in 1998. A Negative Declaration was also adopted in 1998 to support the closure of the Phelan Sanitary Landfill and the construction of a transfer station at that site. The Negative Declaration addressed the impacts associated with the transfer of all solid waste disposed at the Phelan Sanitary Landfill to the regional Victorville Sanitary Landfill. The transferring of solid waste to the Victorville Sanitary Landfill occurs in transfer trucks. Negative Declarations were also adopted for the closure of the Apple Valley (1998) and Hesperia (1997) Sanitary Landfills and the rerouting of solid waste from those communities to the Victorville Sanitary Landfill. The Negative Declaration for the regionalization of the Victorville Sanitary Landfill is incorporated by reference into the EIR and is available for review at the County Government Center (see page 1-1 for the location). In addition to the County operated transfer stations and community collection centers, there are two privately operated transfer stations; one in Hesperia and one in Victorville.

Under the PSIP, to adequately and efficiently serve the region, SWMD revised the SWFP to:

- extend the estimated closure date from 1999 to 2005, although current site life calculation estimates are that the Victorville facility has remaining capacity through 2007;
- increase the maximum permitted elevation by 50 feet from 3,080 feet above mean sea level (msl) to 3,130 feet; and
- increase the peak daily tonnage received at the site from 660 tons per day (tpd) to 1,600 tpd, with an accompanying increase in peak daily loads from 295 vehicles per day to 600 vehicles per day.

These adopted revisions to the SWFP took affect in 1998 and allowed the County in the short term to develop the Victorville facility as the regional landfill for the Victor Valley region. Since that time, the facility has been accepting municipal solid waste from throughout the Victor Valley from commercial haulers driving directly to the site or from the various transfer facilities serving the region.

<u>County of San Bernardino/Bureau of Land Management Land Exchange</u>

In anticipation of implementation of the PSIP, the County of San Bernardino made an application to the BLM in 1996 for the conveyance of federally managed public lands to the County that were being used for solid waste disposal (landfills). Conveyance indicates the transfer of title to

land through a patent. The County had been operating several local landfills to serve small desert communities since the 1950s. A total of 2,251 acres of land were conveyed to the County in November 2000 in exchange for County-owned properties that were considered high quality desert tortoise habitat, at a ratio agreed upon by the two agencies. This land conveyance included the 491 acres associated with the Victorville Sanitary Landfill. The environmental effects of exchanging the lands were evaluated in an Environmental Assessment prepared by the County in 1996. This project also included the issuance of a Biological Opinion by the U.S. Fish and Wildlife Service. These documents are incorporated by reference into this EIR and are available for review at the County Government Center (see page 1-1 for the location).

2.3 PROJECT DESCRIPTION

The proposed expansion of the Victorville Sanitary Landfill would result in an increase in both capacity and area. The landfill would be expanded from its existing permitted 67-acre footprint to a 341-acre footprint over a period of approximately 76 years (2081); increasing the maximum permitted elevation by 52 feet from 3,130 feet above msl to 3,182 feet above msl; and increasing the overall size of the landfill site from 80 acres to approximately 491 acres. The expansion would provide solid waste disposal capacity to meet the needs of both existing and future residents and businesses in the region. A Preliminary Closure and Postclosure Maintenance Plan addressing the expanded landfill's closure design, construction, and postclosure maintenance procedures and costs will also be developed as part of the landfill's expansion permitting process. Table 2-1 shows the existing permit conditions of the Victorville Sanitary Landfill and proposed changes to the Solid Waste Facilities Permit (SWFP 36-AA-0045) for the site.

Table 2-1
Regulatory Permit Conditions and Requirements at the Victorville Sanitary Landfill and Proposed Changes In Operation

	Existing	Proposed
Operations	Landfill disposal site	No change in operations
Hours of Site Activity	7 a.m. to 9 p.m.; 7 days a week	No change in hours
Hours Open to the Public	8 a.m. to 5 p.m.; 7 days a week	No change in hours
Tons per day (tpd)	Maximum 1,600 tpd	No change in tonnage
Traffic Volume	Maximum 600 vehicles/day	No change in vehicles per day
Total Landfill Area (including ancillary uses)	80 acres	Increase in total landfill area to approximately 491 acres
Disposal Footprint	67 acre landfill footprint	Increase in disposal footprint to approximately 341 acres
Additional area not proposed for landfilling	13 acres	Approximately 150 acres
Maximum Elevation	3,130 feet above sea level	3,182 feet above sea level
Landfill Capacity Date	2005	2081

Source: Solid Waste Management Division, Victorville Sanitary Landfill SWFP (36-AA-0045) and Conceptual Site Development Plan and Project Description, 2002.

The current SWFP allows a maximum daily loading of 1,600 tons per day (tpd) of municipal solid waste to be disposed at the site. A copy of the SWFP is included in this EIR in Appendix B. The landfill currently accepts an average of 400 tpd of residential, commercial and non-hazardous industrial refuse. The incoming solid waste is approximately 30 percent residential, 40 percent commercial, and 30 percent non-hazardous industrial waste. A similar waste stream is anticipated in the future but at a greater rate, although the composition of the waste stream may change over time due to ongoing recycling programs and source reduction efforts. At no time is any Class I or II hazardous waste allowed to be disposed at the landfill and there are no plans to accept Class I or II waste at the facility in the future. The existing landfill is currently permitted to be open to the public between 8 a.m. and 5:00 p.m., seven days a week, 359 days per year. It is closed on the following holidays: New Year's Day, Easter, July 4th, Memorial Day, Labor Day, Thanksgiving, and Christmas.

2.3.1 Expansion Conceptual Design

The proposed expansion of the Victorville Sanitary Landfill would occur in three phases. With the exception of the existing 67-acre landfill footprint, each new area to be filled would be excavated between 20 to 200 feet below grade. The excavated area would then be lined with an approved liner system and environmental controls such as the leachate collection and removal system (LCRS) would be developed. Once these are in place, landfilling of solid waste would begin. The liner system would be a minimum of five-feet thick between the bottom of the excavated subgrade and the point where refuse is initially placed. Side slopes may be lined in a similar manner as the landfill floor or may utilize a geosynthetic liner as approved by the Regional Water Quality Control Board Lahontan Region. A complete description of the landfill liner system and environmental control systems is included in Chapter 3.0 - Project Description.

2.3.2 Engineered Design Features

Engineered design features of the proposed expansion project would provide refuse containment in accordance with current regulatory requirements and include such design features as:

- A composite liner system;
- A leachate collection and removal system;
- A groundwater monitoring system;
- A landfill gas monitoring and collection system;
- A drainage and stormwater control system; and
- A final cover system.

The composite liner and leachate collection, removal, and monitoring systems for the expansion areas have been designed to meet and/or exceed current regulatory requirements for refuse containment at a municipal solid waste facility. The specific landfill liner design configuration for the site is discussed in detail in Chapter 3.0 - Project Description.

2.4 REGULATORY COMPLIANCE/POLICY CONSISTENCY

2.4.1 Regulatory Compliance

The Victorville Sanitary Landfill is regulated on multiple jurisdictional levels by local, state, and federal agencies similar to other Class III municipal solid waste disposal facilities in California. Each of these agencies would be instrumental in reviewing and approving the proposed expansion of the landfill. Local regulatory compliance is maintained by the San Bernardino County Division of Environmental Health Services, acting as the Local Enforcement Agency (LEA) for the California Integrated Waste Management Board (CIWMB); the Lahontan Regional Water Quality Control Board (RWQCB); and the Mojave Desert Air Quality Management District (MDAQMD). The primary agencies that regulate waste disposal at the state and federal level are the CIWMB, State Water Resources Control Board (SWRCB), and the U.S. Environmental Protection Agency (U.S. EPA). The federal and state regulations for the design and operations of municipal sanitary landfills are included in Appendix B.

2.4.2 Policy Consistency

At the local level, each agency is responsible for issuing permits for the development, operation and closure of the proposed project. These permits establish operating conditions and monitoring requirements that include daily, weekly, monthly, quarterly, and annual monitoring and reporting components. Many of the required monitoring conditions are applicable at least 30 years after the site is closed. Required agency permits and approvals are defined further in Section 3.6 of the Project Description (Chapter 3.0).

The Southern California Association of Governments (SCAG) *Regional Comprehensive Plan and Guide* (March 1996) has established various recommendations regarding solid waste management for the SCAG region, that are meant to initiate regional dialogue on solid waste issues. Recommended strategies and policies pertaining to landfills are also included in the SCAG Solid Waste Task Force Report (April 1997). These are outlined in Chapter 3.0 – Project Description.

2.5 AREAS OF CONTROVERSY

CEQA Guidelines Section 15123(b)(2) requires a discussion of areas of controversy known to the lead agency, including issues raised by agencies and the public. The County held a Public Scoping Meeting on November 6, 2002. In addition a Notice of Preparation was circulated to all responsible and trustee agencies for a period of 30 days beginning on September 27, 2002. Comments received at the scoping meeting and in response to the NOP did not identify any areas of controversy.

2.6 ISSUES TO BE RESOLVED

CEQA Guidelines Section 15123(b)(3) require a discussion of issues to be resolved including a choice of alternatives and whether or how to mitigate the significant effects of the proposed project. The primary issues to be resolved for this project are:

- Increase size of the landfill and its affects on aesthetics (visual quality). The site is located within the viewshed of the I-15 a County-designated scenic corridor.

- Potential safety impacts associated with wildlife aircraft collisions. The landfill is located approximately four miles east of the Southern California Logistics Airport and five miles west of the Apple Valley Municipal Airport.

- Impacts to air quality as a result of additional on-site operations and on/off-site truck activity as well as generation of landfill gas.

- Cumulative traffic impacts resulting from continued development in the region.

- Aesthetic impacts which may be experienced by surrounding uses.

- Impacts to the biological resources that may be found within the expansion areas, or in adjacent areas.

- Potential groundwater impacts resulting from continued excavation and landfilling.

- Geology issues such as appropriate depth of excavation, soil erosion, seismic stability, and loss of mineral resources.

2.7 EIR IMPACT ANALYSIS

Chapter 4.0 of this EIR contains an evaluation of environmental impacts that could occur with the implementation of the proposed project. Each section in Chapter 4.0 begins with a description of the environmental setting for each issue area. This setting includes a general discussion of the existing conditions taken from the San Bernardino County General Plan and from information provided by the organizations and agencies contacted during preparation of this environmental document. The setting description is followed by a discussion of applicable plans, policies, and regulations pertaining to the specific issue being addressed. A discussion of identified impacts associated with the proposed project follows, which outlines the thresholds used to determine the levels of significance before and after mitigation. Mitigation measures and conditions of the existing SWFP that would continue to apply to the landfill operation are also identified.

2.7.1 Summary of Environmental Impacts

Table 2-2, included at the end of this chapter, summarizes the potential environmental impacts associated with the proposed project, the mitigation measures that would reduce or eliminate potentially significant impacts, and the level of significance of an impact that would occur after mitigation is implemented. This information is presented in detail in Chapter 4.0. The table summarizes all impacts that could be identified with implementation of the project. The second column of the table indicates the level of significance of the impact prior to the implementation of any mitigation measures, but with consideration of design features, regulatory requirements and permit conditions. These are considered to be a part of on-going operational conditions that

will continue, and/or be required in the project design for specific permit issuance by responsible and trustee agencies. Mitigation measures are beyond permit requirements and/or are not part of the project's initial design. The mitigation measures, and not the design features or permit requirements, will be adopted in a Mitigation Monitoring and Reporting Program (MMRP). The MMRP is included in the Draft EIR as Chapter 9.0.

2.7.2 Effects Found Not To Be Significant

The Initial Study prepared for the project (see Appendix A) found that there were areas in which no impacts would occur, or that the impacts would be less than significant. These findings are summarized herein.

Aesthetics – The proposed landfill expansion would not create a new source of light or glare since no habitable structures are proposed, and no new nighttime activities are anticipated to occur.

Agriculture Resources – The site is not located in an area designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency. The site does not conflict with existing agricultural zoning areas, or any area designated as Williamson Act lands. According to the San Bernardino County General Plan (July 1989, revised 2001), only lands surrounding the Mojave River are well suited for agricultural uses in the desert areas of the County. The landfill, which is approximately 3 ½ miles east of the Mojave River and separated by the Quartzite Mountain foothills, is located outside the agricultural area along the Mojave River. Since the landfill area is not currently designated for agricultural uses, the project's development will not result in an overall loss to any agricultural lands in the area.

Air Quality – Expansion of the existing landfill will not expose sensitive receptors to substantial pollutant concentrations or objectionable odors, as there are no sensitive receptors within the surrounding vicinity of the site. The only potential concerns regarding objectionable odors are impacts to hikers/recreationalists that may use the adjacent BLM administered lands.

Biological Resources – Expansion of the Victorville Sanitary Landfill would not have substantial adverse effects on federally protected wetlands as defined by Section 404 of the Clean Water Act, because none exist on the project site.

Cultural Resources – No historical resources are known within the undeveloped portion of the site. A study conducted by Archeological Associates in June 1997 included a search of records at the Archeological Information Center at the San Bernardino County Museum, which indicated no prehistoric archeological resources have been recorded within the project site. However, one historical resource, PSBR-38H, the Boulder Dam-San Bernardino 115kV electrical transmission line, is documented within the site. The transmission line was built in the early 1930's to supply power from the Boulder Dam project and is eligible for listing in the National Register of Historical Places. Project-related activities are not expected to adversely affect this resource, and no mitigation

measures were recommended in the study report completed for the Victorville Sanitary Landfill (Lilburn Corp, Revised July 1998).

Geology and Soils –According to a Geologic Hazards Investigation Report prepared for the expansion area in April 2001, the landfill is located on a stable alluvial fan deposit with no potential for rapid geologic change including expansion, subsidence, or collapse. No known faults pass through the site, and the geologic and topographic conditions in the area minimize the risk of landslides in the area. There are no existing or proposed septic tanks or alternative waste water disposal systems at the site.

Hazards and Hazardous Materials - The VSL accepts only non-hazardous waste and the proposed expansion does not involve development of any facilities onsite to accept hazardous waste. Household hazardous products brought on-site in the waste stream will continue to be removed during load checking, and stored on-site until a licensed contractor can remove them for proper disposal. The landfill expansion will not create any risk involving hazardous wastes onsite.

The landfill is currently permitted to accept up to 1,600 tons of solid waste per day and up to 600 vehicles per day. The landfill is a regional facility that accepts solid waste from throughout the Victor Valley. No increase in the vehicle trips or tonnage is proposed, nor is a change proposed in vehicle routing. Therefore, the expansion of the landfill to extend its life capacity for an additional 76 years would not alter traffic patterns such that the project would interfere with an adopted emergency response or evacuation plan.

The landfill is not located in a wildland fire hazard area and does not create any impacts involving wildland fires onsite.

Hydrology and Water Quality - The project does not include placing any housing on the project site nor is it in the 100-year flood plain. The project will not create any risks associated with flooding, inundation by seiche, tsunami, or mudflow.

Land Use and Planning - The Victorville Sanitary Landfill is currently located in an area zoned as Resource Conservation (RC) within the County of San Bernardino, as is the immediate surrounding area. The site is also located within the City of Victorville Sphere of Influence. The surrounding land use and zoning includes an area of General Commercial (CG) further to the east of the site along Interstate 15, the Victorville City limits to the south, and Resource Conservation (RC) District further to the west and north of the site. No established community exists within the vicinity of the site and prescribed zoning in the area would not create any significant future impacts. Expansion of the landfill will not conflict with any applicable land use plan, policy, or regulation.

Mineral Resources - The project site is not in a mineral resource area designated by the Division of Mines and Geology.

Noise - The proposed landfill expansion project will not result in additional noise onsite, beyond the current landfill operations. During initial grading and liner construction, the onsite activities

will increase the ambient noise levels. This noise level increase will be temporary, and as there are not sensitive receptors within the project vicinity, will not create a significant impact. The expansion of the landfill will increase the total waste disposal capacity and operational life, but it should not increase the daily activity onsite. Although the project will not increase noise levels, future urban growth and waste generation in the landfill service area creates a potential for increased daily activity on the site, which consequently would result in higher noise levels onsite. This impact would be less than significant as the existing noise levels onsite are minimal. The landfill site and surrounding area are close to the I-15, a high volume car and truck corridor. No sensitive receptors exist within the vicinity of the project site.

Population and Housing- The proposed landfill expansion project will have no impact on the general population growth in the area. The project does not involve developing any housing and will not indirectly enhance the potential for population growth in the immediate vicinity. No housing currently exists on or near the site.

Public Services – The nearest fire station servicing the landfill is in the community of Oro Grande. Access to the site is limited to the I-15 freeway and Stoddard Wells Road, which provide access from the City of Victorville. The site is currently in the service area of the California Department of Forestry (CDF) for fire protection. The response time for emergency services to the site will remain largely unchanged from existing conditions. The project would not generate additional employees that would require public services such as schools or parks. The proposed project will result in minimal impacts to the public services in the area.

Recreation - The landfill expansion would not require increased recreational facilities nor would it cause substantial physical deterioration to any existing regional parks or recreational facilities in the surrounding area.

Transportation/Traffic - The proposed project would not affect any air traffic patterns because the proposed landfill height, an additional 52 feet above what is currently permitted, is well below nearby mountaintops. The landfill access road will not change as a result of the proposed project and emergency access will remain unchanged as well. No alternative transportation is proposed because the landfill employs so few workers, and minimal parking is required at the landfill because of the transient nature of the project.

Utilities and Service Systems - The proposed project will not generate additional wastewater because the operator will continue to use portable chemical toilets on-site. Water used on the project site is currently obtained from off-site sources. No new or expanded water entitlements would be needed for the landfill expansion project. The existing water supply will provide sufficient service to the landfill expansion. The proposed project will increase the capacity for additional solid waste disposal in the service area, and will abide by all federal, state, and local statutes related to solid waste.

2.7.3 Findings of Less Than Significant Impacts

Issues identified in the Initial Study that required additional analysis in the EIR include those related to Aesthetics, Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Hazards, Hydrology and Water Quality, Traffic and Circulation, and Public Utilities and Infrastructure. An issue identified in the Initial Study for further analysis, related to Public Utilities and Infrastructure – storm drains, is addressed in the EIR but is not identified with its own section. The discussion of storm drains is addressed in Hydrology and Water Quality. Findings of Less Than Significant Impacts were made for the following issues:

Geology and Soils –With construction of the perimeter run-on control embankment, erosion associated with existing drainages would be eliminated and storm water flows would continue to flow into Bell Mountain Wash. No mitigation measures are required.

Traffic and Circulation – With the exception of the Stoddard Wells Road/I-15 northbound intersection, all intersections used by vehicles traveling to/from the landfill would meet the Acceptable LOS criteria for the year 2025.

2.7.4 Findings of Impacts That Can Be Mitigated To Less Than Significant Levels

Mitigation measures have been developed to reduce, or eliminate any impact determined to be potentially significant. Potentially significant impacts in the following issue areas would be avoided, eliminated, or reduced to less than significant levels with implementation of the recommended mitigation measures, Conditions of Approval and County Standard requirements (see Table 2-1):

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Hazards
- Hydrology and Water Quality
- Traffic and Circulation

2.7.5 Findings of Significant Impacts After Mitigation Measures Have Been Implemented

With the exception of Cumulative Air Quality Impacts, Cumulative Aesthetics, there were no significant environmental impacts that could not be mitigated to less than significant levels.

2.7.6 Findings of Significant Cumulative Impacts

Significant cumulative impacts were identified for Air Quality and Aesthetics because of the project's incremental increase in emissions of criteria pollutants, and impact on the natural desert landscape and mountains, respectively.

2.8 SUMMARY OF ALTERNATIVES

2.8.1 Alternative Sites Considered and Rejected

The PSIP was adopted to facilitate the reduction of the number of County operated landfills by setting up a system of regional landfills with a network of transfer stations and community collection centers. In the Victor Valley area, the County operated landfills in Apple Valley, Victorville, Phelan, and Hesperia. Each of these landfills was considered for expansion to determine the most suitable location for implementation of the PSIP in the Victor Valley. The following is a summary of the reasons each site was rejected for consideration as the regional landfill.

Apple Valley Landfill

The Apple Valley landfill is located five miles east of the Town of Apple Valley, three miles north of Yucca Loma Road in an unincorporated area of San Bernardino County. The landfill which began operation in 1964 on property owned by the County is bounded on the north, south, east, and west by vacant lands owned by private parties as well as federal land administered by the BLM adjacent to the northeast of the site. The site occupies approximately 120 acres with a disposal area footprint of 80 acres (of which 39 acres have been disturbed by landfilling activities). The remaining 41-acre area was used as a borrow area for daily and intermediate cover and was used for final cover when the landfill was closed.

In this alternative, the County would purchase the adjacent 40-acre area northeast of the landfill site from the BLM. This alternative would include both a vertical expansion of 180 feet above existing grade (increase the maximum permitted elevation from 3,140 feet to 3,320 feet above msl) and a horizontal expansion to create an 81-acre landfill footprint. This alternative included excavation of future fill areas to depths of up to 50 feet below grade. Excavated material could be used for cover material. This would leave approximately 40 acres for borrow, perimeter road, detention basins, etc.

Reasons for rejecting the Apple Valley landfill as a regional facility were:

- The granitic nature of the hills around the facility could limit excavation of cover material so on-site soil for daily and intermediate cover would need to be imported from off-site sources;
- Expansion of the Apple Valley Landfill would result in a regional landfill with a site life of 20 years until approximately 2018 (from 1998, the year SWMD ceased accepting solid waste at the landfill);
- The site is located in a remote area, three miles east of State Highway 18 and 10 miles east of the I-15 freeway; and
- Landfill traffic would use State Highway 18 to access the landfill which would require traveling through the Town of Apple Valley.

Hesperia Landfill

The Hesperia Landfill is located east of Interstate 15, seven miles south of the City of Hesperia corporate boundary, south of the rural community of Oak Hills. Operations began at the Hesperia Landfill in 1964 on lands leased from the BLM. The site is located in an isolated area, in the foothills of the north side of the San Bernardino Mountains. Access to the site is via an unnamed road from Summit Valley Road. The site is not easily accessible because the area is relatively undeveloped and the BNSF tracks are a barrier. Access to the landfill for most of the Victor Valley would be through the City of Hesperia via Main Street to Avenue C which connects to Ranchero Road and ultimately to Summit Valley Road.

There were several alternative scenarios discussed in the PSIP for the regionalization and expansion of the Hesperia Landfill ranging from a vertical expansion of the existing footprint (38 acres) from 70 feet above existing grade to 120 feet above existing grade, to a vertical and horizontal expansion that would increase the size of the facility from 80 acres to 825 acres and raise the overall maximum elevation 70 feet above grade to 120 feet above grade. Under the worst case scenario for the utilization of the Hesperia landfill, would require the County to purchase an additional 745 acres from the BLM. Expansion of this facility into this additional area would have given the County 200+ years of landfill capacity in the Victor Valley based on current and projected refuse inflow rates.

Reasons for rejecting this landfill as a regional facility were:

- The site is located in a remote area, with limited access and would require commercial haul trucks and transfer trucks to use City streets to access the site;
- The site is located in a seismically active area, eight miles northeast of the San Andreas fault, and less than three miles north of the Cleghorn fault;
- The site is located within two miles of the Hesperia Airport;
- The site is located adjacent to the approved Summit Valley Ranch residential project and one-mile southwest of the approved Rancho Las Flores community project (Note: to date, no construction on either approved project has occurred).

Phelan Landfill

The Phelan Landfill is located ½ mile north of Phelan Road, two miles northwest of the community of Phelan in San Bernardino County. The site is accessed via Phelan Road and is approximately 12 miles west of the I-15 freeway. The site occupies 80 acres, 30 acres have been land filled, 22 acres are used for borrow areas and two acres are closed surface impoundments. The landfill is surrounded by private properties zoned Industrial Commercial or Rural Living by the County of San Bernardino; there are several scattered residences in the vicinity.

The expansion of the Phelan Landfill would be limited to the existing 80-acre site due to its location along the Sheep Creek alluvial fan and between two prominent drainage features. A vertical and horizontal expansion of the facility would result in an increase in the maximum

elevation of the landfill from 100 to 130 feet above grade. The horizontal expansion could be done on an additional 39 acres for a total landfill footprint of 69 acres. Expanding the Phelan Landfill included excavating the horizontal expansion area down approximately 40 feet to meet depths of the existing borrow pits. This would provide cover material that would be stockpiled on the existing mound. Additional cover material would have to be imported toward the end of the landfill life and for final cover material.

Reasons for rejecting this landfill as a regional facility were:

- The site is located in an areas designated Rural Living by the County and there are scattered residences nearby;
- The site is located approximately 12 miles west of the I-15 freeway;
- The site is located on the Sheep Creek alluvial fan between two prominent drainages and is in a flood area so it cannot be expanded beyond its current 80 acres;
- Expansion of the Phelan Landfill would result in a regional landfill with a site life of 10 years until approximately 2008 (from 1998, the year SWMD ceased accepting solid waste at the landfill).

2.8.2 Alternatives Considered for Evaluation

The alternatives considered for evaluation include the following:

- No Project – No Development - landfill remains open through 2005, the SWFP date;
- Alternative Design 1 - vertical expansion of the existing footprint plus expansion into existing disturbed areas – surface impoundments and borrow areas. 117-acre landfill footprint to a height of 3,182 feet above msl;
- Alternative Design 2 - vertical expansion of the existing footprint plus expansion into Phases 1A, 1B and 2, for a 253-acre landfill footprint;
- Alternative Design 3 – vertical expansion of the existing footprint plus expansion into Phases 1A, 1B and 3, for a 227-acre landfill footprint; and
- Alternative Design 4 – horizontal expansion of the landfill with no vertical expansion.

Under the proposed project, there were several issues that were found to be less than significant or could be mitigated to less than significant with mitigation. Impacts that were found to be less than significant were related to Cultural Resources, Hazards associated with bird strikes, and Public Utilities and Infrastructure related to water supply. Impacts that can be mitigated to less than significant levels are related to Biological Resources, Paleontologic Resources, Geology and Soils, Hydrology and Water Quality, and Traffic and Circulation.

Impacts that cannot be reduced to less than significant levels with mitigation are Aesthetics and Visual Quality, and Air Quality related to generation of particulate matter (PM_{10}) and carbon

monoxide (CO) associated with emissions from the landfill gas flare. Alternative to the proposed project are evaluated for their ability to reduce or eliminate these significant impacts.

No Project – No Development Alternative

Under the No Project – No Development Alternative, SWMD would not expand the facility and the Victorville Sanitary Landfill would close in the projected date of 2005. With the use of alternative daily cover instead of soil, SWMD has estimated that the Landfill could remain open through 2010 to serve the region, without any expansion. This would still require revisions to the SWFP.

Upon reaching capacity, the Victorville facility would close and be replaced with a transfer station to serve the community. This transfer station would likely be similar in size to the existing transfer at the Phelan Landfill to accommodate commercial haul trucks. At a maximum of 400 tons per day, approximately 20 transfer trucks would travel between the Victorville Landfill and the Mid-Valley Landfill each day. The 400 tons per day is a conservative estimate representing current inflow, including refuse from transfer stations throughout the valley. Under this Alternative, 20 transfer trips per day would occur between Victor Valley and the Mid-Valley Landfill. Based on the Mid-Valley service area, SWMD determined in 1998 that this facility had a site life of 35 years or until 2033. Expanding the service area of the Mid-Valley Landfill would shorten the life of this landfill by a minimum of six years, causing SMWD to expand another of the San Bernardino Valley landfills to accommodate the Valley service area.

The No Project – No Development Alternative is considered to be an Environmentally Superior Alternative at a local level because it would have less impacts on the local environment than the proposed expansion of the facility for aesthetics/visual quality and air quality related to fugitive dust generation. However, this alternative would not meet the County's objectives to expand the regional landfill to accommodate solid waste needs in the Victor Valley Region. In addition, it would likely shorten the life of the Mid-Valley Landfill by increasing the amount of solid waste that enters that facility, causing SWMD to plan the expansion of another Valley facility that would likely have significant impacts. Finally, this alternative would likely add incrementally to regional air quality and traffic impacts.

Alternative Design 1 – Vertical and Horizontal Expansion Within Existing Disturbed Areas

Under Alternative Design 1, SWMD would expand vertically from the currently permitted 3,130 feet above msl to 3,182 feet above msl, and horizontally into the surface impoundment area (Phase 1A) and the original borrow area (Phase 1B) within the 80-acre site, plus the 37-acre Free Permit Area (Phase 1B) currently used for cover material. This would result in a landfill footprint of approximately 117 acres including the perimeter road and drainage system. Figure 6.2 in Chapter 6.0 shows Alternative Design 1. As shown, the proposed six-acre detention basin that would be developed in the buffer areas immediately adjacent to the southerly boundary of Phase 3 would be developed along the southerly boundary of the existing footprint under this alternative. The total area of disturbance would be approximately 123 acres and a buffer area of 368 acres.

Under this alternative, the landfill would close in approximately 26 years or 2029. Upon reaching capacity, the Victorville facility would close and would be replaced with a transfer station to serve the community similar to the transfer station at the Phelan Landfill. At this point all transfer trucks would be rerouted from the various transfer stations around the Victor Valley to another regional landfill, either Mid-Valley Landfill in the San Bernardino Valley or one of the two other proposed regional landfills in the desert. Under the PSIP, SWMD intends to provide solid waste disposal to the desert region by developing three regional facilities, Victorville, Barstow and Landers. The Barstow Landfill is the regional facility that currently serves the northern High Desert area and is scheduled to close under its existing SWFP in 2007. The Landers Landfill is the regional facility that serves the eastern High Desert area and is scheduled to close under its current SWFP in 2008. Under the PSIP, each of the three facilities would be expanded to provide future solid waste disposal needs for the High Desert Region. The Victorville Landfill is the first of the three to move forward with an expansion plan.

Since currently the only landfills in the County system with permitted capacity beyond the next five years is the Mid-Valley and San Timoteo facilities, this alternative analysis assumes that solid waste would be diverted to the closest facility once the Victorville Landfill is closed.

The development of Alternative Design 1 is considered to be an Environmentally Superior Alternative to the proposed project only with regard to aesthetics and visual quality. Increased vehicle trips and vehicle miles traveled to another landfill would cause increased air emissions and impacts to traffic and circulation over the proposed project. Alternative Design 1 would not meet the objectives of the County to provide a long-term regional solution to solid waste disposal in the Victorville region.

Alternative Design 2 – Vertical Expansion of Existing Facility Plus Expansion into Phases 1A, 1B and 2

Under Alternative Design 2, SWMD would expand the existing landfill vertically, and expand horizontally into Phases 1A, 1B and 2, for total landfill footprint of 253 acres up to a height of 3,182 feet above msl. The remaining 238 acres would be used as buffer area. Under this alternative, the landfill would close in approximately 56 years or 2059. Completion of final closure would take an additional three years through 2062. Excavated soil from expansion areas would be used for daily, intermediate and final cover material so it is not likely the additional soil would be hauled in.

The development of Alternative Design 2 is not considered to be an Environmentally Superior Alternative even though SWMD would not develop the Phase 3 area (90 acres). Impacts to aesthetics/visual quality would be slightly less because 90 acres of the site would not be developed. Other impacts associated with the project would be similar and impacts to traffic and air quality related to vehicle trips and vehicle miles traveled would be greater in the future when an alternative landfill site is chosen.

Alternative Design 2 would meet the County's objectives to provide long-term solid waste disposal capacity for the Victor Valley region as the region continues to grow, but only until

approximately 2059. After that point, SWMD would either consider expanding into Phase 3 or closing the landfill and rerouting the region's solid waste to another site not yet identified. Because this time frame is so far in the future, other technologies for solid waste disposal may become available to lengthen the life of the landfill without expanding into Phase 3.

Alternative Design 3 – Vertical Expansion of Existing Facility Plus Expansion into Phases 1A, 1B and 3

Under Alternative Design 3, SWMD would expand the existing landfill vertically, and expand horizontally into Phases 1A, 1B and 3, for a total landfill footprint of 227 acres up to a height of 3,182 feet above msl. The remaining 264 acres would be used as buffer area. Under this alternative, the landfill would close in approximately 50 years or 2053. Completion of final closure would take an additional three years through 2055. Excavated soil from expansion areas would be used for daily, intermediate and final cover material.

The development of Alternative Design 3 is not considered to be an Environmentally Superior Alternative even though SWMD would not develop the Phase 2 area (117 acres). Impacts to aesthetics/visual quality would be slightly less because 117 acres of the site would not be developed. Other impacts associated with the project would be similar and impacts to traffic and air quality related to new vehicle trips and vehicle miles traveled by transfer trucks would be greater in the future when the refuse is rerouted to a different landfill.

Alternative Design 3 would meet the County's objectives to provide solid waste disposal capacity for the Victor Valley region in the long-term as the region continues to grow, but only until approximately 2053. After that point, SWMD would either consider expanding into Phase 2 or closing the landfill and rerouting the region's solid waste to another site not yet identified. Again, like in Alternative Design 2, because this time frame is so far in the future, other technologies for solid waste disposal may become available to lengthen the life of the landfill without expanding into Phase 2.

Alternative Design 4 – Horizontal Expansion of the Landfill With no Vertical Expansion

Under Alternative Design 4, SWMD would expand the existing landfill horizontally into all phases but no vertical expansion would occur above the currently permitted 3,130 feet above sea level. Because of the slope of the site, this would allow SWMD to develop a landfill that was up to 170 feet above the natural grade to achieve the top deck elevation of 3,130 feet. Because of the design of the proposed landfill with slopes of 3H:1V and an overall slope gradient of 3.5H:1V the final 50 feet of vertical height that would not be developed under this alternative would result in the reduction in the life of the landfill of 18 years. Under this alternative, the landfill would close in approximately 60 years or 2063. Completion of final closure would take an additional three years through 2065. Excavated soil from expansion areas would be used for daily, intermediate and final cover material so it is not likely the additional soil would be hauled in.

The development of Alternative Design 4 is not considered to be an Environmentally Superior Alternative even though SWMD would not increase the height of the landfill beyond 3,130 feet

above msl. Impacts to aesthetics/visual quality would be slightly less because the landfill would be 50 feet lower than under the proposed project but other impacts associated with the project would be similar and impacts to traffic and air quality related to vehicle trips and vehicle miles traveled would be greater in the future when the refuse is rerouted to a different landfill.

Alternative Design 4 would meet the County's objectives to provide solid waste disposal capacity for the Victor Valley region in the long-term as the region continues to grow, but only until approximately 2060. After that point, SWMD would either consider expanding vertically or closing the landfill and rerouting the region's solid waste to another site not yet identified.

2.8.3 Summary

The development of Alternative Design 1 is considered to be an Environmentally Superior Alternative to the proposed project only with regard to aesthetics and visual quality. Increased vehicle trips and vehicle miles traveled to another landfill would cause increased air emissions and impacts to traffic and circulation over the proposed project. Alternative Design 1 would not meet the objectives of the County to provide a long-term regional solution to solid waste disposal in the Victorville region and would shorten the life of the Mid-Valley Landfill.

Alternative Design 2 would meet the County's objectives to provide solid waste disposal capacity for the Victor Valley region in the long-term as the region continues to grow, but only until approximately 2059. After that point, SWMD would either consider expanding into Phase 3 or closing the landfill and rerouting to a new solid waste facility. Because this time frame is so far in the future, other technologies for solid waste disposal may become available to lengthen the life of the landfill without expanding into Phase 3.

Alternative Design 3 would meet the County's objectives to provide solid waste disposal capacity for the Victor Valley region in the long-term as the region continues to grow, but only until approximately 2053. After that point, SWMD would either consider expanding into Phase 2 or closing the landfill and rerouting the region's solid waste. Again, like in Alternative Design 2, because this time frame is so far in the future, other technologies for solid waste disposal may become available to lengthen the life of the landfill without expanding into Phase 2.

Alternative Design 4 would meet the County's objectives to provide solid waste disposal capacity for the Victor Valley region in the long-term as the region continues to grow, but only until approximately 2060. After that point, SWMD would either consider expanding vertically or closing the landfill and rerouting the region's solid waste.

TABLE 2-2
SUMMARY OF IMPACTS AND MITIGATION MEASURES/REGULATORY REQUIREMENTS FOR THE PROPOSED PROJECT

IDENTIFIED IMPACTS	LEVEL OF SIGNIFICANCE (Before Mitigation)	MITIGATION MEASURES/ REGULATORY REQUIREMENTS	LEVEL OF SIGNIFICANCE (After Mitigation)
AESTHETICS			
AE-1: The lateral and vertical expansion of the landfill over a period of 76 years would incrementally create a large soil covered mound in a relatively open desert setting. The size and character of the facility may interrupt views of the desert and Quartzite Mountain from the County-designated scenic highway (I-15).	Potentially Significant Impact	**AE-1:** A revegetation/landscape plan shall be prepared for the Victorville Sanitary Landfill by a qualified landscape architect or botanist with experience in revegetation of disturbed sites using native vegetation. This plan shall be completed within one year after approval of the project and shall be designed for implementation of a comprehensive landscape plan that will provide an effective vegetative cover over the long-term where slopes are at final stages of development. The Plan shall include a description of slope maintenance procedures that will be followed to ensure success.	Significant
AIR QUALITY			
AQ-1: Landfill gas fugitive emissions and flare combustion emissions would contribute to a net increase of criteria and toxic air pollutants.	Less Than Significant Impact	**AQ-1:** Approval of the project's design features will provide that no additional mitigation measures are required as the level of impact will be less than significant. If feasible, a co-generation system should be constructed to utilize the LFG and conserve energy resources. The economic feasibility and environmental benefits of the utilization of LFG for the operation of a co-generation system shall be conducted at such time the system is proposed.	Less than significant

TABLE 2-2
SUMMARY OF IMPACTS AND MITIGATION MEASURES/REGULATORY REQUIREMENTS FOR THE PROPOSED PROJECT

IDENTIFIED IMPACTS	LEVEL OF SIGNIFICANCE (Before Mitigation)	MITIGATION MEASURES/ REGULATORY REQUIREMENTS	LEVEL OF SIGNIFICANCE (After Mitigation)
AIR QUALITY (Continued)			
AQ-2: The excavations, landfill operations and truck and equipment travel on-site would produce a net increase of fugitive PM_{10}. Compliance with MDAQMD rules will reduce impacts by controlling emissions but not below established thresholds.	Potentially Significant Impact	**AQ–2:** Unpaved refuse haul roads, service roads and operations areas shall be treated with water at least once per every two hours of active operation, and/or treated with a chemical stabilizer in sufficient quantity and frequency to maintain a stabilized surface. **AQ-3:** Truck and mobile equipment speeds on interior haul roads shall not exceed 15 miles per hour. Speed limits shall be posted. **AQ-4:** Excavation areas shall be treated with water during active extraction phases. As excavation areas are completed, landfill development (liner construction) and landscaping shall be implemented. **AQ-5:** Liner construction areas shall be treated with water during active construction grading phases. **AQ-6:** Permanent landfill roads from public streets to the scalehouse shall be paved to reduce the use of unpaved roads. **AQ-7:** Sweeping of paved roads shall be performed on heavily-used on-site paved roads and within 500 feet of the access roads for the landfill as necessary to control on-site and track-out dust. **AQ-8:** Prior to excavating Phases 2 and 3, SWMD shall prepare a Dust Control Plan that describes all applicable dust control measures that will be implemented as required under MDAQMD Rule 403.2.	Less than significant for Scenario 1 Significant for Scenarios 2 and 3

TABLE 2-2
SUMMARY OF IMPACTS AND MITIGATION MEASURES/REGULATORY REQUIREMENTS FOR THE PROPOSED PROJECT

IDENTIFIED IMPACTS	LEVEL OF SIGNIFICANCE (Before Mitigation)	MITIGATION MEASURES/ REGULATORY REQUIREMENTS	LEVEL OF SIGNIFICANCE (After Mitigation)
AIR QUALITY (Continued)			
AQ-3: Engine exhaust emissions from excavation and landfill equipment and commercial haulers would contribute to a net increase of criteria pollutants including NO_x, CO, and ROC during Phase 3.	Potentially Significant Impact	**AQ-9:** All internal combustion engine-driven equipment and vehicles shall be kept tuned according to manufacturer's specifications and properly maintained. Maintenance logs shall be available for review through the LEA inspections. Equipment and vehicles shall not be left idling for prolonged periods. **AQ-10:** The operator shall comply with all existing and future CARB and MDAQMD regulations related to diesel-fueled trucks and equipment, which may include among others in the future: (1) meeting more stringent emission standards; (2) retrofitting existing engines with particulate traps; (3) use of low or ultra low sulfur diesel fuel; and (4) use of alternative fuels or equipment.	Less than significant
BIOLOGICAL RESOURCES			
BIO-1: Development of the project site would result in the loss of approximately 244 acres of habitat for the desert tortoise, a state and federal listed "threatened species.	Potentially Significant Impact	**BIO-1:** Prior to any new ground disturbance in Phase 1B, (first phase that would disturb previously undisturbed area) the County shall enter into consultation with USFWS and CDFG for impacts to the desert tortoise. In the absence of an adopted West Mojave Coordinated Management Plan, the County must prepare a Habitat Conservation Plan to accompany the application for an "incidental take permit" (Section 10). The HCP would ensure that there is adequate minimization and mitigation of the effects of the incidental take.	Less than significant

TABLE 2-2
SUMMARY OF IMPACTS AND MITIGATION MEASURES/REGULATORY REQUIREMENTS FOR THE PROPOSED PROJECT

IDENTIFIED IMPACTS	LEVEL OF SIGNIFICANCE (Before Mitigation)	MITIGATION MEASURES/ REGULATORY REQUIREMENTS	LEVEL OF SIGNIFICANCE (After Mitigation)
BIOLOGICAL RESOURCES (Continued)			
		Concurrently the County shall enter into consultation with CDFG for an incidental take permit under Section 2081 of the Fish and Game Code. Compensation for the loss of habitat and the incidental take of individuals would be determined prior to any new disturbance. The 1999 USFWS Biological Opinion also identified a number of measures. These would be discussed in consultation under BIO-1. **a:** The proponent shall designate a field contact representative (FCR) who will be responsible for overseeing compliance with protective stipulations for the desert tortoise and for coordination on compliance with the USFWS/CDFG. The FCR shall have the authority to halt all project activities that are in violation of the stipulations. The FCR may be an agent for the proponent, the site manager, any other project employee, or a contracted biologist/consulting firm. **b:** The proposed landfill expansion will include an employee education program. Prior to ground disturbance activities, new site employees shall be required to participate in this education program. The program may consist of a class or video presented by a qualified biologist or a video. Wallet-sized cards with important information for employees to carry are recommended. The proponent would be responsible for ensuring that the education program is presented prior	

TABLE 2-2
SUMMARY OF IMPACTS AND MITIGATION MEASURES/REGULATORY REQUIREMENTS FOR THE PROPOSED PROJECT

IDENTIFIED IMPACTS	LEVEL OF SIGNIFICANCE (Before Mitigation)	MITIGATION MEASURES/ REGULATORY REQUIREMENTS	LEVEL OF SIGNIFICANCE (After Mitigation)
BIOLOGICAL RESOURCES (Continued)			
		to conducting ground-disturbance activities. New employees shall receive formal, approved training prior to working on-site. The program shall cover the following topics at a minimum: • distribution of the desert tortoise; • general behavior and ecology of the tortoise; • sensitivity to human activities; • legal protection; • penalties for violations of State or Federal laws; • reporting requirements; and • project protective mitigation measures. **c:** Landfill operation designs specified for the proposed landfill expansion shall be configured in a manner designed to minimize impacts to adjacent tortoise habitat/populations to the degree feasible and should take into consideration site topography, placement of facilities, location of animal burrows in buffer and adjacent land areas, public health and safety, deposition of wind-blown litter, and other limiting factors. Work area boundaries shall be delimited with flagging or other marking during initial facility upgrades, in order to minimize surface disturbance associated with vehicle straying. Special habitat features (tortoise and other animal burrows, woody vegetation, unique plant assemblages, etc.) located on the periphery of proposed	

TABLE 2-2
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IDENTIFIED IMPACTS	LEVEL OF SIGNIFICANCE (Before Mitigation)	MITIGATION MEASURES/ REGULATORY REQUIREMENTS	LEVEL OF SIGNIFICANCE (After Mitigation)
BIOLOGICAL RESOURCES (Continued)			
		site expansions, but outside of proposed landfill site fencing, shall be avoided to the extent possible. **d:** Qualified biologists or person(s) trained in desert tortoise detection/monitoring work shall be required on-site during initial project activities (excavation of Phase 2 and Phase 3 areas). Such individuals shall have authority from SWMD to halt any action that might result in harm to a tortoise. The qualified tortoise monitor shall survey any area identified for earth disturbing activities immediately prior to disturbance activities. Should an active desert tortoise burrow be detected within the anticipated disturbance area, project activities shall halt until such time as an authorized tortoise handler (see measure BIO-6 below) has removed the tortoise from danger. **e:** Only biologists authorized by the USFWS, under the auspices of the Biological Opinion issued for the land conveyance and/or ESA Section 10 Permit (if applicable), shall handle desert tortoises. The proponent shall submit the name(s) of the proposed biologist(s) to the USFWS for review and approval at least 15 days prior to the onset of activities. No project activities shall begin until an authorized biologist is approved. **f:** Tortoise excavation/relocation shall be completed under the direction of the authorized biologist. All tortoises found within impact areas shall	

TABLE 2-2
SUMMARY OF IMPACTS AND MITIGATION MEASURES/REGULATORY REQUIREMENTS FOR THE PROPOSED PROJECT

IDENTIFIED IMPACTS	LEVEL OF SIGNIFICANCE (Before Mitigation)	MITIGATION MEASURES/ REGULATORY REQUIREMENTS	LEVEL OF SIGNIFICANCE (After Mitigation)
BIOLOGICAL RESOURCES (Continued)			
		be marked and removed from the area of potential impact, into suitable habitat close to the original location but outside the perimeter of the landfill site, preferably within Tortoise Critical Habitat Units if feasible and concurred upon by the USFWS. **g:** If the removal of a tortoise is during the season of above-ground activity, the tortoises shall be placed beside a nearby burrow of appropriate size. If the removal is not in the season of above-ground activity, the tortoise shall be moved (dug out of burrow if necessary) on a seasonably warm day and placed at the mouth of a nearby burrow of appropriate size. If the tortoise does not enter the burrow, an artificial burrow may be needed. The authorized biologist shall be allowed some judgment and discretion to ensure that survival of the tortoise is likely. Relocated animals shall be monitored at scheduled intervals for a period of at least six months, to determine relocation success/health status of relocated animals. Use of telemetry equipment on a limited number of relocated tortoises is highly recommended, if feasible and concurred upon by the USFWS. **h:** Tortoises moved during the course of project activities shall be marked for future identification. An identification number using the acrylic paint/epoxy covering technique shall be placed on the fourth left	

TABLE 2-2
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IDENTIFIED IMPACTS	LEVEL OF SIGNIFICANCE (Before Mitigation)	MITIGATION MEASURES/ REGULATORY REQUIREMENTS	LEVEL OF SIGNIFICANCE (After Mitigation)
BIOLOGICAL RESOURCES (Continued)			
		costal scute (USFWS 1990). Thirty-five mm slide photographs of the carapace, plastron, and the fourth costal scute shall be taken. No notching is authorized. **i:** Desert tortoises may be handled only by the authorized biologist and only when necessary. New latex gloves shall be used when handling each tortoise to avoid the transfer of infectious diseases between animals. Aside from the initial site clearance, any tortoise moved shall be placed in the shade of a shrub in the direction in which it was facing when found or at the entrance to an unoccupied burrow. In general, tortoises should be moved the minimum distance possible to ensure their safety. In handling desert tortoises, the authorized biologist shall follow the General Handling Protocol sections of the "Protocols for Handling Live Tortoises" prepared by the Arizona Game and Fish Department and others in 1990. Replacement of lost fluids with a syringe is not authorized. **j:** The authorized biologist shall maintain a record of all desert tortoises encountered during project activities. This information shall include for each tortoise: • the locations (narrative and maps) and dates of observations;	

TABLE 2-2
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IDENTIFIED IMPACTS	LEVEL OF SIGNIFICANCE (Before Mitigation)	MITIGATION MEASURES/ REGULATORY REQUIREMENTS	LEVEL OF SIGNIFICANCE (After Mitigation)
BIOLOGICAL RESOURCES (Continued)			
		• general condition and health, including injuries and state of healing and whether animals voided their bladders; • location moved from and location moved to; • diagnostic markings (i.e., identification numbers or marked lateral scutes). **k:** Prior to any earth-moving activities within each phase or subphase portion of the expansion area, tortoise-proof fencing shall be installed around the perimeter of that phase or subphase area ensuring tortoises outside the expansion area do not enter the active site. The fence shall be inspected at regular intervals to ensure no potential areas that could be breached by wildlife exist. Note: Fencing for all phases 1A, 1B, 2 and 3 have been completed. **l:** An effort should be made to enclose as much of the landfill access roads as possible within this fence. The fence shall be constructed under the direction of a qualified biologist or approved tortoise fence technician. The fence shall be located to avoid all tortoise burrows; to the extent possible, burrows shall be placed on the outside of the exclosure. The fence shall be a standard 4-5 strand barbed wire or chain link fence, with the lower portion consisting of a ¼-inch mesh hardware cloth panel. This panel shall	

TABLE 2-2
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IDENTIFIED IMPACTS	LEVEL OF SIGNIFICANCE (Before Mitigation)	MITIGATION MEASURES/ REGULATORY REQUIREMENTS	LEVEL OF SIGNIFICANCE (After Mitigation)
BIOLOGICAL RESOURCES (Continued)			
		extend 18 inches above ground and 12 inches below ground. Where burial of the fence is not possible, the lower 12 inches shall be folded outward against the ground and fastened to the ground so as to prevent tortoise entry. The fence shall be supported sufficiently to maintain its integrity. The gate at the facility entrance shall be tortoise-proof. This gate shall remain closed except during hours open to the public. The fence and access road shall be checked at least monthly and maintained when necessary by the proponent to ensure its integrity. **m:** Prior to the completion of the proposed land conveyance and following fence installation, an authorized biologist shall conduct a thorough survey for tortoises and tortoise burrows within the proposed fenced facility. All tortoise burrows shall be excavated, tortoises removed and burrows destroyed prior to additional earth disturbance. All tortoises found shall be marked and removed from the exclosure and place according to measure BIO-9. If the removal is during the season of above-ground activity, the tortoises shall be placed beside a nearby burrow of appropriate size. If the removal is not in the season of above-ground activity, the tortoise shall be moved (dug out of burrow if necessary) on a seasonably warm day and placed at the mouth of a burrow of appropriate size. If the	

TABLE 2-2
SUMMARY OF IMPACTS AND MITIGATION MEASURES/REGULATORY REQUIREMENTS FOR THE PROPOSED PROJECT

IDENTIFIED IMPACTS	LEVEL OF SIGNIFICANCE (Before Mitigation)	MITIGATION MEASURES/ REGULATORY REQUIREMENTS	LEVEL OF SIGNIFICANCE (After Mitigation)
BIOLOGICAL RESOURCES (Continued)			
		tortoise does not enter the burrow, an artificial burrow may be needed. The authorized biologist shall be allowed some judgment and discretion to ensure that survival of the tortoise is likely. **n:** No later than 90 days after completion of facility fencing/tortoise relocation activities, the FCR and authorized biologist shall prepare a report for the resource agencies. The report shall document the effectiveness and practicality of the mitigation measures, the number of tortoises excavated from burrows, the number of tortoises moved from the site, the number of tortoises killed or injured, and the specific information for each tortoise as described in BIO-11. The report shall make recommendations for modifying the stipulations to enhance tortoise protection. **o:** Upon locating a dead or injured tortoise, the proponent is to notify the USFWS/CDFG. The information provided must include the date and time of the finding or incident (if known), location of the carcass, a photograph, cause of death, if known, and other pertinent information. USFWS/CDFG will advise the project proponent regarding the handling of the carcass. Injured animals shall be transported to a qualified veterinarian for treatment at the expense of the project proponent. If an injured animal recovers, the	

TABLE 2-2
SUMMARY OF IMPACTS AND MITIGATION MEASURES/REGULATORY REQUIREMENTS FOR THE PROPOSED PROJECT

IDENTIFIED IMPACTS	LEVEL OF SIGNIFICANCE (Before Mitigation)	MITIGATION MEASURES/ REGULATORY REQUIREMENTS	LEVEL OF SIGNIFICANCE (After Mitigation)
BIOLOGICAL RESOURCES (Continued)			
		USFWS should be contacted for final disposition of the animal. **p:** A landfill operations program addressing wind-blown litter arising from site operation, as well as ~~other potential~~ the development of a raven (Corvus corax) ~~provisioning impacts arising from landfill operations~~ management plan, shall be implemented that will facilitate the most effective refuse control practices, while minimizing potential provisioning of desert tortoise predators. The raven management plan developed shall be approved by CDFG.	
BIO-2: Development of the site would result in additional loss of Mohave ground squirrel and its habitat a State of California threatened species.	Potentially Significant Impact	**BIO-2:** SWMD shall enter into consultation with CDFG for a 2081 (Incidental Take Permit) for the Mohave ground squirrel, threatened under CESA. To determine compensations CDFG may require SWMD to complete Cumulative Human Impact Evaluation Forms (CHIEF). Compensation in the form of acquisi-tion and permanent preservation of Habitat Manage-ment Lands is the usual mitigation. Transfer of the lands to CDFG or an approved non-profit corporation would complete the mitigation requirements. Copies of documentation of the transfer of lands shall be provided to County Land Use Services Department.	Less than significant
BIO-3: Development of the project site would interfere with the movement of resident wildlife species common to the area.	Potentially Significant Impact	**BIO-3:** Prior to disturbance of previously undisturbed land, SWMD shall conduct clearance surveys in areas scheduled for disturbance. Biologists shall comply with mitigation measures BIO-2 through BIO-17 for desert tortoise. Results of the clearance surveys shall be documented and a report of findings submitted to the resource agencies.	Less than significant

TABLE 2-2
SUMMARY OF IMPACTS AND MITIGATION MEASURES/REGULATORY REQUIREMENTS FOR THE PROPOSED PROJECT

IDENTIFIED IMPACTS	LEVEL OF SIGNIFICANCE (Before Mitigation)	MITIGATION MEASURES/ REGULATORY REQUIREMENTS	LEVEL OF SIGNIFICANCE (After Mitigation)
BIOLOGICAL RESOURCES (Continued)			
BIO-4: Development of the proposed project would result in the taking of desert plant species protected by the California Desert Native Plants Act and the County of San Bernardino Code, Division 9, Chapter 4 – Desert Native Plant Protection.	Potentially Significant Impact	**BIO-4:** The operator/construction contractor shall remove all species protected by the California Native Plants Act and the County of San Bernardino Code deemed suitable for transplanting by a qualified botanist/horticulturist. These plants will be used as landscaping onsite, be maintained in an onsite nursery area for future revegetation efforts or transported for use at another County facility.	Less than significant
BIO-5: The proposed project could impact burrowing owl, a special status species.	Potentially Significant Impact	**BIO-5:** Prior to disturbance of previously undisturbed land in Phases 2 and 3, SWMD shall survey areas to be disturbed and adjacent areas for burrowing owls in accordance with Department of Fish and Game protocol. Results of the survey shall be documented and a reported to CDFG for review.	Less than significant
CULTURAL RESOURCES			
CR-1 – Paleontologic Resources: Development of the proposed project may have an adverse impact on the paleontological resources that may exist on the site.	Potentially Significant Impact	**CR-1:** A qualified vertebrate paleontologist must develop a program to mitigate impacts to nonrenewable paleontologic resources. This mitigation program should be consistent with the provisions of the California Environmental Quality Act, as well as with regulations currently implemented by the County of San Bernardino and the proposed guidelines of the Society of Vertebrate Paleontology. This program should include, but not be limited to: 1. Pre-excavation sampling of the observed Neotoma middens, to better determine their potential antiquity;	Less than significant

TABLE 2-2
SUMMARY OF IMPACTS AND MITIGATION MEASURES/REGULATORY REQUIREMENTS FOR THE PROPOSED PROJECT

IDENTIFIED IMPACTS	LEVEL OF SIGNIFICANCE (Before Mitigation)	MITIGATION MEASURES/ REGULATORY REQUIREMENTS	LEVEL OF SIGNIFICANCE (After Mitigation)
CULTURAL RESOURCES (Continued)			
		2. Intermittent (1 day/month) monitoring of excavation in areas identified as likely to contain paleontologic resources by a qualified paleontologic monitor. The monitor should be equipped to salvage fossils as they are unearthed to avoid construction delays and to remove samples of sediments which are likely to contain the remains of small fossil invertebrates and vertebrates. The monitor must be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens. 3. Preparation of recovered specimens to a point of identification and permanent preservation, including washing of sediments to recover small invertebrates and vertebrates. 4. Identification and curation of specimens into a museum repository with permanent retrievable storage. 5. Preparation of a report of findings with an appended itemized inventory of specimens. The report and inventory, when submitted to the San Bernardino County Museum, will signify completion of the program to mitigate impacts to paleontologic resources.	

TABLE 2-2
SUMMARY OF IMPACTS AND MITIGATION MEASURES/REGULATORY REQUIREMENTS FOR THE PROPOSED PROJECT

IDENTIFIED IMPACTS	LEVEL OF SIGNIFICANCE (Before Mitigation)	MITIGATION MEASURES/ REGULATORY REQUIREMENTS	LEVEL OF SIGNIFICANCE (After Mitigation)
GEOLOGY AND SOILS			
GEO-1: Expansion of the Victorville Sanitary Landfill includes excavation of several phases to depths up to 200 feet below existing grade and fill in phases up to 220 above existing grade. Excavation could create unstable slopes in the pits created for landfilling. Development of a landfill mound could create unstable slopes.	Potentially Significant Impact	**GEO-1:** Planned cut slopes shall be developed at gradients of 2H:1V between benches for a overall slope gradient of 2.5H:1V. Fill slopes shall be developed at gradients of 3H:1V between benches with an overall slope gradient of 3.5H:1V. In developing the final fill slope configurations, the minimum run-out ratio of 3.85 times the height of the slope shall be maintained at all times.	Less than significant
GEO-2: Expansion of the Victorville Sanitary Landfill includes excavation in several phases to depths up to 200 feet below existing grade and the construction of landfill phases to heights of up to 220 feet above grade. These activities would expose soils to wind and water erosion during site development and operation.	Potentially Significant Impact	**GEO-2:** The County shall update its Dust Control Plan for the landfill site to include the additional landfill areas. In areas under excavation, water shall be applied at regular intervals throughout the day (determined by daily wind conditions) or dust palliatives should be applied on areas that are not intended to be disturbed over a longer period of time. Excavated areas that are not ready to be lined and filled that would be exposed for periods greater than 180 days shall be seeded with a grass mixture to reduce wind erosion until liner construction begins.	Less than significant
GEO-3: The project site is crossed by numerous drainages that could erode the landfill during storm events when water flows through them to Bell Mountain Wash.	Potentially Significant Impact	With the construction of the perimeter run-on control embankment, erosion associated with existing drainages would be intercepted and diverted around the landfill and stormwater flows would be discharged downstream into Bell Mountain Wash. Therefore no mitigation would be required.	Less than significant

TABLE 2-2
SUMMARY OF IMPACTS AND MITIGATION MEASURES/REGULATORY REQUIREMENTS FOR THE PROPOSED PROJECT

IDENTIFIED IMPACTS	LEVEL OF SIGNIFICANCE (Before Mitigation)	MITIGATION MEASURES/ REGULATORY REQUIREMENTS	LEVEL OF SIGNIFICANCE (After Mitigation)
HAZARDS			
HA-1: The proposed landfill expansion project may require additional compliance measures in accordance Federal Aviation Administration (FAA) with regards to the Southern California International Airport or the Apple Valley Airport due to the potential of bird strikes to occur.	Potentially Significant Impact	**HA-1:** In accordance with 40 CFR Section 258.10(b), the owner/operator will notify the affected airports and the Federal Aviation Administration (FAA) of the proposed landfill expansion project.	Less than significant
HYDROLOGY AND WATER QUALITY			
HW-1: Construction of the Victorville Sanitary Landfill Expansion Project will alter the drainage pattern of the site, and concentrate flows on the site to minimize storm water drainage through the landfilling footprint area. The drainage system would concentrate flows toward the southeast portion to a proposed detention basin/de-siltation area, and then discharge into the areas natural drainage basin. These drainage facilities must be designed to adequately handle intense storm events and prevent flooding within the landfill footprint.	Potentially Significant Impact	**HW-1:** The County shall complete a final drainage plan based on the final site and engineering design plans completed for the Victorville Landfill Expansion Project. The plan will include design drawings of the proposed drainage facilities that would be used to convey storm water around and/or through the site. The plan shall be in conformance with and meet the minimum criteria established by the County of San Bernardino Department of Public Work and RWQCB Lahonton Region for discharge rates, quantities and locations of facilities. **HW-2:** Before each rainy season, after each major storm, and on a monthly basis during the rainy season, all drainage facilities should be inspected and any required maintenance performed to ensure that the drainage channels and de-silting basins function properly. Any silt collected within the basins would be used as daily cover material for the landfill. Any of the flows from adjacent properties would be contained in the perimeter drainage channel and diverted around the basin.	Less than significant

TABLE 2-2
SUMMARY OF IMPACTS AND MITIGATION MEASURES/REGULATORY REQUIREMENTS FOR THE PROPOSED PROJECT

IDENTIFIED IMPACTS	LEVEL OF SIGNIFICANCE (Before Mitigation)	MITIGATION MEASURES/ REGULATORY REQUIREMENTS	LEVEL OF SIGNIFICANCE (After Mitigation)
HYDROLOGY AND WATER QUALITY (Continued)			
HW-2: Mass grading of Victorville Sanitary Landfill Expansion Project will change the topography of the site and alter the existing flow-paths and natural drainage basins in these areas.	Potentially Significant Impact	**HW-3:** Prior to disturbance of any blue-line stream, the County shall consult with CDFG per Section 1601 of the State Fish and Game Code. The project will require the implementation of a Streambed Alteration Agreement.	Less than significant
HW-3: During storm events, construction activities on the Victorville Sanitary Landfill expansion area, particularly vegetation removal and grading, may affect the amount of sediment and suspended solids entering the natural drainage courses.	Potentially Significant Impact	**HW-4:** The SWPPP must be revised to reflect the expansion areas and must comply with the National Pollutant Discharge Elimination System (NPDES) permit for storm water discharge, including a full description of the discharge and a demonstration of compliance with EPA-specified effluent limits. **HW-5:** The following mitigation measures must be included as notes on the grading plan and monitored during grading and construction: - All disturbed areas must be stabilized by approved methods to ensure minimal erosion. - All work performed between October 1 and April 1 shall be done in a manner enabling project stabilization, covering, or otherwise protected from heavy rains or high winds. Erosion control will be presented in the JTD and SWPPP for regulatory agency approval. - During construction, temporary berms such as sandbags or gravel dikes must be used to prevent discharge of debris or sediment from the site when there is rainfall or other runoff.	Less than significant

TABLE 2-2
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IDENTIFIED IMPACTS	LEVEL OF SIGNIFICANCE (Before Mitigation)	MITIGATION MEASURES/ REGULATORY REQUIREMENTS	LEVEL OF SIGNIFICANCE (After Mitigation)
HYDROLOGY AND WATER QUALITY (Continued)			
HW-4: Leachate from the landfill could potentially migrate into the groundwater aquifer. The existing landfill is currently unlined. Additional leachate from the proposed expansion could potentially contaminate the underlying groundwater aquifer creating a significant impact to water quality.	Potentially Significant Impact	**HW-6:** The proposed landfill liner system and drainage facilities shall be designed and constructed in conformance with 27 CCR and 40 CFR regulations administered by the Regional Water Quality Control Board, Lahontan Region (RWQCB), California Integrated Waste Management Board (CIWMB), and County of San Bernardino, Department of Health Services, Local Enforcement Agency (LEA). These systems must be designed and constructed to ensure minimal risks to groundwater contamination would occur with expansion of the landfill.	Less than significant
TRAFFIC AND CIRCULATION			
TC-1: Development of the proposed landfill expansion would contribute to cumulative traffic impacts at intersections used by vehicles traveling to/from the landfill. Vehicles entering the landfill would use Stoddard Wells Road as the primary route to access the landfill.	Potentially Significant Impact	**TC-1:** All intersections used by vehicles traveling to/from the landfill would meet the Acceptable LOS criteria for the year 2025 with the exception of the Stoddard Wells Road/I-15 northbound intersection. This intersection will be mitigated by adding one through lane to the east and west approaches and a left-turn pocket for the northbound exit ramp. These improvements would be placed for operation in the year 2025. The County must pay the fair share contribution ($6,657) of the total cost of these improvements ($62,800) as calculated in the Traffic Impact Study.	Less than significant

TABLE 2-2
SUMMARY OF IMPACTS AND MITIGATION MEASURES/REGULATORY REQUIREMENTS FOR THE PROPOSED PROJECT

IDENTIFIED IMPACTS	LEVEL OF SIGNIFICANCE (Before Mitigation)	MITIGATION MEASURES/ REGULATORY REQUIREMENTS	LEVEL OF SIGNIFICANCE (After Mitigation)
UTILITY SYSTEMS			
US-1: The additional demand for water supplies beginning in Phase 2 may have a potentially significant impact on the local sources of water supply and ability of the Victor Valley Water District to serve the landfill's needs.	Potentially Significant Impact	**US-1:** As part of the five-year SWFP review process undertaken jointly by SWMD and the Local Enforcement Agency (LEA), SWMD shall evaluate the feasibility of extending reclaimed water pipelines to the Victorville Landfill site for use in dust control efforts. Additionally, SWMD shall request a revision to its Waste Discharge Requirements (WDR) to allow the use of reclaimed water for dust control purposes during the next WDR revision cycle. SWMD shall also work with VVWRA in amending its agreement with DCFG to allow reclaimed water to be utilized for dust control purposes.	Less than significant

3.0 PROJECT DESCRIPTION

3.1 REGIONAL SETTING

The Victorville Sanitary Landfill is located in the Victor Valley area of the High Desert region, within the County of San Bernardino. Figure 3-1 shows the regional location of the landfill and surrounding area. The High Desert region is located on the north side of the San Bernardino and San Gabriel mountain ranges stretching from the Los Angeles County border on the west to the Arizona border on the east, north to the Nevada border and south to the San Bernardino/Riverside county line. The Victor Valley encompasses the area of the High Desert immediately north of the Cajon Pass, delineated on Figure 3-1 by the I-15 freeway through the mountains.

The most populous area of the High Desert includes the cities and unincorporated communities in the Victor Valley. The Victor Valley, generally located along the I-15 Freeway corridor, Highway 395 and Highway 18 is the largest population center with an estimated population of 271,000. Incorporated cities along this corridor include the Town of Apple Valley, and the cities of Victorville, Hesperia, and Adelanto. Figure 3-2 shows the area. Between 1990 and 2000, Victor Valley cities grew by approximately 48,000 people, an increase of 29 percent. The population is anticipated to increase to an estimated 392,000 over the next 20 years.

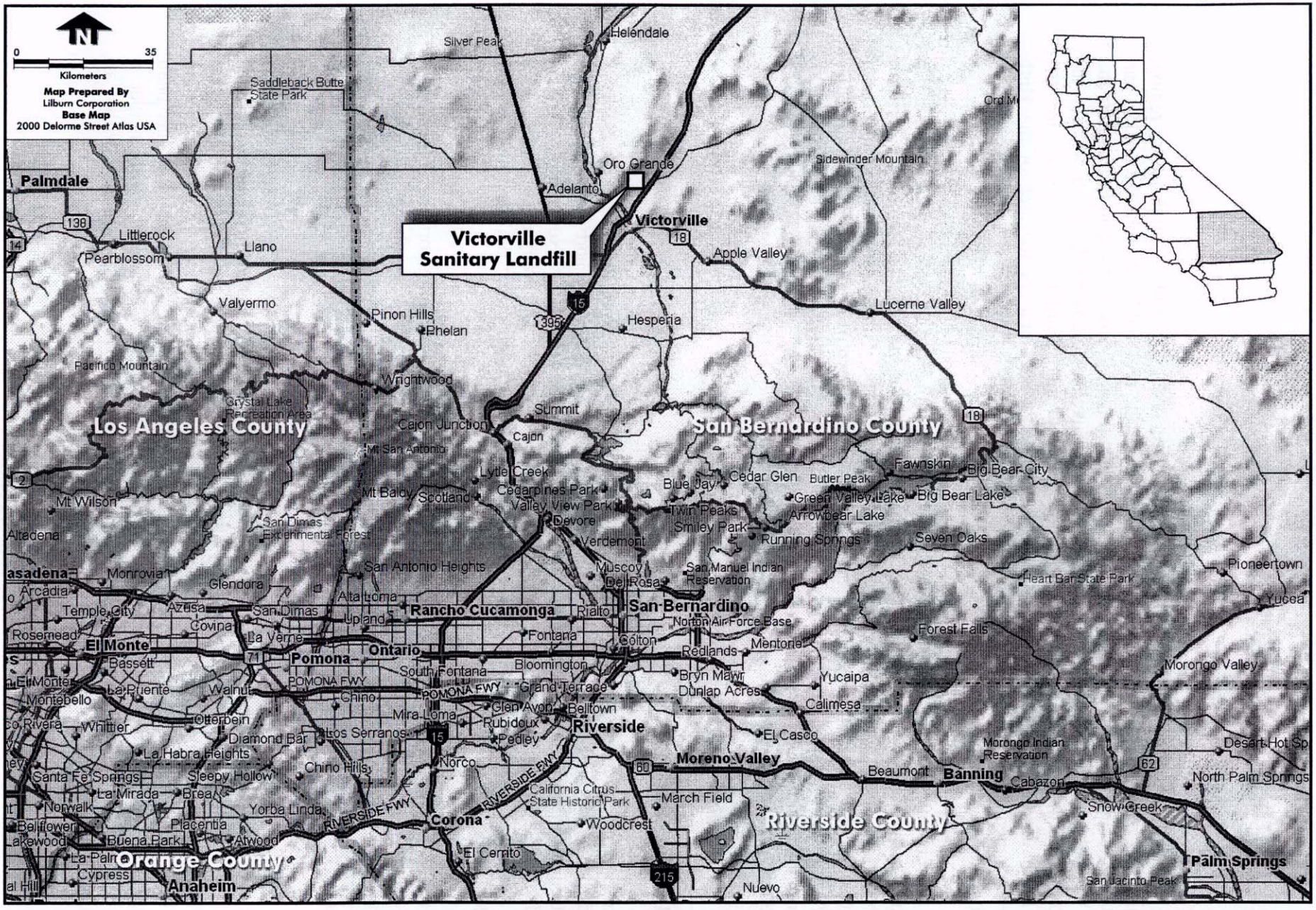
3.2 LOCAL SETTING

3.2.1 Project Site

Located in an unincorporated area of the County of San Bernardino, the Victorville Sanitary Landfill is adjacent to the northern boundary of the City of Victorville and west of I-15. The location is further defined as being wholly within Section 23, Township 6 North, Range 4 West as identified on the US Geological Survey Victorville 7.5 Minute Quadrangle (see Figure 3-3). The main access point to the site is a 1,500-foot paved un-named road from the southeast, off Stoddard Wells Road.

The site occupies approximately 491 acres of Section 23. Those remaining portions of Section 23 not a part of the Victorville Sanitary Landfill site are otherwise encumbered with various easements for roadways, railroads, or utility corridors including an electrical transmission line. The surrounding area to the north, east and west are public lands administered by the Bureau of Land Management (BLM) with some private undeveloped parcels (see Figure 3-4).

The Victorville Sanitary Landfill is located in the southwestern Mojave Desert, which is characterized by isolated mountain ranges surrounded by alluvial fans and broad alluvial plains. The site is gently sloping in a southeasterly direction at four to six percent toward Bell Mountain Wash, a major wash that drains the region on both sides of the I-15 freeway. The Bell Mountain Wash traverses the southeast corner of the site within a portion of the site that has been designated to remain intact. Other features in the vicinity of Bell Mountain Wash include a Southern California Gas Company pipeline right-of-way and overhead power lines within an adjacent right-of-way.



Regional Location

Victorville Sanitary Landfill
San Bernardino County, California

LILBURN CORPORATION

Figure 3-1

3.0 PROJECT DESCRIPTION

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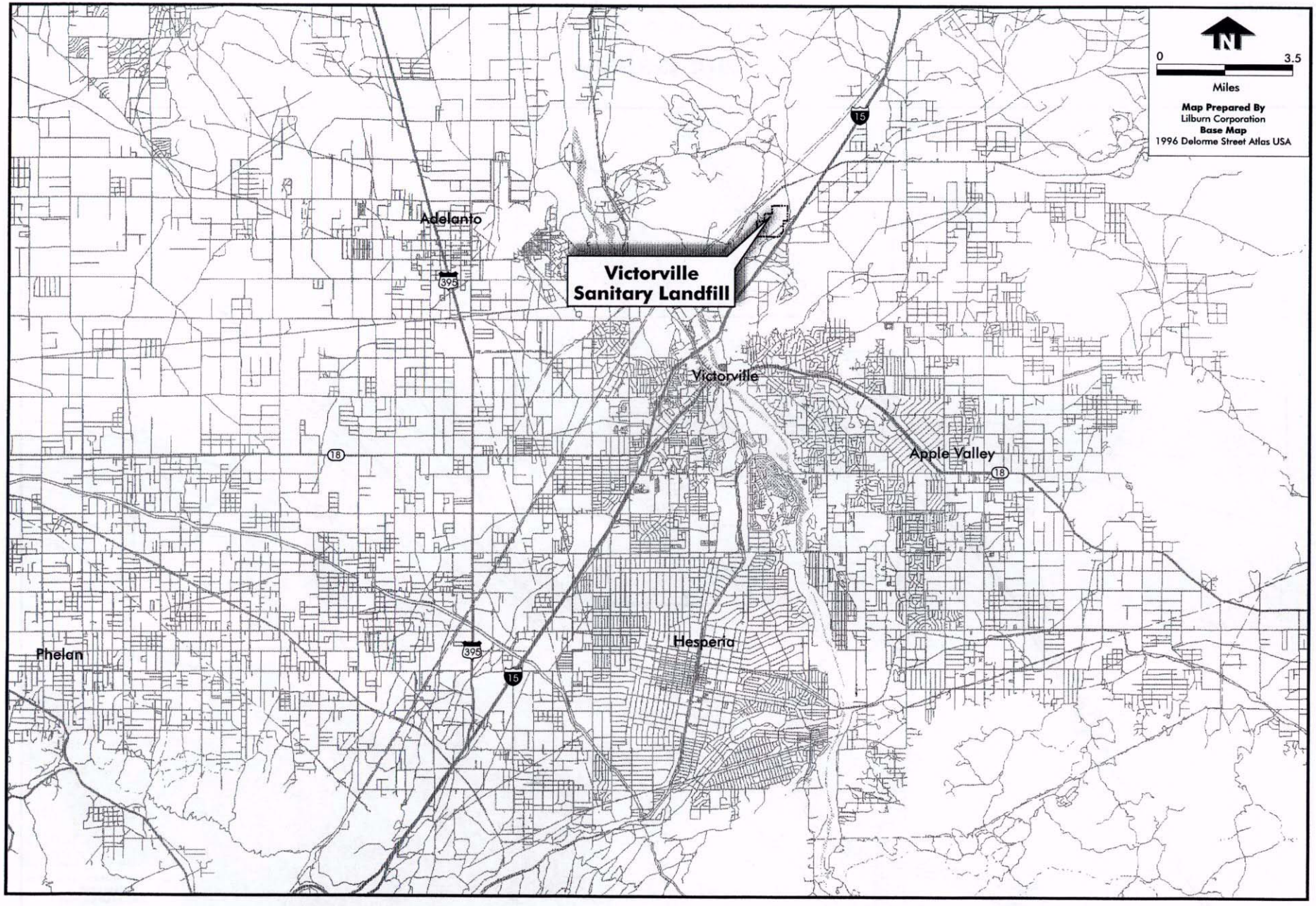

Victor Valley Area

Victorville Sanitary Landfill
San Bernardino County, California

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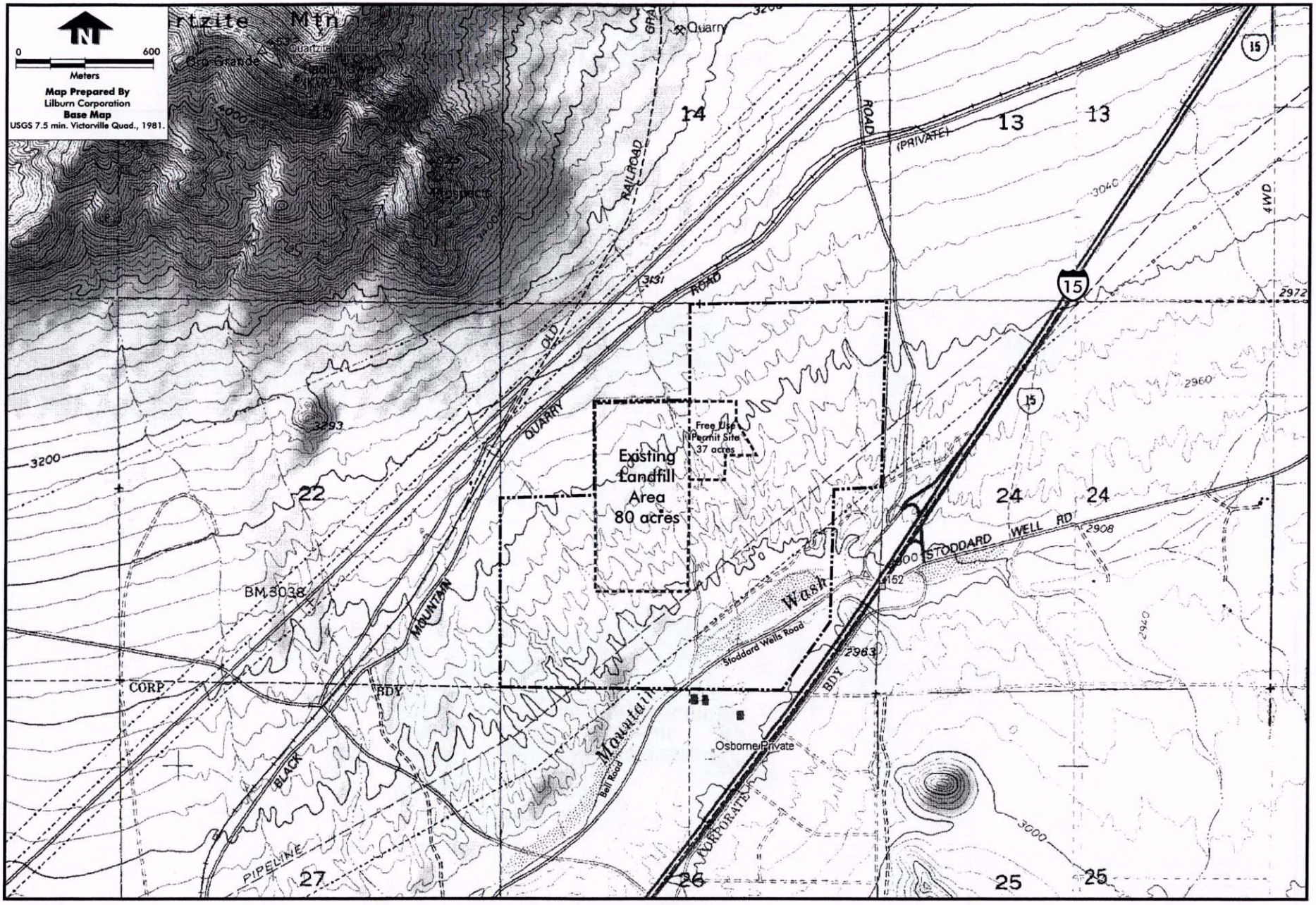
Figure 3-2



Project Site

Victorville Sanitary Landfill
San Bernardino County, California

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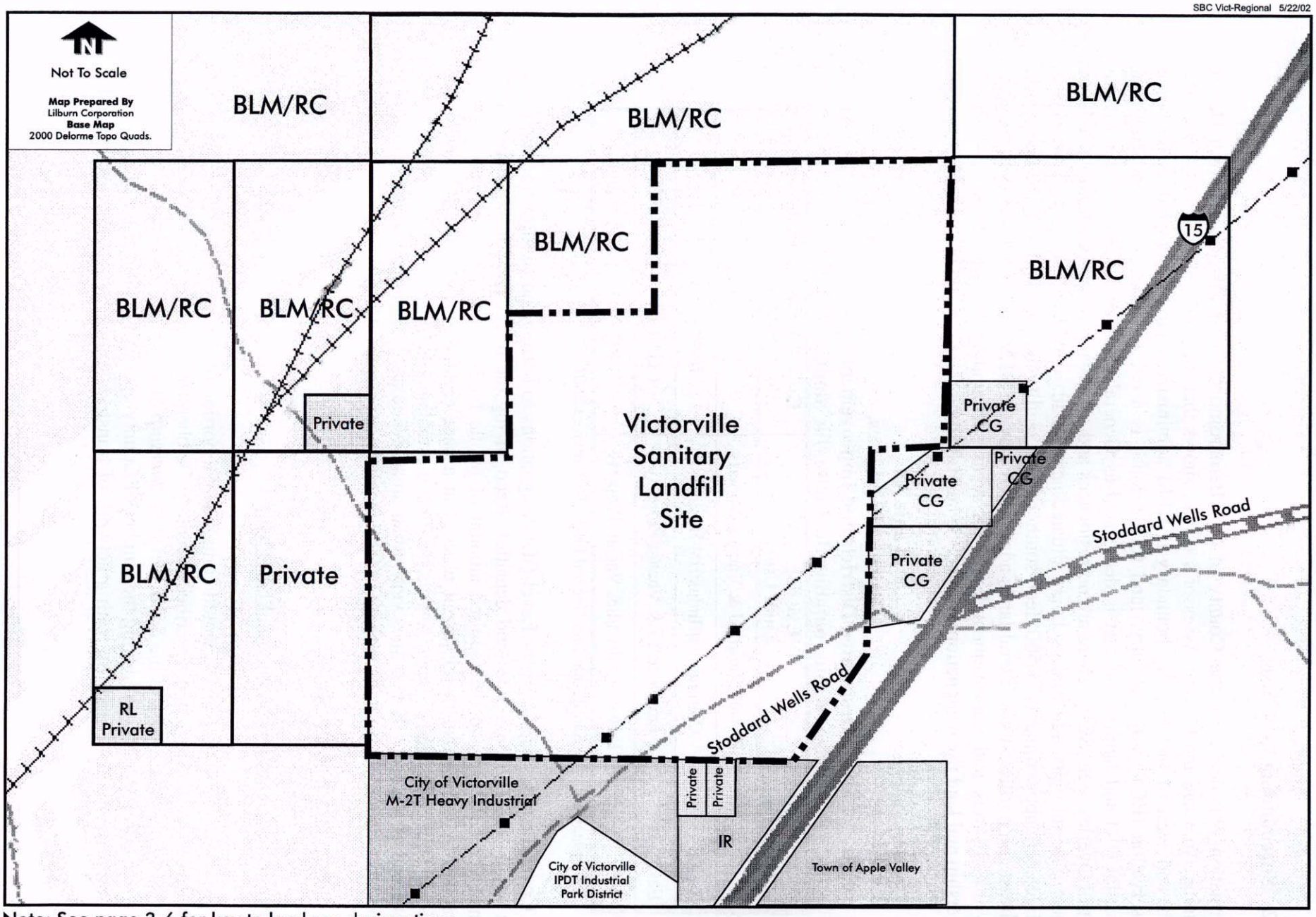
Figure 3-3



Note: See page 3-6 for key to land use designations

Existing Surrounding Land Use

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Victorville Sanitary Landfill
San Bernardino County, California

Figure 3-4

3.2.2 Surrounding Land Uses

Information obtained from the County of San Bernardino General Plan Map, North Desert Planning Area and the County Assessor's office, shows that the land within 1,000 feet to the north, and west of the property boundary is BLM administered land designated as Resource Conservation (RC) by the County, land to the south is a combination of RC and Regional Industrial (IR) and land to the east is designated as General Commercial (CG) within a Sign Control Overlay area (SCP). There are no residences and only two businesses within one mile of the site. Several light industrial users are situated near Stoddard Wells Road and the site access road located approximately 1,500 feet south of the facility boundary. Lands to the north, northeast and northwest are federal lands administered by the BLM. Table 3-1 shows the official land use districts and improvement levels for areas surrounding the site. Figure 3-4 shows ownership and land use designations around the landfill site.

Table 3-1
Existing Land Uses,
Designated Districts and Improvement Levels
For Area Surrounding the Victorville Sanitary Landfill

Location	Existing Land Use	Official Land Use District	Improvement Level
North	Private Railroad & Vacant Property	RC	5 & 4
South	Commercial/Industrial Business	IR/RC	1 & 5
East	Interstate 15 & Vacant Property	CG/SCP	5 & 4
West	Private Railroad & Vacant Property	RC	5 & 4

Source: County of San Bernardino General Plan, 1989, revised 2001.

The County assigns Improvement Level (IL) designations to correspond to infrastructure needs with anticipated land use types and densities. Recognizing the direct relationship between the intensity of land use and the required amount of public facilities and services, policies were developed to require that development proceed at a pace commensurate with the provision of services. Thus, five Improvement Levels have been established to define these intensity levels. At one end of the scale, IL1 defines very urban areas, while at the other end of the scale IL5 is applied to very remote rural areas that virtually preclude development.

3.3 PROJECT HISTORY

Partnership Strategy Implementation Plan (PSIP)

The proposed landfill expansion would compliment a portion of the countywide management of the waste disposal program as described herein. In October 1996, the County of San Bernardino Board of Supervisors adopted the *Solid Waste Partnership Strategy Implementation Plan* (PSIP) to provide a framework for reducing the number of County-operated landfills into a consolidated system of five regional landfills, with a network of transfer stations and community collection

centers providing service in the San Bernardino Valley, Victor Valley, Mountain, North Desert and East Desert regions of the County, as defined in the PSIP.

The solution for waste disposal needs in the Victor Valley region under the PSIP was the consolidation of waste disposal at one regional landfill – the Victorville Sanitary Landfill. SWMD consolidated solid waste management in the Victor Valley by taking the following actions:

- Ceased accepting municipal solid waste at the Phelan, Hesperia, and Apple Valley Sanitary Landfills;
- Revised the Victorville Sanitary Landfill Solid Waste Facility Permit (SWFP) to allow for changes in operational activities such as increasing the daily tonnage and traffic entering the landfill, and increasing the height of the landfill, to support diversion of the Victor Valley's waste stream from other landfills to the Victorville Sanitary Landfill as a regional landfill facility;
- Constructed transfer operations at the Phelan, Apple Valley and Hesperia landfill sites to support the local communities; and
- Rerouted commercial solid waste haulers directly to the Victorville Sanitary Landfill from local communities currently being served by the Apple Valley and Hesperia Sanitary Landfills.

The environmental effects of designating the Victorville Sanitary Landfill as a regional facility and diverting all solid waste to this landfill were addressed in a Negative Declaration adopted by the County in 1998. A Negative Declaration was also adopted in 1998 to support the closure of the Phelan Sanitary Landfill and the construction of a transfer station at that site. The Negative Declaration addressed the impacts associated with the transfer of all solid waste disposed at the Phelan Sanitary Landfill to the regional Victorville Sanitary Landfill. The transferring of solid waste to the Victorville Sanitary Landfill occurs in transfer trucks. Negative Declarations were also adopted for the closure of the Apple Valley (1998) and Hesperia (1997) Sanitary Landfills and the rerouting of solid waste from those communities to the Victorville Sanitary Landfill. The Negative Declaration for the regionalization of the Victorville Sanitary Landfill is incorporated by reference into the EIR and is available for review at the County Government Center (see page 1-1 for the location).

Under the PSIP, to adequately and efficiently serve the region, the SWMD revised the SWFP to:

- extend the estimated closure date from 1999 to 2005, although current site life calculation estimates are that the Victorville facility has remaining capacity through 2007;
- increase the maximum permitted elevation by 50 feet from 3,080 feet above mean sea level (msl) to 3,130 feet; and
- increase the peak daily tonnage received at the site from 660 tons per day (tpd) to 1,600 tpd, with an accompanying increase in peak daily loads from 295 vehicles per day to 600 vehicles per day.

These adopted revisions to the SWFP took affect in 1998 and allowed the County in the short term to develop the Victorville facility as the regional landfill for the Victor Valley region. Since that time, the facility has been accepting municipal solid waste from throughout the Victor Valley from commercial haulers driving directly to the site or from the various transfer facilities serving the region. Figure 3-5 shows the Victor Valley Consolidated Waste Stream.

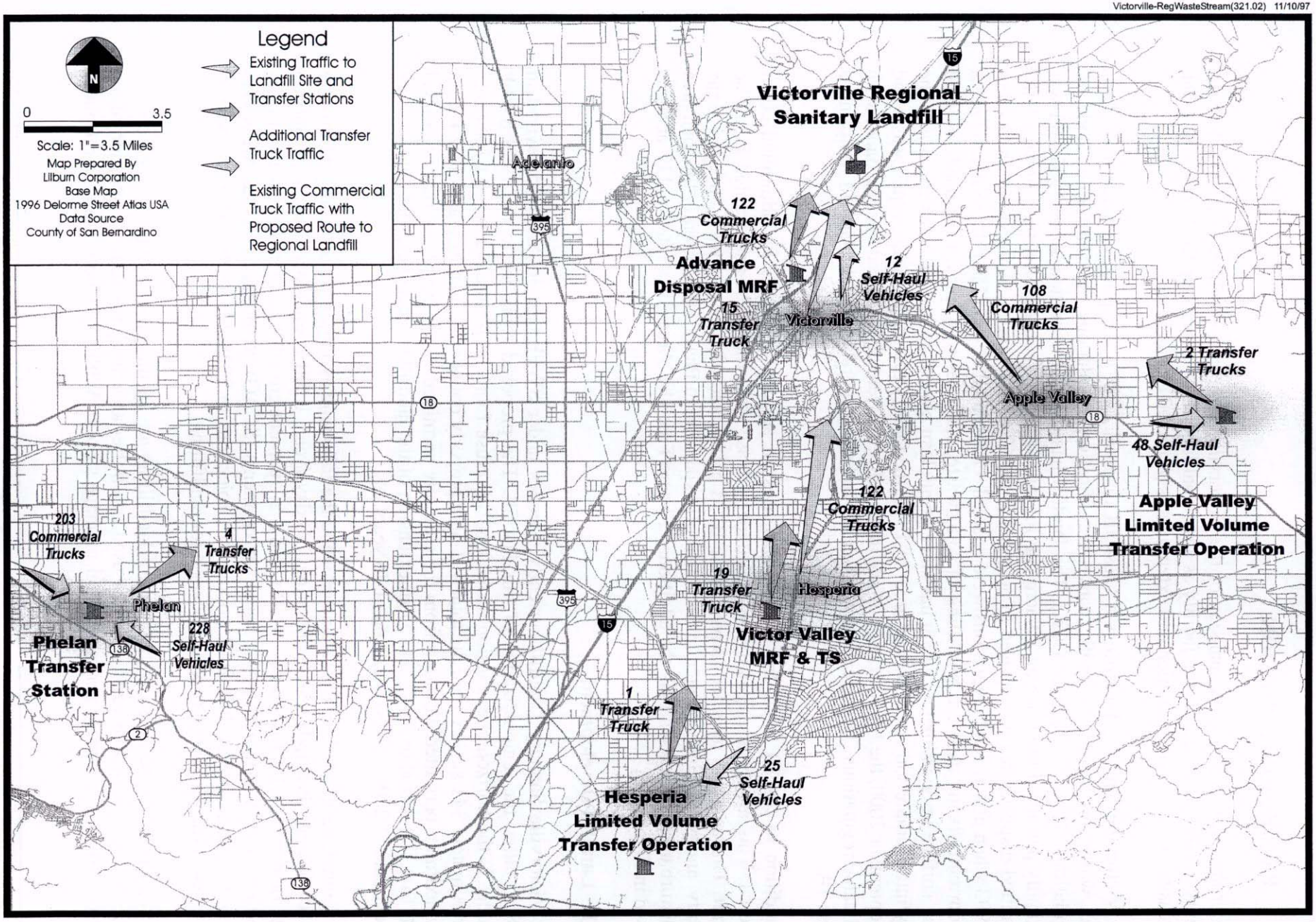
County of San Bernardino/Bureau of Land Management Land Exchange

In anticipation of implementation of the PSIP, the County of San Bernardino made an application to the BLM in 1996 for the conveyance of federally managed public lands to the County that were being used for solid waste disposal (landfills). Conveyance indicates the transfer of title to land through a patent. The County had been operating several local landfills to serve small desert communities since the 1950s. A total of 2,251 acres of land were conveyed to the County in November 2000 in exchange for County-owned properties that were considered high quality desert tortoise habitat, at a ratio agreed upon by the two agencies. This land conveyance included lands associated with the Victorville Sanitary Landfill. The environmental effects of exchanging the lands were evaluated in an Environmental Assessment prepared by the County in 1996. This project also included the issuance of a Biological Opinion by the U.S. Fish and Wildlife Service. These documents are incorporated by reference into this EIR and are available for review at the County Government Center (see page 1-1 for the location).

3.4 PROJECT OBJECTIVES

CEQA Guidelines Section 15124(b) requires that the project description include a statement of objectives in proposing the project. The intent is to aid the lead agency and decision makers in evaluating the project alternatives and in making findings or statements of overriding consideration, if necessary. The County's objectives in proposing the expansion of the Victorville Sanitary Landfill at this time are to:

- Design and operate a state-of-the-art, environmentally safe landfill facility which meets or exceeds local, state and federal standards;
- Develop an expansion plan compatible with local long-range planning goals and to minimize impacts on the local and regional infrastructure;
- Provide solid waste disposal needs for the County which is consistent with the goals and policies of the San Bernardino County General Plan, the Integrated Waste Management Plan, and the Solid Waste Partnership Strategy Implementation Plan (PSIP); and
- Provide additional on-site landfill capacity to serve the regional needs of the Victor Valley area of San Bernardino County.



Victor Valley Consolidated Waste Stream Average Daily Traffic Patterns

LILBURN CORPORATION

Victorville Sanitary Landfill
San Bernardino County, California

Figure 3-5

3.5 PROJECT DESCRIPTION

The proposed project is the expansion of the Victorville Sanitary Landfill in order to allow the County to continue to utilize the facility as a regional landfill by expanding the landfill footprint, increasing its maximum elevation and extending its projected closure date.

The Victorville Sanitary Landfill is a Class III disposal facility accepting only non-hazardous solid waste in accordance with waste classification regulations in California Code of Regulations, Title 27 (Title 27 CCR). The landfill has been in operation since 1965 and was originally permitted to utilize an 80-acre site for landfilling and related activities. However, the permitted disposal area was revised to be equal to the 67-acre footprint, as it existed on October 9, 1993 when new federal regulations were enacted. Of the total 80-acre landfill facility, 67 acres are currently being used for landfilling of solid waste, six acres were previously used as liquid waste surface impoundments, which has since been clean closed, and seven acres comprised the daily/intermediate soil cover borrow area. In 1998, the facility ceased accepting liquid waste and in September 2000, the liquid waste surface impoundments were clean closed in compliance with applicable regulations. That area is now available to be incorporated into the landfill footprint as Phase 1A.

In addition to the 80 acres, the County also uses an adjacent 37 acres for additional cover material. This area was originally utilized under a lease from the BLM and granted Free Use Permit. This area was included as part of the BLM patent land transfer that was conveyed to the County, and will be incorporated into the landfill expansion in Phase 1B. Currently the total area of disturbance is 80 acres plus the additional 37-acre Free Use Area for a total of 117 acres as shown in Figure 3-3.

3.5.1 Landfill Development

The Victorville Sanitary Landfill currently operates under SWFP No. 36-AA-0045 revised in 1998 to allow the regionalization of this landfill. The proposed revisions to the 1998 SWFP include: 1) the horizontal expansion of the landfill refuse footprint from a permitted 67 acres to approximately 341 acres within the total 491-acre property boundary; 2) an increase of 52 feet in the maximum permitted elevation from the currently permitted 3,130 feet above mean sea level (msl) to 3,182 feet above msl; and 3) an extension of the landfill projected closure date from its current date of 2005 to 2081, a period of 76 years.

The future landfill site life was calculated using the following assumptions: a starting inflow rate of 400 tons per day (tpd) waste, operating 358 days/year, 1,200 pounds per cubic yard (lb/yd^3) waste density, a 4:1 refuse to cover ratio, and a 2.7 percent growth rate/year. The growth rate is based on the San Bernardino Associated Governments (SCAG), Regional Statistical Areas, San Bernardino High Desert, July 2001 population projections to 2025. Under the proposed project, 341 acres of the 491-acre site would be used for landfilling.

The remaining 150 acres not to be used for landfilling are encumbered by numerous easements or the Bell Mountain Wash and would be used as a buffer area along the southeast portion of the landfill and for the landfill perimeter road drainage system. Within this buffer area, the County

intends to develop an approximately six-acre detention basin to control stormwater runoff from the landfill. Otherwise no disturbance associated with the project is proposed for this area.

The development of the proposed landfill expansion requires engineered design features that would be installed in phases. These features provide refuse containment and monitoring in accordance with current regulatory requirements and would be incorporated into the landfill design to protect the environment. The landfill design, as proposed, consists of a variety of environmental control and monitoring features. Table 3-2 shows existing and proposed environmental controls. These refuse containment, control, and monitoring measures reflect current regulatory requirements for a municipal solid waste landfill accepting non-hazardous (Class III) solid waste. The specific containment design configurations for the expansion project may vary over time due to revisions to regulations, but in all cases would meet or exceed the current regulatory requirements in place over the life of the landfill.

The expansion of the Victorville Sanitary Landfill will be conducted in three phases to accommodate the soil excavation, stockpiling, and installation of the groundwater protection system (i.e., liner and LCRS) needed for the ongoing operation of the landfill. The phases are labeled Phase 1, Phase 2 and Phase 3, as shown on Figure 3-7. Phase 1 is subdivided into two subphases 1A and 1B. With the exception of the existing 67-acre landfill footprint, each new area to be filled would be excavated between 20 to 200 feet below grade. The excavated area would then be lined with an approved liner system and environmental controls such as the leachate collection and removal system (LCRS). Once the containment features are constructed and certified, refuse placement would begin. A typical liner system is shown in Figure 3-6. As shown, the liner system would be a minimum of five feet thick between the bottom of the excavated subgrade and the point where refuse is initially placed. Side slopes of the excavated area may be lined in a similar manner to the landfill bottom or may utilize a geosynthetic liner as approved by the Regional Water Quality Control Board (RWQCB) Lahontan Region.

3.5.2 Landfill Construction Sequencing – Excavation/Stockpiling

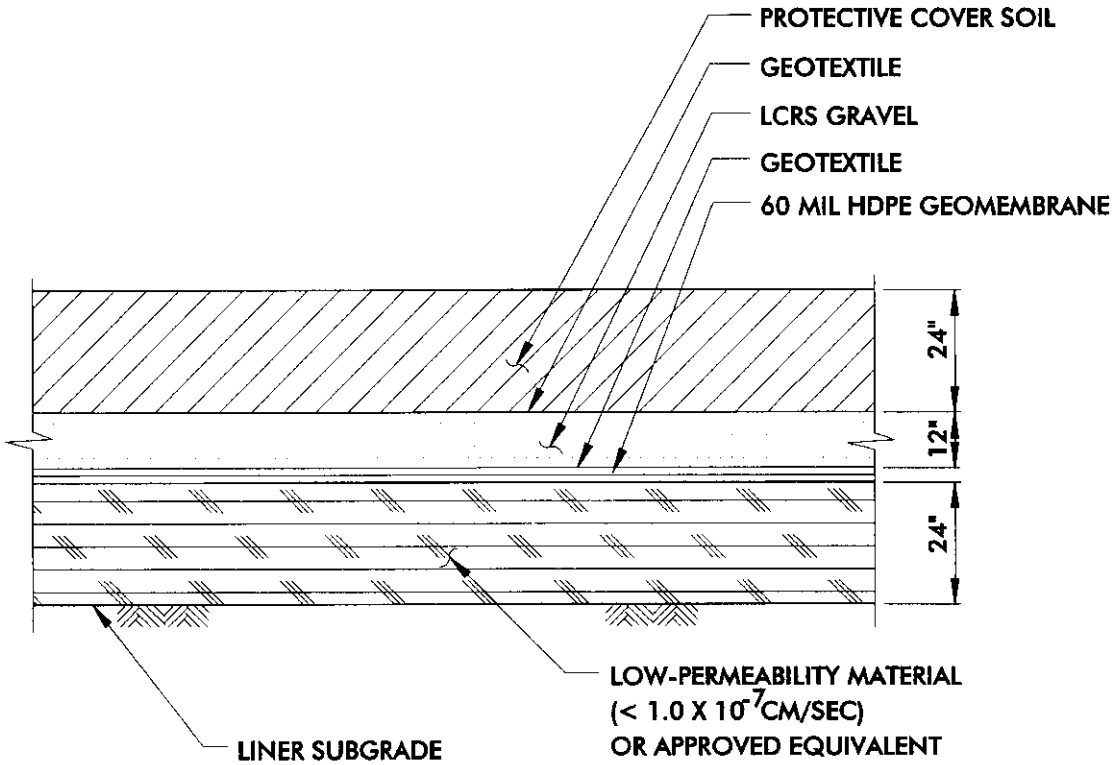
The following discussion presents a description of the landfill's development including phased excavation, stockpiling of material and landfilling over the active life of the landfill. Figures 3-8 through 3-13 show the sequence for future development of the landfill. Table 3-3 describes the components of the project and size of each component.

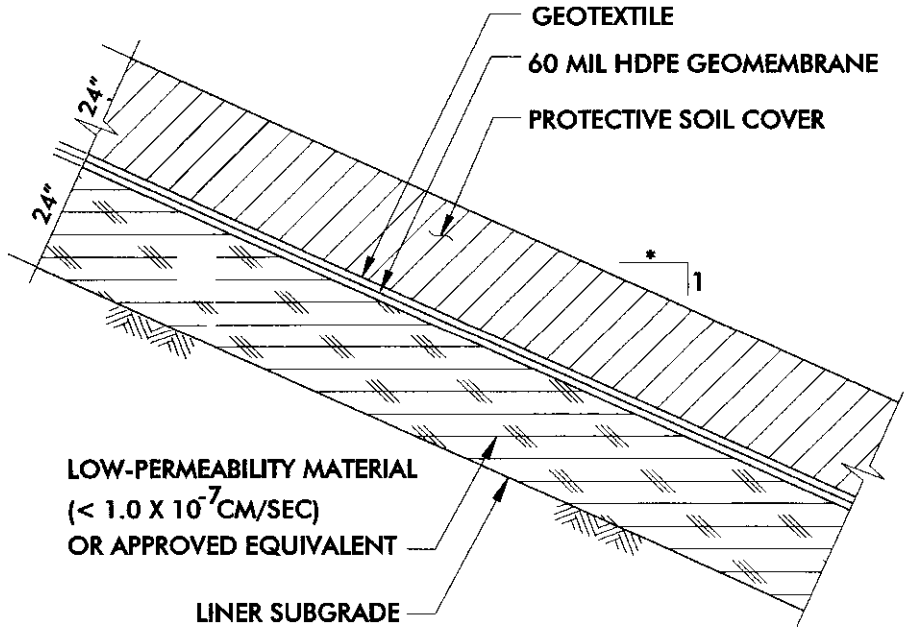
The development sequence of the phases is based on the master excavation plan, phasing plans, final grading plan and established design criteria. The development of each phase is dependant upon actual site conditions (i.e., refuse inflow rate) encountered at the time of filling and will also consider the associated capital expenditure. Therefore, the site construction is further broken down into several sequences within each phase with the exception of Phase 1A, a small four-acre area isolated from the rest of the expansion area by the existing refuse area. Landfilling will continue in the existing 67-acre landfill area utilizing the airspace created by the proposed 50-foot vertical expansion over the existing top deck as Phase 1A is being developed.

Table 3-2
Existing And Proposed Environmental Controls at the Victorville Sanitary Landfill

	Existing	Proposed
Landfill Gas Monitoring and Control	A LFG monitoring/collection system is currently under construction	Expansion of a LFG monitoring/collection system
Ground Water Quality Monitoring	Groundwater monitoring wells in place under Evaluation and Monitoring Program established under Water Quality Control Board WDR Order No. 6-95-106	Expansion of monitoring system as the landfill expands. Also, new areas will be lined with a composite liner approved by RWQCB.
Surface Water Quality Monitoring	Landfill is operating under a SWPPP in accordance with NPDES General Permit requirements and a MPRR is conducted to evaluate the effectiveness of the BMPs implemented as part of the SWPPP	Programs and Plans will be updated to include expansion areas
Leachate Control and Monitoring System	Existing operation pre-dates state and federal requirements to install either a liner system or LCRS	LCRS is part of the design of the lateral expansion areas and will be installed as these areas are developed. Also, new areas will be lined with a composite liner approved by RWQCB.
Fire Control	Existing firebreak around the landfill, control of surface fires through daily cover, water application (from water truck) and separate burning loads from tipping area and cover with dirt.	Fire break will continue to be maintained around the perimeter of the landfill
Vector and Bird Control	Minimized by refuse compaction and application of daily cover or ADC	Continue same procedures
Litter Control	Portable litter fences in the vicinity of the active working face. Collection of litter from litter fences and the perimeter fence around the landfill. Inspect entry road and area around scale house.	Continue same procedures
Odor Control	Confining the active working face to as small an area as possible and applying daily cover or ADC throughout the day or at the end of each operating day	Continue same procedures
Dust Control	Apply water to unpaved haul roads, soil stockpiles, etc., at regular intervals throughout the day.	Continue same procedures
High Wind Conditions	When the wind velocity registers 45 miles per hour (mph) three or more times in any 30 minute period or registers 40 mph, commercial loads may be directed to a designated tipping area. Three or more wind gusts of 50 mph or greater in any 30 minute period will result in the closure of the site to private vehicles.	Continue same procedures

LFG – Landfill Gas
RWQCB – Regional Water Quality Control Board
SWPPP – Stormwater Pollution Prevention Plan
BMPs – Best Management Practices
WDR – Waste Discharge Requirements
LCRS – Leachate Collection and Removal System
ADC – Alternative Daily Cover (in this case woven fiber tarps are used to replace soil as daily cover)
WDR – Waste Discharge Requirements
NPDES – National Pollutant Discharge Elimination System
MPRR – Monitoring Program and Reporting Requirements





* Varies (2:1 typical)

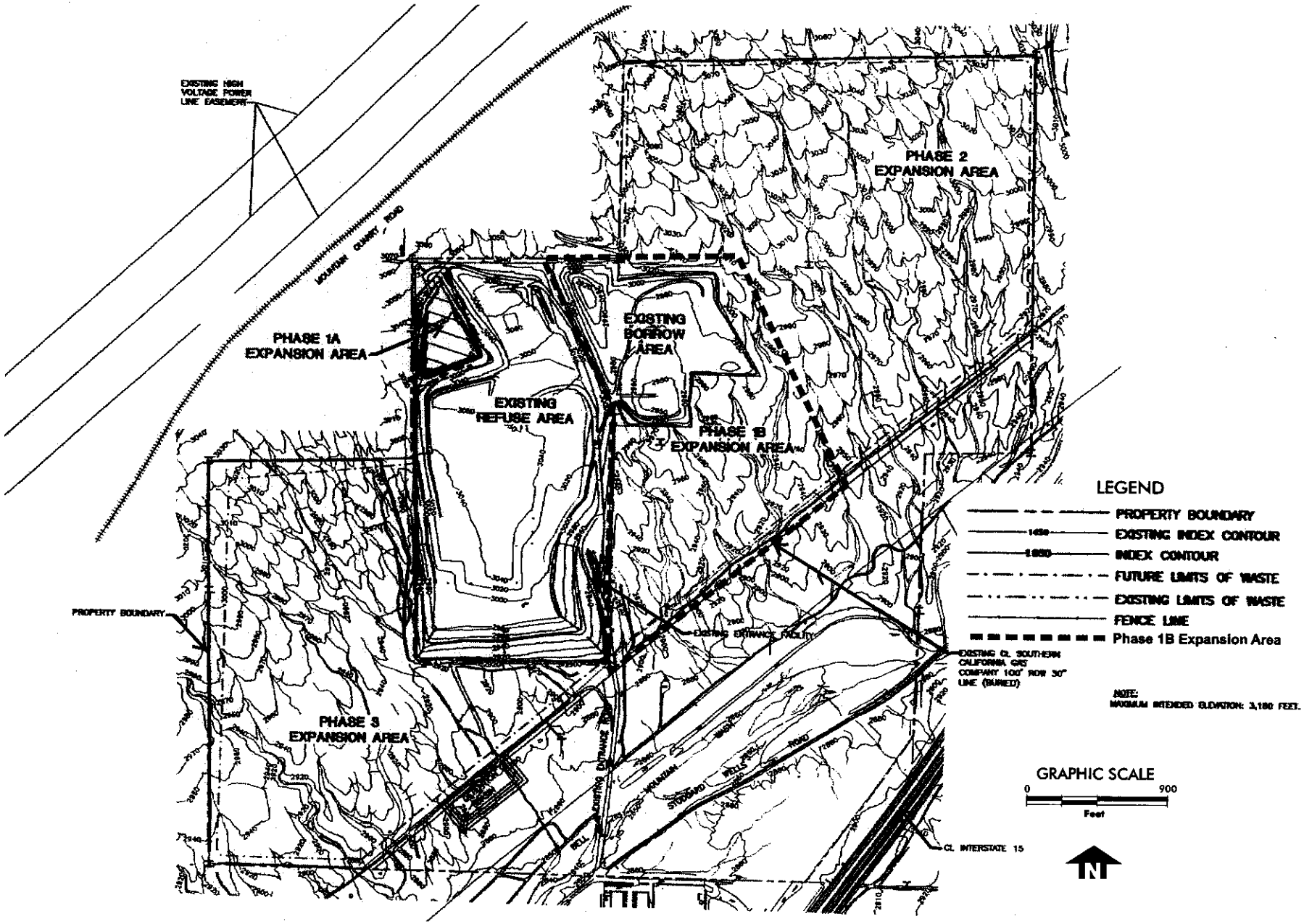
Source: BAS & Assoc., 09/02.

Typical Liner Details

LILBURN CORPORATION

Victorville Sanitary Landfill
San Bernardino County, California

Figure 3-6



Source: BAS & Assoc., 09/02.

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Proposed Phasing Plan

Victorville Sanitary Landfill
San Bernardino County, California

Figure 3-7

Table 3-3
Victorville Sanitary Landfill Project Components

Components	Size (in acres)
Existing Permitted Area	**80**
Existing Refuse Footprint	67
Closed Septage Ponds	6
Original Borrow Area	7
Expansion Area[1]	**274**
Phase 1A[2]	4
Phase 1B	63
Phase 2	117
Phase 3	90
Total Combined Area[3]	**341**
Buffer Area	**150**
Southern California Gas Company Easement	4
Detention Basin	6
Total Property	**491**

Source: BAS, Victorville Sanitary Landfill Project Description, 2002.
[1]274 acres includes closed septage ponds and existing borrow area.
[2]Phase 1A includes only 4 acres of the closed septage ponds. Remaining 2 acres would be included in the perimeter road and drainage improvements.
[3]Total combined area includes the existing 67-acre landfill plus the expansion area of 274 acres.

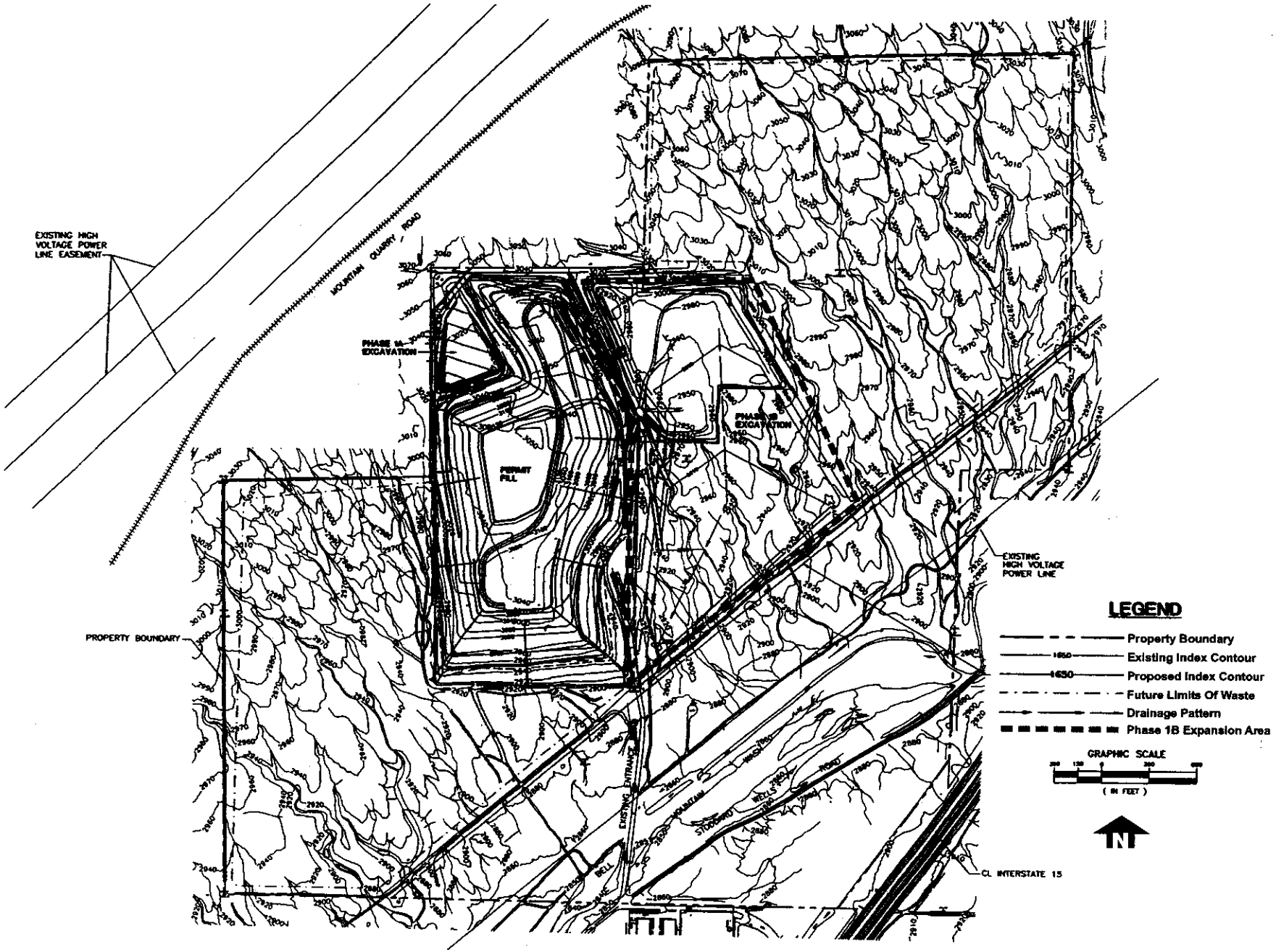
Figure 3-8 depicts a conceptual approach to the development sequence within the Phase 1B. Figure 3-9 shows the excavation sequence for Phase 2. Phase 3 would be developed many years in the future; therefore, the actual refuse fill rate is difficult to predict. However, based on the refuse inflow rate projection utilizing a population growth rate of 2.7 percent in the Victor Valley it is anticipated that the Phase 3 area would be developed in a minimum of four sequences.

The on-going construction activities and landfill operations would be performed in an environmentally sound manner to create efficient operational conditions for the facility, resulting in limited refuse exposure and reductions in erosion, dust and odor generation. Minimal equipment and personnel would be necessary to prepare each fill area for the development of the Phases 1A, 1B and 2. It is anticipated that the excavation for the construction of the liner in Phases 1B and 2 would be conducted primarily as part of active fill operations to obtain cover material for concurrent refuse filling operations. On-site equipment can be utilized to complete the majority of the excavation within these phases.

Phase 3 would be excavated in larger stages requiring additional pieces of heavy equipment to remove material and stockpile over designated stockpile areas.

The maximum depth of excavation (shown as feet above mean sea level) for each development Phase within the expansion area is shown below:

- Maximum Excavation Depth – Phase 1A: 2,008 feet
- Maximum Excavation Depth – Phase 1B: 2,886 feet
- Maximum Excavation Depth – Phase 2: 2,918 feet
- Maximum Excavation Depth – Phase 3: 2,748 feet



Source: BAS & Assoc., 09/02.

Phases 1A/1B Excavation Plan

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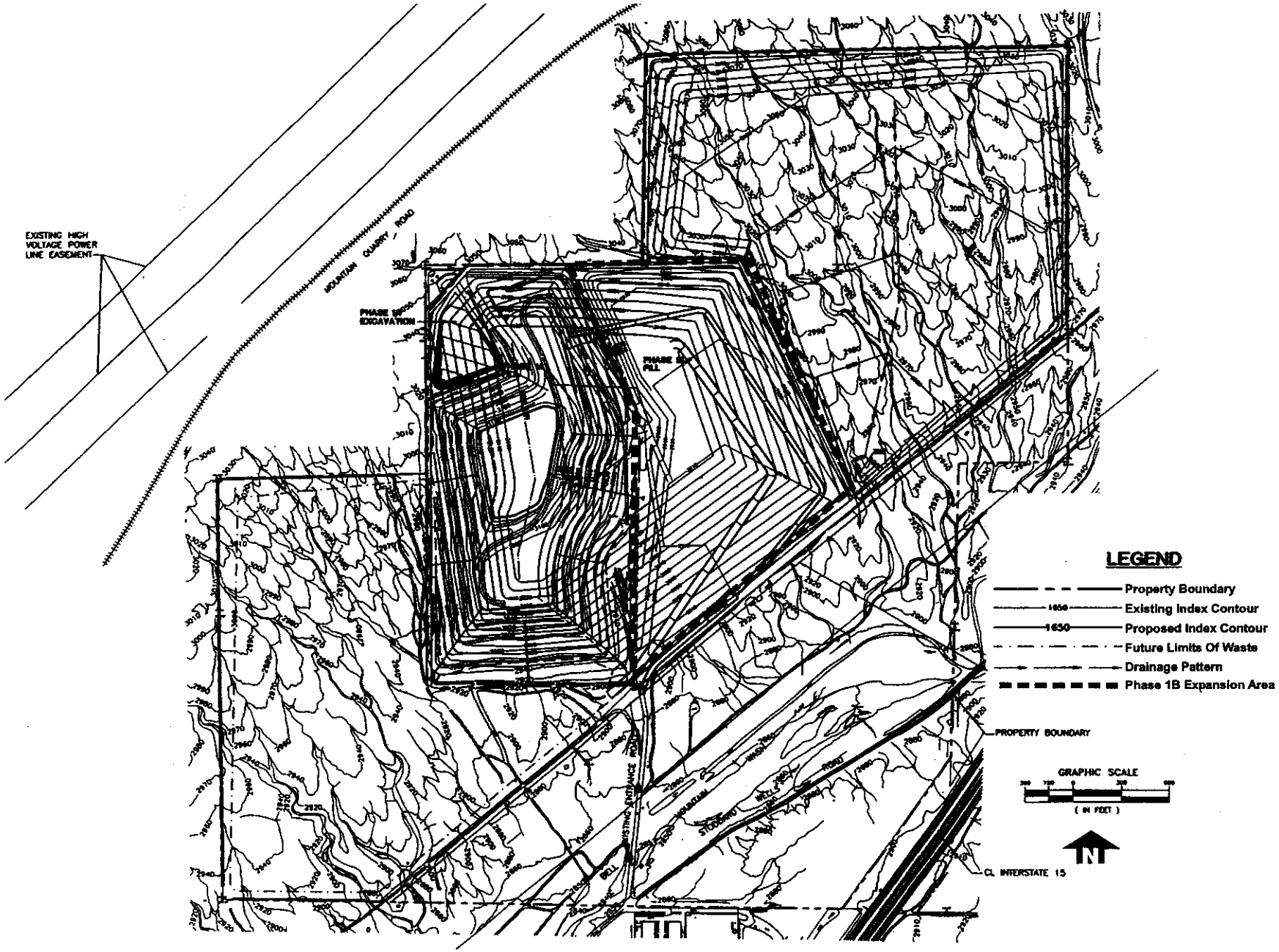
Victorville Sanitary Landfill
San Bernardino County, California

Figure 3-8



Source: BAS & Assoc., 09/02.

Phases 1A and 1B Fill Plan and Phase 2 Excavation

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Victorville Sanitary Landfill
San Bernardino County, California

Figure 3-9

The on-site personnel would leave approximately 10 to 20 feet of native material in-place above the proposed finished subgrades. As part of the groundwater protection system installation, the construction bid documents would require the contractors to excavate this excess material down to finished subgrades.

Equipment

In Phases 1A, 1B and most of Phase 2, excavation operations would be conducted with on-site equipment concurrent with daily operations, similar to existing conditions where cover material is being excavated from the borrow area and stockpiled, then used when needed to cover the active working face at the end of the day. Equipment currently utilized is listed in Table 3-4.

Table 3-4
Equipment For Current Daily Operations

Equipment	Amount	Hours of Operation
CAT 826 Refuse Compactor *	1	10/day
CAT D8 Bulldozer *	1	8/day
CAT D10 Bulldozer *	1	6/day
CAT 623 Scraper *	1	6/day
Backhoe	1	1/week
CAT Motor Grader	1	2/day
Water Truck – 4,000 gal	1	6/day

* Or equivalent piece of equipment.

As the refuse inflow rate increases, additional heavy equipment would be added to accommodate operations, which include the need for additional daily cover material. It is anticipated that one additional scraper and dozer would be added to accommodate soil excavation and refuse filling operation in the mid term, five to ten years.

Table 3-5 shows the anticipated equipment list for excavation stages within the Phase 3 area. It should be noted that increases in refuse inflow beyond the current waste generation projection could also necessitate a larger mass excavation within the later stages of the Phase 2 area as well. However, predicting when or if the rate of refuse inflow would increase is speculative and is not considered to be within the scope of this EIR and SWMD has not requested an increase in the permitted maximum daily tonnage for the landfill.

Table 3-5
Equipment For Stockpiling

Equipment	Amount
Scrapers – 657s or 637s	10
Dozers	3
Water Trucks	2
Back Drag	1
Blade	1
Loader	1

Stormwater drainage and erosion control system features would be maintained within the excavation areas prior to liner installation and refuse filling. Temporary drainage and erosion

control structures would be established and periodically relocated as waste filling continues and a given phase is excavated. The drainage system would provide continuous stormwater collection and conveyance in a controlled manner and minimize erosion and prevent run-on and/or infiltration into the refuse prism.

Stockpile Development

Due to their central locations to Phases 2 and 3, the existing refuse area and Phase 1B would be used to stockpile excavated soil material. Since settlement of the landfill is on-going, stockpiling on the existing refuse area could occur without exceeding the proposed maximum height of 3,182 feet above msl. It is anticipated that soil material excavated from Phases 1A and 1B would not require large stockpiles; it would be used for daily operation of the landfill as each cell is filled. The current relatively low refuse inflow rate allows for this type of excavation and stockpile plan. However, as mentioned earlier, sharp increases in the refuse inflow rate beyond current projections could result in larger mass excavations within the Phase 2 area necessitating stockpiling of the material in the Phase 3 area in addition to the Existing Refuse Area, and Phase 1B above the proposed vertical limit. This would require revisions to the SWFP and additional environmental analysis that are currently not reasonably foreseeable.

Proper drainage control would be maintained in the stockpile areas. Surface water control features would include grading of the deck areas to promote lateral runoff of stormwater into drainage systems consisting of downdrains, benches and swales. Surface water would be conveyed from the stockpile areas and discharged into the existing drainage systems on-site. Erosion control measures would be utilized to reduce downstream siltation potential. Discharge rates would be equal to or less than natural flow conditions.

Construction of all drainage facilities would strictly adhere to the Best Management Practices (BMPs) developed as part of the Stormwater Pollution Prevention Program (SWPPP) for the site. The SWPPP is required to comply with State and Federal regulations under the National Pollutant Discharge Elimination System (NPDES) program. The NPDES permit administered by the Regional Water Quality Control Board, Lahontan Region, encompasses all federal guidelines regarding the discharge of stormwater. Operation of all drainage facilities after construction would strictly adhere to the BMPs developed as part of the Water Quality Management Plan that must be implemented at the site for on-going operation and maintenance.

3.5.3 Description of Phasing

Phase 1A

Phase 1A is scheduled to begin in January 2010 and would be completed in one phase. Until this time landfilling would continue to occur on the existing landfill area (67 acres) rising an additional 52 feet in height. The Phase 1A Expansion Area is located in the northwest corner of the existing refuse area and is approximately four acres. Minimal excavation (approximately 20 feet) would be done in Phase 1A to set finished subgrades which would be accomplished by the liner contractor. Excavated slopes would not exceed 2H:1V (horizontal:vertical). Stockpiling is not required as the limited excavation material would be used for daily landfill operations. The

estimated total airspace to the excavation subgrade is 1.8 million cubic yards (mcy), which would require 414,378 cubic yards of daily cover material.

Phase 1B

Development of the Phase 1B (Figure 3-9) would begin prior to the completion of waste filling operations in the Phase 1A area, projected to be 2013. The Phase 1B Expansion Area consists of the existing seven-acre borrow area (note: only six acres would be incorporated into the landfill, the remaining acre would be incorporated into the perimeter drainage system and road) plus the 37-acre Free Use Permit borrow area and an additional 20 acres south of the Free Use Permit area, for a total of 63 acres. The excavation of the Phase 1B area would range in depth between 20 feet and 50 feet below grade and have an average floor slope of 1.5 percent. This phase is estimated to yield 3.2 mcy of material, which would be utilized for daily cover. Excavated slopes would be developed at 2H:1V with benches at 40-foot intervals (where required). The estimated total airspace to this excavation subgrade is 17.9 mcy, which would require approximately 4.2 mcy of daily cover material.

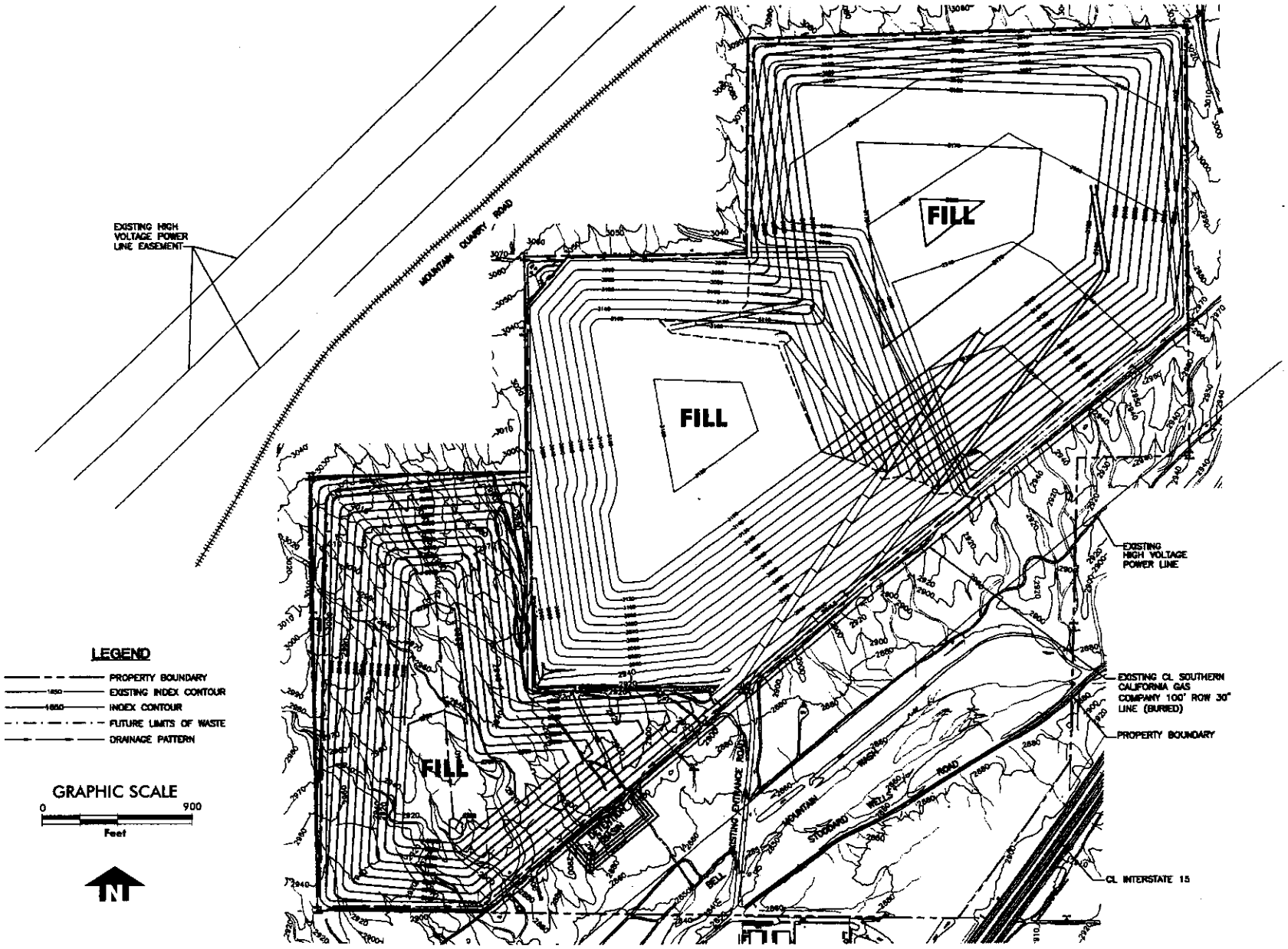
The development of Phase 1B is proposed to be carried out in six construction sequences. Phase 1B would be divided in half, longitudinally, and in thirds, laterally, yielding six excavation sequences. The first sequence would begin in the northwest corner of Phase 1B with construction continuing along the north side in a clockwise manner to the northeast down the east side to the southwest corner of Phase 1B. When completed, Phase 1B would be filled to an approximate elevation of 3,160 feet above mean sea level. It should be noted that the construction sequences, both excavation and refuse fill, within each phase would be adjusted in size, as necessary based on actual waste inflow rate conditions experienced over the life of the landfill. Liner construction would also occur sequentially as an excavation sequence is completed. Filling of earlier sequences in Phase 1B would occur simultaneously with excavation of later sequences of this phase.

Since 43 acres of Phase 1B have been previously disturbed by borrow activity for cover material, no new area of disturbance is anticipated before approximately 2010. Prior to 2010, SWMD intends to continue borrowing from areas previously disturbed to establish the subgrade for liner construction. These areas would be filled first.

Phase 1B would be excavated to establish a 1.5 percent grade along the floor to allow any leachate to drain to the lowest point in the southwest corner and be collected in a sump for disposal. The liner and LCRS system for each construction stage will directly tie into the previous adjacent stage during incremental filling until the individual phase is complete.

Phase 2

Construction of Phase 2 is anticipated to begin in 2040. Figure 3-9 shows excavation of Phase 2 while Figure 3-10 shows the Fill Plan for Phase 2. Cross sections shown in Figure 3-10 are displayed on Figure 3-13. The Phase 2 Expansion Area is located on the northeast portion of the Victorville Sanitary Landfill property. The excavation of the Phase 2 area would range in depth between 20 feet and 80 feet below grade and would have an average floor slope of 1.5 percent. Excavated slopes would be developed at 2H:1V with benches where required. The area is estimated to yield 9.6 mcy of material. The estimated total airspace to this excavation subgrade is 33.7 mcy, which would require 7.9 mcy of daily cover material.



Source: BAS & Assoc., 09/02.

Phases 1A, 1B, and 2 Fill and Phase 3 Excavation Plan

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Victorville Sanitary Landfill
San Bernardino County, California

Figure 3-10

The development of Phase 2 is proposed to be carried out in four construction sequences. Phase 2 would to be divided in half both longitudinally and laterally, yielding the four excavation sequences. The initial construction sequence would begin at the southwest corner of Phase 2 then proceed up the west side to the next sequences, again in a clockwise manner finishing in the southeast corner of Phase 2. The floor would be finished at a grade of 1.5 percent to allow any leachate collected in the LCRS to flow to the lowest point and be collected in a sump for disposal. Liner construction would occur sequentially as an excavation sequence is completed. Filling earlier sequences of Phase 2 would occur simultaneously with excavation of later sequences of this phase. When completed, Phase 2 would fill to an approximate elevation of 3,160 feet above mean sea level.

Phase 3

Construction (development, excavation, alternatives) of Phase 3 is anticipated to begin in 2065. Figure 3-10 shows the Phase 3 excavation while Figure 3-11 shows the Phase 3 Fill Plan. The Phase 3 Expansion Area is located on the southwest portion of the Victorville Sanitary Landfill. The excavation of the Phase 3 area would reach depths of 200 feet below grade and have an average floor slope of 1.5 percent. Excavated slopes would be developed at 2H:1V with benches at intervals determined by depth. This phase is estimated to yield 14.2 mcy of material. The material cut plan for Phase 3 is a deep narrow configuration. Based on the projected refuse inflow rate for this phase, larger mass excavations would be required. Therefore, it is anticipated that Phase 3 would be excavated in a maximum of four sequences from south to north. The floor would be finished at a grade of 1.5 percent to allow any leachate collected in the LCRS to flow to the lowest point and be collected in a sump for disposal. The estimated total airspace to excavation subgrade is 32.3 mcy, which would require 7.7 mcy of cover material. Material excavated in this phase would be stockpiled on earlier phase areas (1B and 2) but heights of these phases would not exceed 3,182 feet above msl.

Figure 3-12 shows the Final Grading Plan for the landfill. Figure 3-13 shows cross sections for the final grading plan. Figure 3-14 shows a typical Final Cover System for the landfill. Figure 3-15 shows details of the proposed LCRS system.

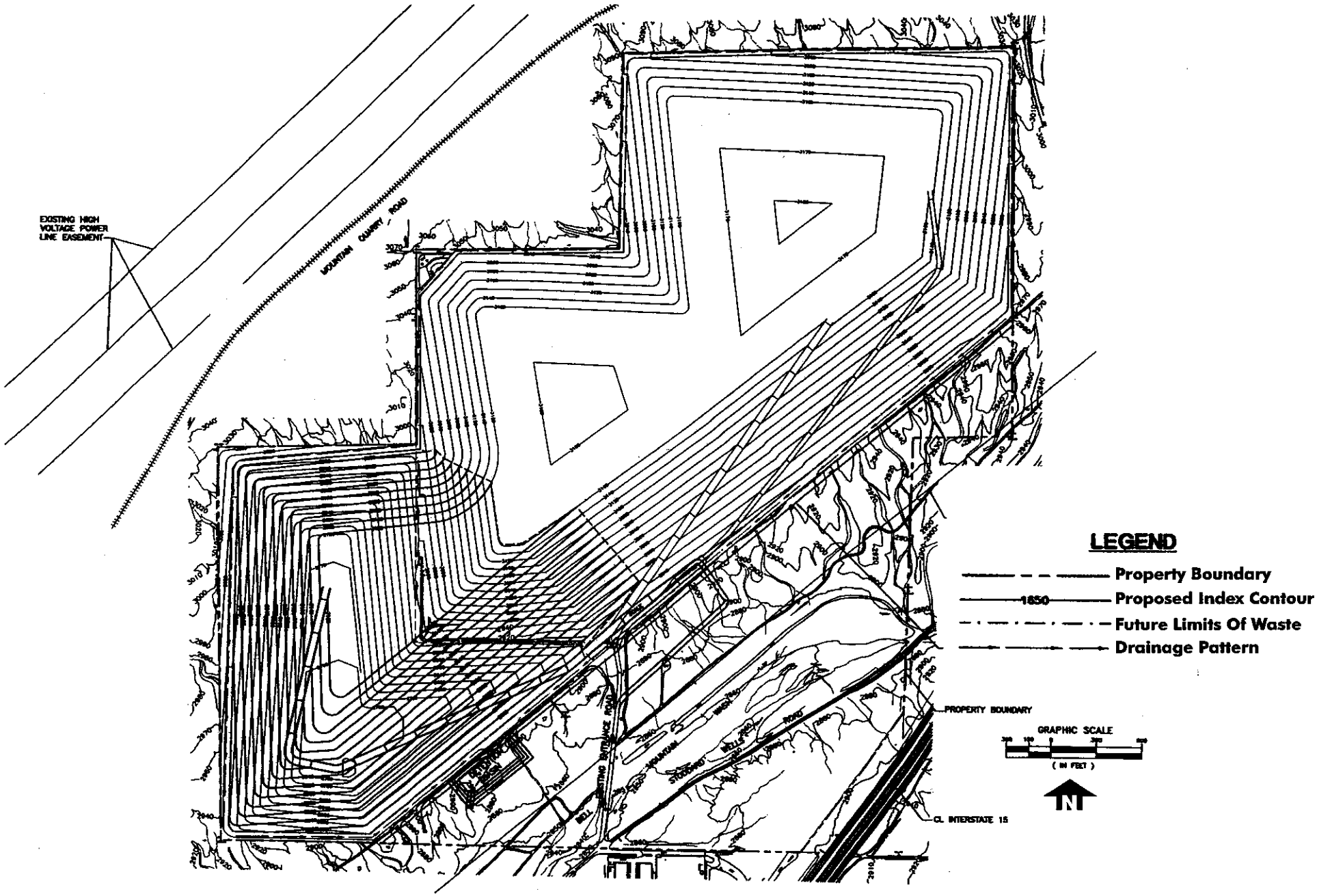
3.5.4 Base Liner Landfill Floor (Bottom) Areas

In accordance with the requirements of Title 27 CCR, the expansion project would be developed with a liner and LCRS system that is protective of the environment and meets or exceeds federal and state requirements for Class III municipal solid waste landfills.

The proposed bottom liner system is shown in Figure 3-6 and would consist of the following components (from top to bottom):

- **Protective Soil Cover:** A two-foot thick layer of soil to protect the liner system from operations traffic and overlying waste materials.

- **Filter Geotextile:** A geotextile fabric placed between the LCRS gravel and protective soil cover to prevent intrusion of soil into the LCRS gravel drainage layer.



Phase 3 Fill Plan

Victorville Sanitary Landfill
San Bernardino County, California

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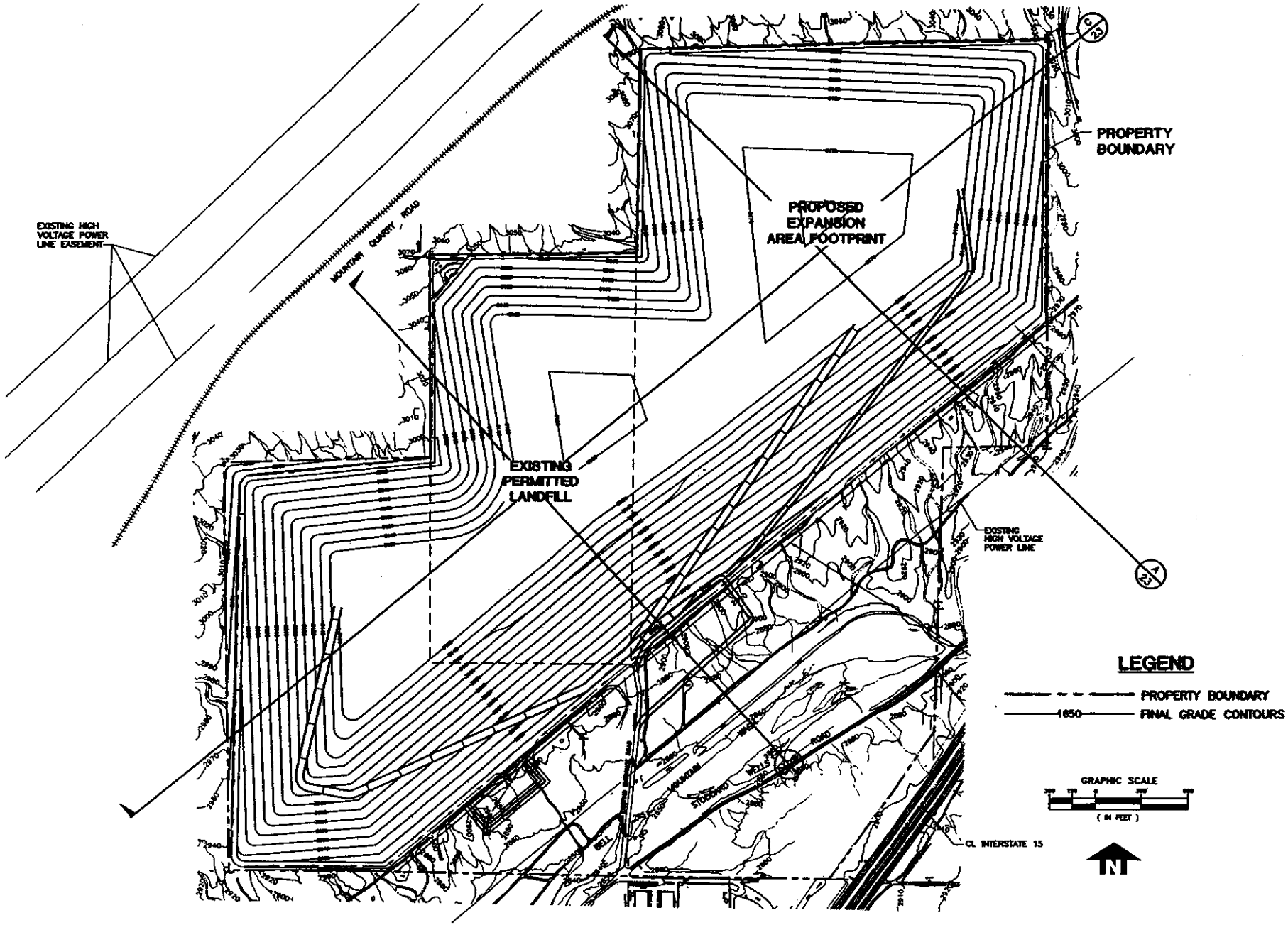
Figure 3-11



Source: BAS & Assoc., 09/02.

Final Grading Plan

Victorville Sanitary Landfill
San Bernardino County, California

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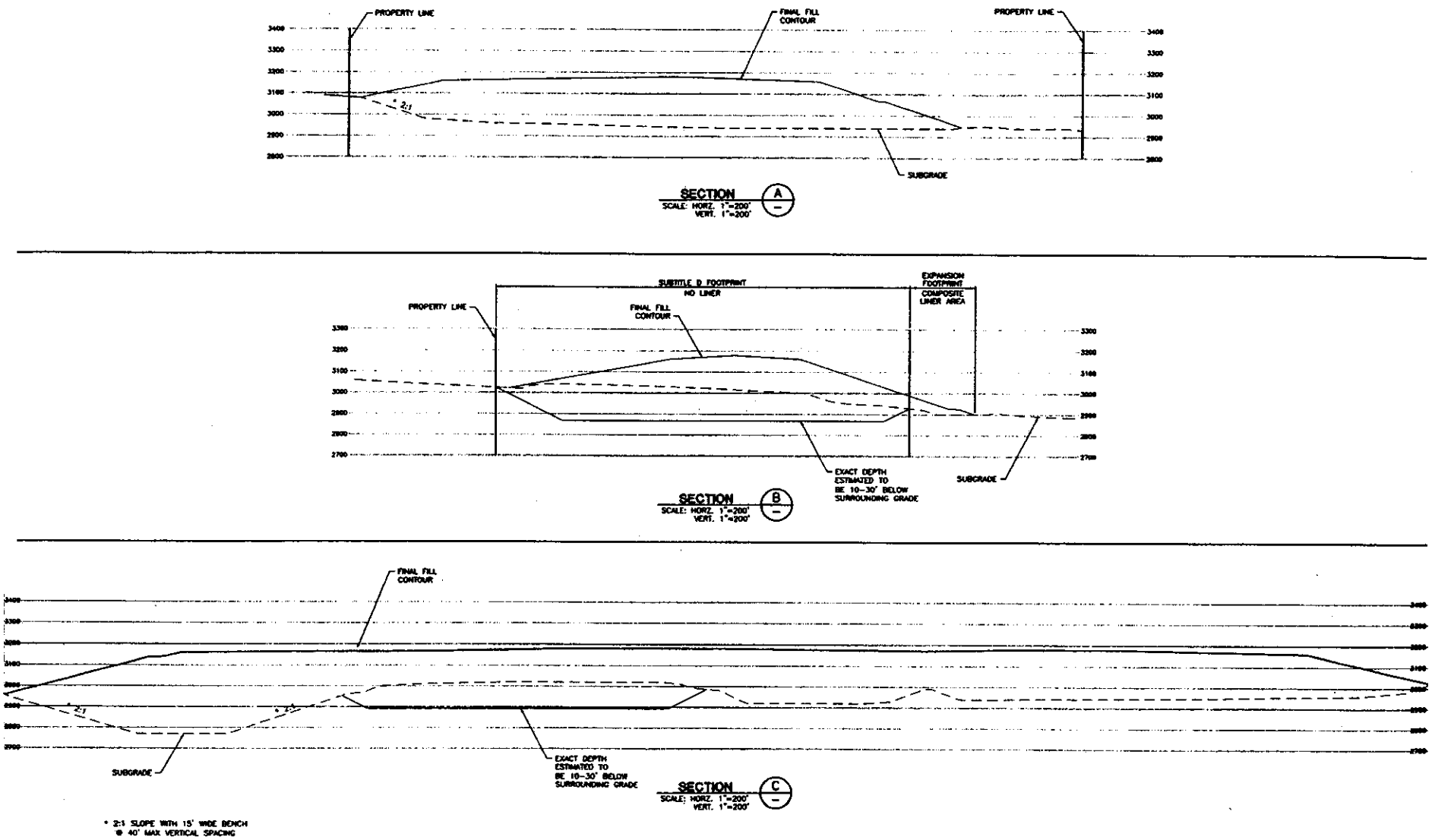
Figure 3-12



Source: BAS & Assoc., 09/02.

Final Grading Plan Cross Section

Victorville Sanitary Landfill
San Bernardino County, California

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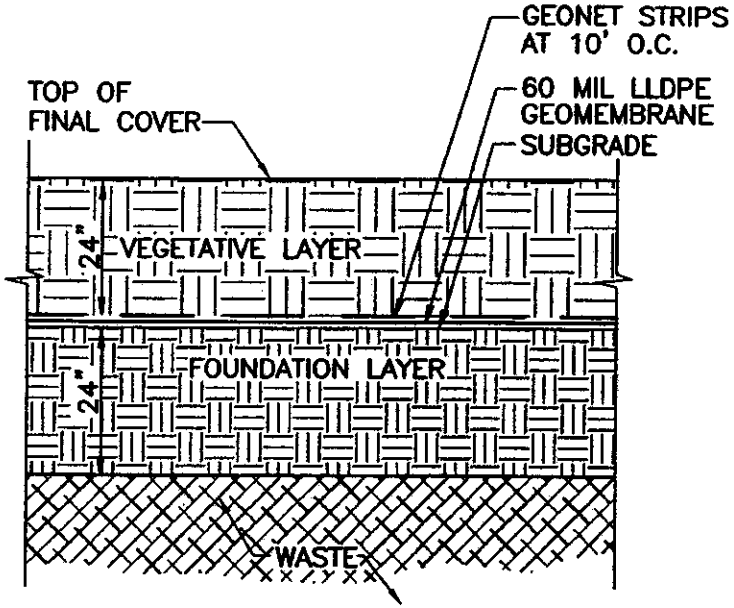
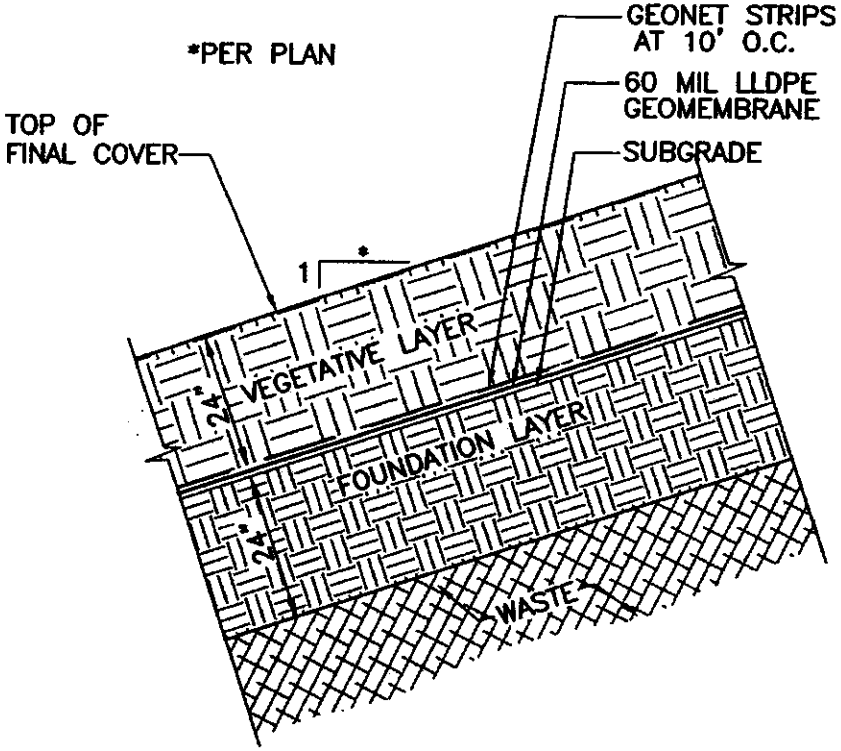
Figure 3-13



Deck Cover Section



Slope Cover Section

NOTE:
1)THE 60 LLDPE GEOMEMBRANE SHALL BE INSTALLED ON FOUNDATION LAYER SOIL WITH SLOPE NO LESS THAN 3%

2)GEONET STRIPS SHALL DRAIN TO BENCHES AND TOE OF SLOPE.

Source: BAS & Assoc., 09/02.

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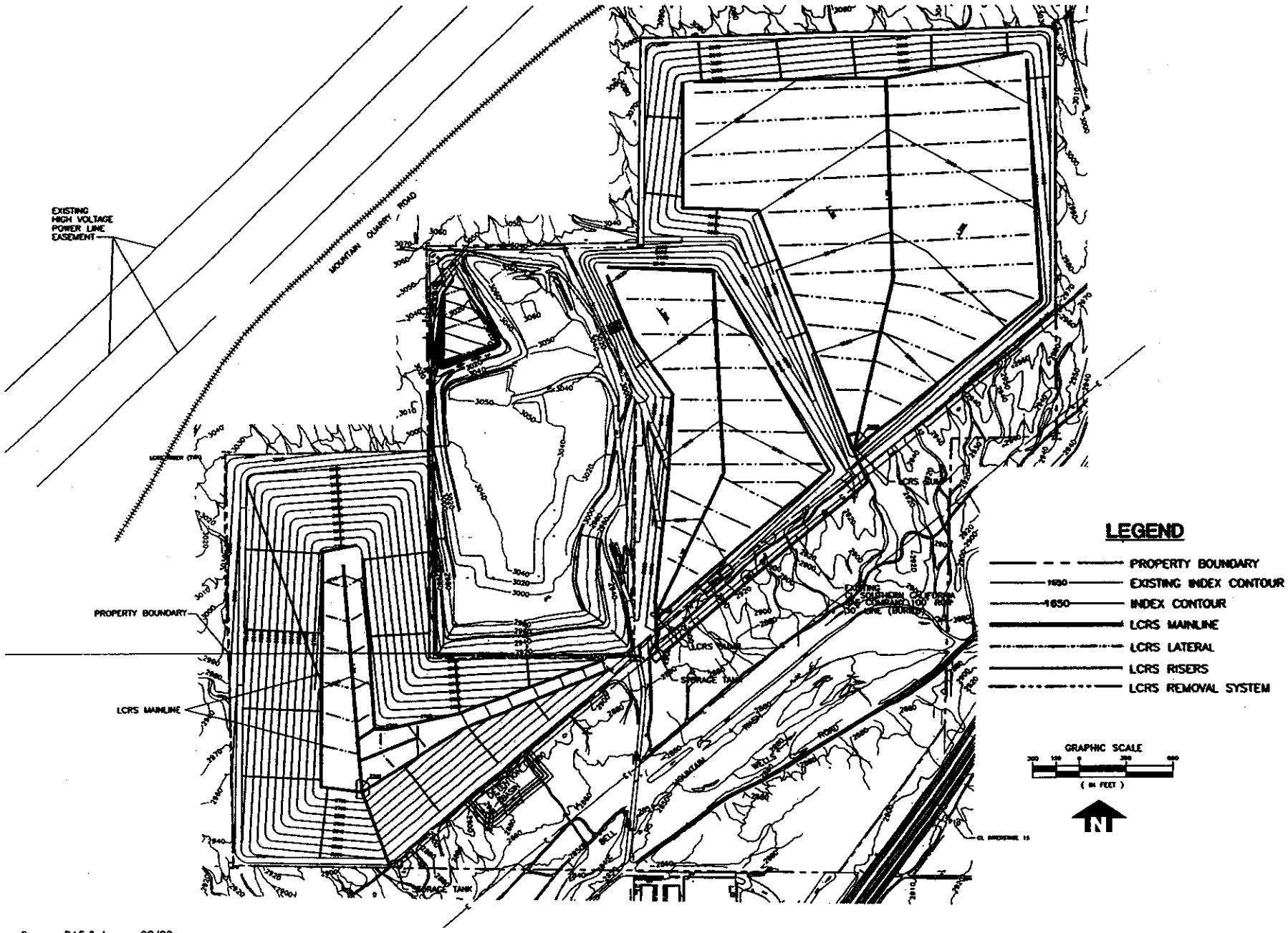
Final Cover System

Victorville Sanitary Landfill
San Bernardino County, California

Figure 3-14



Source: BAS & Assoc., 09/02.

Master Plan for LCRS

Victorville Sanitary Landfill
San Bernardino County, California

LILBURN CORPORATION

Figure 3-15

- **LCRS Gravel:** A one-foot thick layer of gravel with hydraulic conductivity that in combination with the bottom slope and LCRS collector pipes prevents the buildup of hydraulic head on the liner. The LCRS gravel would be constructed on the floor portion of the landfill only.

- **Non-woven Geotextile:** A geotextile fabric to protect the HDPE geomembrane liner from puncture by the LCRS gravel.

- **HDPE Geomembrane:** A 60-mil thick HDPE liner that acts as a key element of the barrier protection layer. For the base of the landfill the HDPE membrane would be textured on both side to provide greater stability. On the slopes the HDPE membrane would be textured on the bottom only to accommodate settlement of the waste materials and reduce stresses on the liner system.

- **Geosynthetic Clay Liner (GCL) or two-foot thick Compacted Clay Liner (CCL):** A low permeability barrier layer would be provided directly below the HDPE geomembrane.

The low permeability layer would be constructed to meet the requirements of Title 27 CCR or in the case of the GCL be shown as equivalent.

3.5.5 Environmental Controls

Table 3-2 shows existing and proposed environmental controls at the Victorville Sanitary Landfill. The following discussion summarizes the systems.

Leachate Collection and Removal System

Leachate refers to a liquid that can be generated by the percolation of moisture through solid waste from decomposition or release of liquids. In landfills, leachate can form if the fluid produced from waste decomposition mixes with water that has entered from external sources such as rainfall infiltration or moisture inherent to waste disposal. When liquid percolates through solid waste that is undergoing decomposition, both biological materials and chemical constituents are dissolved or suspended in the liquid.

The amount of leachate expected to be generated from the proposed expansion of the landfill is limited due to the following factors:

- The landfill is located in an arid climate that naturally limits the amount of precipitation that can percolate into the waste. Average annual rainfall is less than five inches, while average annual evaporation can exceed 100 inches.

- Good operational practices reduce the amount of run-on into the refuse footprint and precipitation percolating into waste. This includes covering the waste materials, closing areas that would no longer receive waste, and limiting the areal extent of active working areas.

- Municipal solid waste is expected to be disposed at the site relatively dry.

While the amount of leachate generated by the proposed project is expected to be minimal, as required by Title 27 CCR Section 20340, SWMD must monitor, collect, treat and dispose of leachate collected during the operation of the landfill. In addition, as required by CCR Title 27, SWMD must continue to monitor, collect, treat and dispose of leachate from the site during the post-closure monitoring and maintenance period (generally a 30-year period). Figure 3-15 shows a generalized layout of a Master Plan for a LRCS.

The LCRS system includes a granular drainage layer covering the bottom portions of the landfill. Perforated collector pipes would be installed within the granular drainage layer and along the toe of benches on the sideslopes. The system would drain to central locations within the landfill (four locations total), where a submersible pump would be used to extract the collected liquids. The system(s) were designed to handle twice the anticipated leachate production including factors of safety to allow for clogging due to biofouling, settlement, etc., over the active life of the landfill and through post-closure. The liquids would be collected in on-site storage tanks prior to treatment and disposal.

Landfill Gas Collection and Monitoring System

A landfill gas control system is currently being constructed for the existing refuse area and would be extended into the expansion areas to provide control of subsurface gas migration and surface emissions into the atmosphere. Figure 3-16 shows the existing LFG extraction system and flare station for the existing refuse area. As occurs now, this system would consist of numerous vertical gas extraction wells interconnected by a series of above ground header pipes. As gas production increases, additional gas destruction capability (i.e., additional expanded flare stacks) would be added as necessary. The collection and destruction of LFG, as well as the LCRS and liner system would preclude the migration of LFG. The system's effectiveness would continue to be evaluated through monitoring in accordance with applicable regulatory requirements (currently quarterly monitoring is required). In addition, the feasibility of utilizing LFG to fuel electric generators or other uses may be studied as LFG production increases.

Surface and Groundwater Monitoring

The depth to groundwater at the site ranges from 100 feet in the northwest to approximately 206 feet below ground surface in the southeast. Groundwater velocities are on the order of approximately one foot per day and the flow direction is to the southeast. Groundwater beneath and down gradient from the site has been impacted by the landfill. The impact to ground water can be attributed to landfill gas and migration of liquids from surface impoundments. The surface impoundments were clean closed in 2001.

Groundwater elevations within the existing landfill footprint and downgradient of the Victorville Landfill have generally decreased since 1998, when the septage impoundments at the northwestern corner of the facility were closed (proposed Phase 1A). Well VSL-7, which is located immediately downgradient of the septage ponds, has been dry for three years. Similar trends in groundwater elevation decreases have been observed in wells VSL-5 and VSL-9, which are also downgradient of the septage ponds.

Table 3-6 compares the most recent groundwater elevation and the historical high groundwater elevation measured at each monitoring well with the adjacent base grade of the proposed landfill expansion.

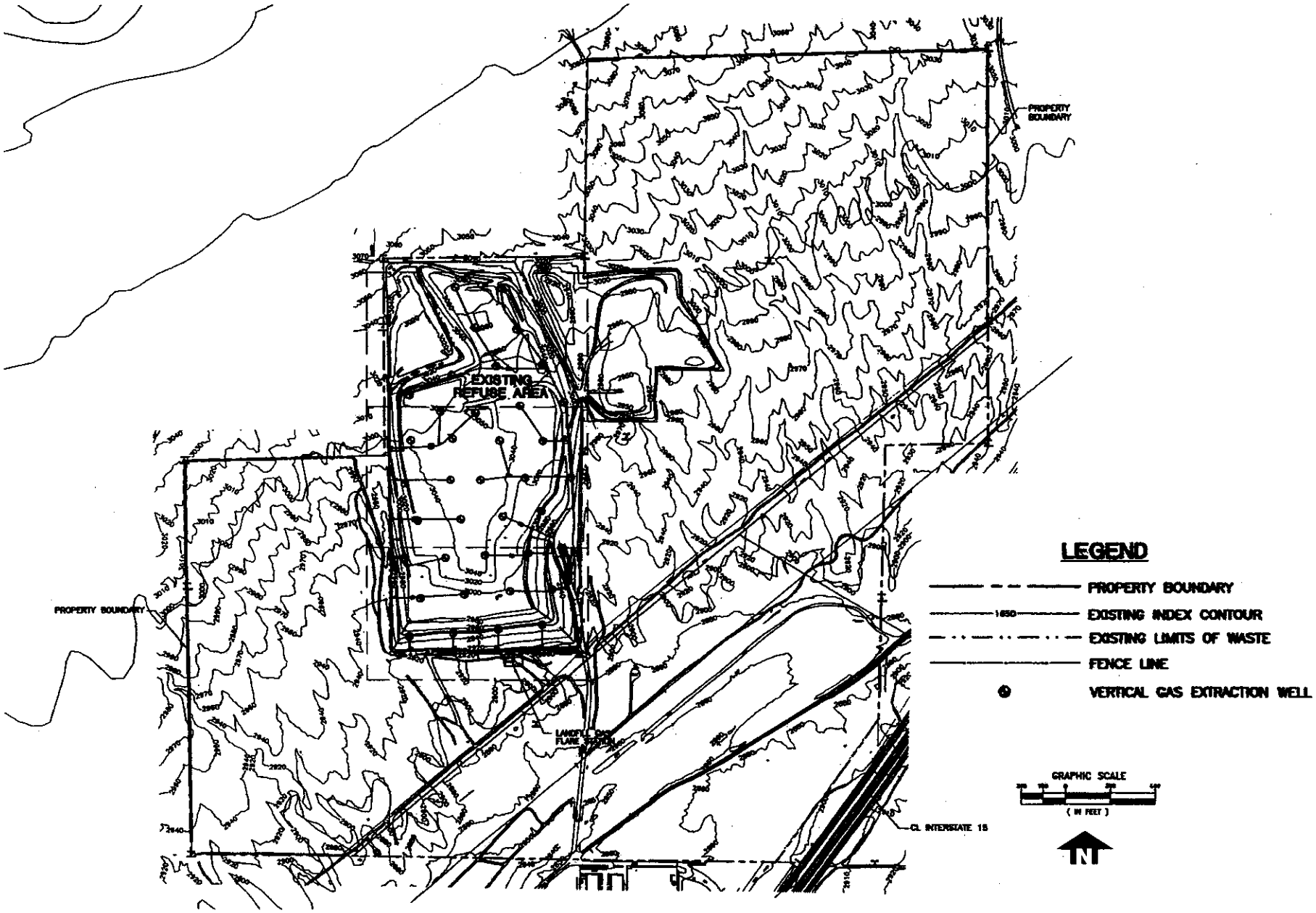
Table 3-6
Historical Groundwater Elevations

Well	November 2003 Groundwater Elevation (feet amsl)	Highest Groundwater Elevation/Date Measured		Adjacent Landfill Base Elevation
VSL-1	2849.63	2849.98	February, 2003	3016
VSL-3	2676.03	2677.89	May, 1993	2900
VSL-4	2993.74	2994.09	August, 2002	2920
VSL-5	2744.30	2773.86	August, 1993	3008
VSL-6	2670.64	2675.53	January, 1994	2800
VSL-7	Dry	2768.76	November, 1996	3008
VSL-8	2671.17	2674.45	August, 2001	2860
VSL-9	2741.11	2767.11	June, 1996	3008
VSL-10	2675.96	2686.34	May, 2001	2900
VSL-11	2675.96	2676.41	August, 2001	2900
VSL-12	2676.98	2677.40	August, 2003	2780
VSL-13	2675.90	2675.90	April, 2001	2780
VSL-14	2799.29	2799.56	February, 2003	2820
VSL-15	2831.11	2831.11	April, 2001	2960
VSL-16	2697.16	2697.16	April, 2001	2940
VSL-17	2675.97	2676.34	May, 2003	2900

Notes: Wells VSL-10, VSL-11, VSL-12, VSL-13, VSL-14, VSL-15, VSL-16, and VSL-17 were constructed in 2001.

As shown on Table 3-6, all areas of proposed expansion will be at least five feet above the highest measured groundwater elevation in an adjacent well or as interpreted from groundwater equipotential surface contours. In fact, most areas will be at least 100 feet above the highest anticipated groundwater elevation. Groundwater potentiometric surface elevation contours were constructed using April 2001 data to compare estimated groundwater elevations with the proposed sub-grade configuration. There are no areas of the site where the groundwater is less than five feet below the landfill sub-grade. The historical groundwater elevation data show very little fluctuation in response to regional climatic phenomena, such as the unusually heavy rains associated with the 1993 and 1997/1998 El Nino events. As a result, use of the April 2001 data set is considered representative of historical and anticipated conditions. Based on this information, a minimum five-foot separation between waste and the groundwater table is anticipated throughout the site's active life and post-closure maintenance period.

Ground water quality for the existing landfill is monitored through a system of Point of Compliance (POC) wells and background (i.e. upgradient) wells. Figure 3-17 shows the existing groundwater monitoring system. Groundwater is found within the older alluvium beneath the central and northern portions of the site and within the fractured quartz monzonite bedrock units beneath the entire site (IT, 2001). The groundwater monitoring well network at the site includes two upgradient wells, four cross gradient wells, seven downgradient wells, and three wells downgradient of the former surface impoundments. The monitoring network also includes one piezometer, and five soil-pore gas monitoring probes.



Source: BAS & Assoc., 09/02.

Existing Landfill Gas Extraction System and Flare

Victorville Sanitary Landfill
San Bernardino County, California

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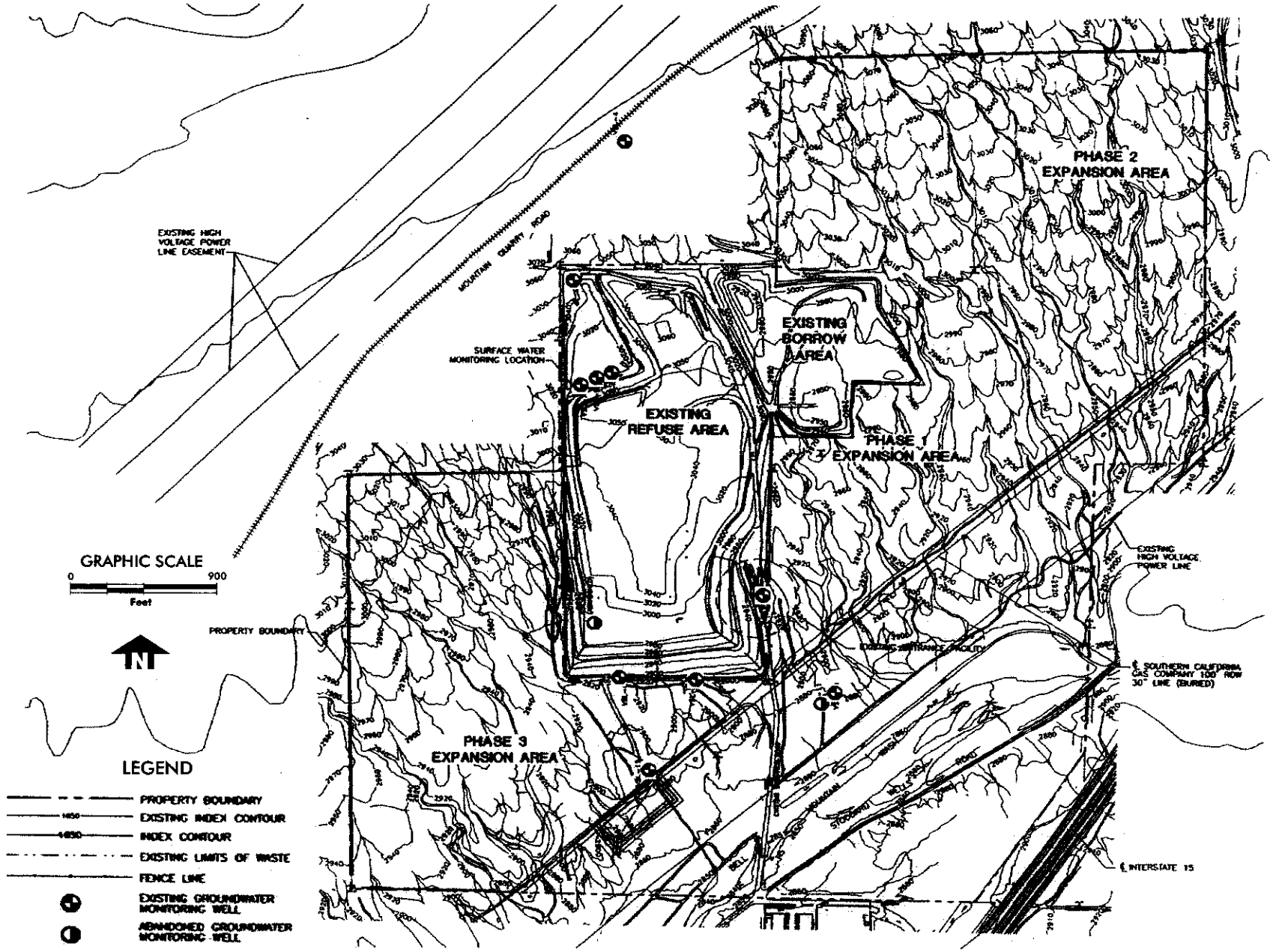
Figure 3-16



Source: BAS & Assoc., 09/02.

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Existing Groundwater Monitoring System

Victorville Sanitary Landfill
San Bernardino County, California

Figure 3-17

Additional groundwater monitoring locations would be identified in the expansion area. The number and location of the new monitoring wells would be coordinated with the RWQCB.

Surface water monitoring is currently conducted at the discharge to the former surface impoundments at the northwest corner of the existing 80-acre site. Future monitoring, for compliance with NPDES requirements, would be performed at the proposed detention/desilting basin shown on Figure 3-7. This would be the only point of discharge from the site in the future.

Surface Water Drainage

As required by Title 27 CCR a surface water drainage system has been designed to assure that stormwater runoff does not affect nor would it be affected by operations at the site. The surface water drainage system proposed for the project is designed to accommodate flows from the 100-year, 24-hour storm event. Collector ditches and swales are to be installed around the perimeter of the facility to prevent run-on to the site. Collector ditches, swales and downdrains are to be constructed within the facility to direct run-off from the landfill to a detention/desilting basin (see Figure 3-18).

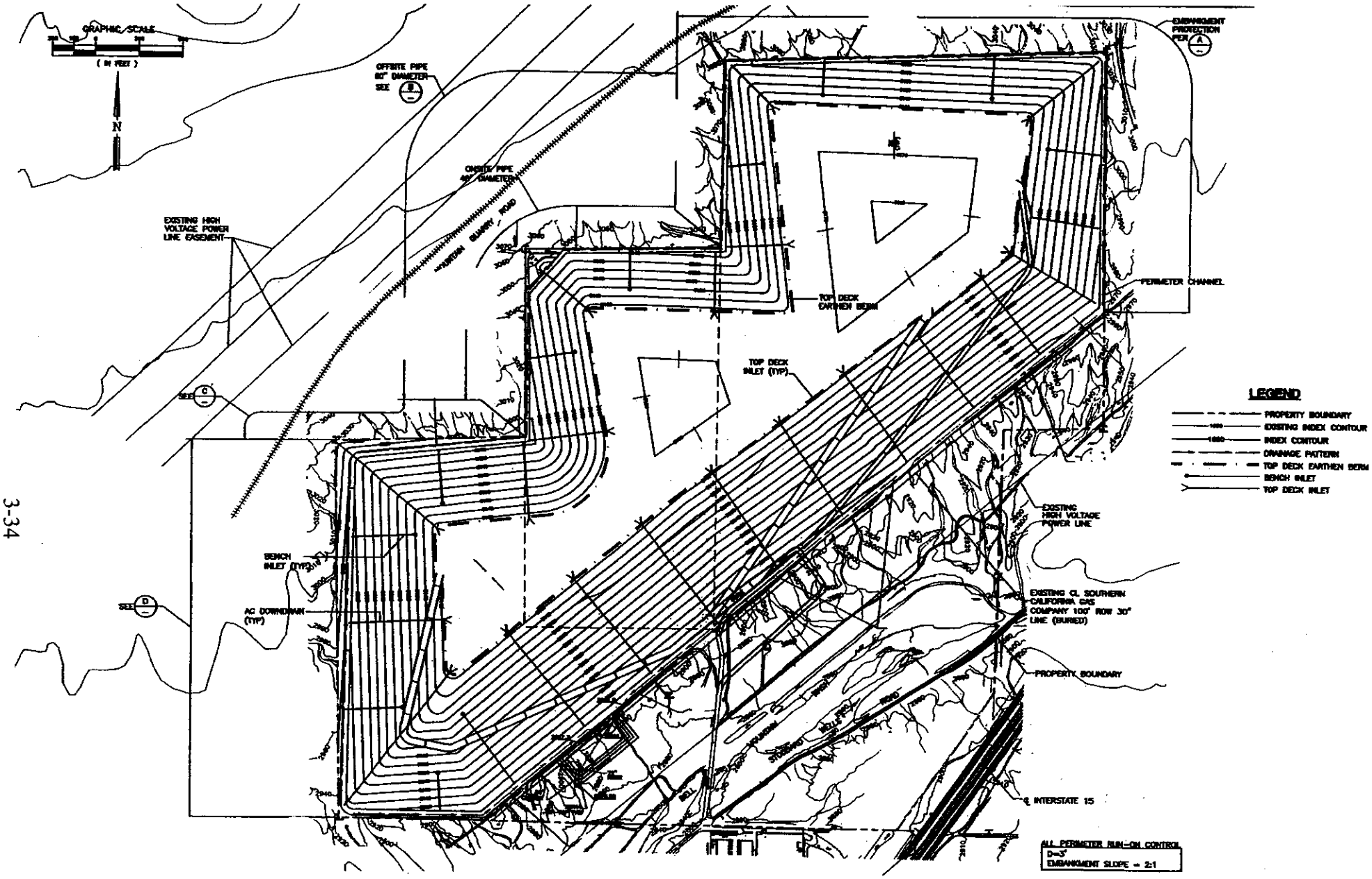
Hydrology studies and hydraulic calculations have been completed to develop a final drainage plan that limits the future peak runoff conditions to the same baseline flow rate currently occurring to the existing Bell Mountain Wash. The project's drainage plan would be implemented in phases as the landfill is developed, however; throughout construction and operation the existing watershed conditions would be maintained.

As part of the proposed project, the permitted final contours and grades for the expansion area would be maintained at 3H:1V (horizontal to vertical) on the side slopes. Longer slopes, per the requirements of Title 27 CCR Section 21090, would have intermediate benches constructed at a maximum of every 50 vertical feet to minimize flow velocity and erosion.

3.5.6 Landfill Closure

The requirements for development and approval of closure and postclosure monitoring and maintenance plans for Class III municipal solid waste landfills and implementation of these plans are set forth in Title 27 CCR. These plans must be prepared to assure that the project would be closed in a manner that would protect human health and the environment, and assure that adequate financial resources would be available to accomplish closure, and postclosure monitoring and maintenance.

Preliminary closure and postclosure plans (PCPMP) for new or expanded landfills must be submitted with the initial application for revisions to a SWFP. SWMD currently has a PCPMP for the facility that must be updated and expanded to include the expansion areas. Preliminary closure and postclosure plans would be prepared for the proposed expansion and submitted to the responsible agencies (see Section 3.6) as part of the permitting process.



Source: BAS & Assoc., 09/02.

Final Drainage Control Plan

Victorville Sanitary Landfill
San Bernardino County, California

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Figure 3-18

The requirements for closure plans for Class III municipal solid waste landfills include, but are not limited to:

- Description of the monitoring and control systems;
- Description of the sequence of closure;
- Description of the methods, procedures, and processes that would be used to implement closure;
- Construction Quality Assurance procedures;
- Slope Stability report;
- Detailed third party closure cost estimate; and
- Detailed schedule for disbursement of funds for closure.

An alternative to the prescriptive closure cover is proposed for the Victorville Sanitary Landfill expansion project. The cover system would include (from top to bottom) (see Figure 3-14):

- Two-foot thick vegetative layer;
- Geonet drainage strips place at 10 feet on center;
- 60-mil thick LLDPE geomembrane; and
- Two-foot thick foundation layer.

The alternative closure cover incorporates the 60-mil thick LLDPE geomembrane instead of a low permeability system consisting of one foot of soil compacted to attain a permeability less than 1×10^{-6} cm/sec.

3.6 REQUIRED AGENCY REVIEW, PERMITS AND APPROVALS

Prior to implementation of the project, the following permits and other approvals would be required. These include, but are not limited to the following:

- **County of San Bernardino**
  - Confirm findings of Conformance with the Countywide Integrated Waste Management Plan (CIWMP) (Solid Waste Management Division)
  - Revised SWFP (Public Health Department, Division of Environmental Health Services acting as the Local Enforcement Agency)

- Certification of the EIR and Notice of Determination, and approval of Expansion Agreement (Board of Supervisors)

- **Regional Water Quality Control Board (RWQCB), Lahontan Region**
  - Updated Waste Discharge Requirements
  - National Pollutant Discharge Elimination System (NPDES) Permit No. 6B36S005235, (General Industrial Activities Storm Waste Permit)
  - Approval of the Water Quality Management Plan
  - Approval of the Landfill Liner Design Demonstration
  - Approval of Reasonably Foreseeable Release Estimate Fund Mechanism
- **Mojave Desert Air Quality Management District (MDAQMD)**
  - Permit to Construct and Operate the proposed expansion to the landfill gas collection and destruction system.
  - Review and concurrence with the Dust Control Plan
- **California Integrated Waste Management Board (CIWMB)**
  - Concurrence with the LEA on the revisions to the SWFP
  - Approval of an updated Closure/Postclosure Maintenance Plan with Financial Assurance Mechanism
- **U.S. Fish and Wildlife Service**
  - Approval of an Incidental Take Permit for desert tortoise
- **California Department of Fish and Game**
  - Approval of an Incidental Take Permit for desert tortoise and Mohave ground squirrel
  - Approval of a Streambed Alteration Agreement for blue line streams traversing the site

4.0 ENVIRONMENTAL IMPACT EVALUATION

INTRODUCTION TO THE ENVIRONMENTAL ANALYSIS

This Chapter contains an evaluation of environmental impacts that could occur with the implementation of the proposed Victorville Sanitary Landfill expansion project. Environmental impacts are evaluated for the following issue areas:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Geology, Soils and Seismicity
- Public Health and Safety
- Groundwater and Water Quality
- Traffic and Circulation
- Public Utilities and Infrastructure

Format of Issue Sections

Sections in this chapter contain, for each environmental issue area, the following: 1) an introduction to the focus of the analysis; 2) a summary of the environmental setting as it relates to the specific issue; 3) an evaluation of project-specific impacts and any recommended mitigation measures; and 4) a determination of the level of significance after mitigation measures are implemented.

The **Introduction** to the section describes the purpose of the section, and summarizes the main focus of the analysis.

The **Environmental Setting** section describes existing conditions at the regional, sub-regional and local levels, as well as the regulatory environment where applicable plans, policies, and regulations apply to the proposed project.

The **Impacts and Mitigation Measures** section identifies the significance criteria used to determine the level of significance of impacts by issue area, identifies the "less than significant", and "significant" impacts, recommends mitigation measures to reduce the level of impact, and provides a determination of the level of significance following implementation of the recommended mitigation measures. Certain reports, planning documents and data used in preparation of these environmental analyses are incorporated by reference. Copies of these documents are available for review at the County of San Bernardino Land Use Services Department, Planning Division, 385 North Arrowhead Avenue, First Floor, San Bernardino, CA.

Design features and permit requirements are considered in determining the level of significance of an impact and are considered a condition of the project's approval. Therefore, recommended mitigation measures are those that are necessary to reduce impacts beyond what would be required in the project's design.

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4.1 AESTHETICS AND VISUAL QUALITY

4.1.1 Introduction

This section describes the existing aesthetic environment at the Victorville Sanitary Landfill and surrounding environs. Elements of the landfill expansion project that would result in changes to the aesthetic environment are identified and evaluated for their potential adverse effects. Photographs of the site and surrounding area were taken specifically for this analysis and are included in this section to show the relationship between the proposed expansion project and existing conditions. In addition, a series of visual simulations showing existing conditions and future buildout of the landfill are included.

4.1.2 Environmental Setting

The Victorville Sanitary Landfill site is located in a relatively undeveloped area of the desert in the Sidewinder Valley. The site is adjacent to public lands administered by the Bureau of Land Management (BLM) associated with the Quartzite Mountains to the northeast. The I-15 Freeway is designated as a Scenic Route in the County's General Plan, with views across the valley floor toward the Quartzite Mountains to the north and east and Bell Mountain to the southeast. The landfill site is over 2,000 feet from the closest point on the I-15 and is not within the scenic corridor. Expansion of the landfill would not place it within the scenic corridor, but the existing facility is clearly visible in the public views of the surrounding desert and mountains in the background. Figure 4.1-1 shows the landfill site and surrounding area. A series of photographs follow Figure 4.1-1. Numbers on the figure represent viewpoints where photographs were taken.

As shown in the photographs, the area has been disturbed by a variety of uses including mining, off highway vehicle use, high-voltage transmission lines, the I-15 freeway, and a private airstrip. BLM property adjacent to the site is located within a Multiple-Use Class M (Moderate Use) area. Class M areas are based upon a controlled balance between higher intensity use and protection of public lands. Much of this area is classified within the California Desert Conservation Area (CDCA) in which public lands are administered by the BLM. Class M provides for a variety of uses including mining, grazing, recreation, and public utility development. In fact, until 1999, the landfill was on BLM land. A land exchange between the BLM and County of San Bernardino conveyed 480 acres of BLM land to the County for use as the regional landfill. The landfill site and surrounding area contain numerous easements encumbered with existing infrastructure including electricity transmission lines and the Black Mountain Quarry Railroad. The property is also traversed by a Southern California Gas Company high pressure gas line in an easement through the southeast of the site.

The Victorville Sanitary Landfill is a Class III disposal facility accepting only non-hazardous solid waste and has been in operation since 1965. The site is presently developed with facilities associated with the current landfill operations including a scale/scalehouse area, the 67-acre landfill, a six-acre former borrow area, a seven-acre area formerly used as Class II surface impoundments, on-site access roads, perimeter fencing, household hazardous materials storage shed, and recyclable and bulky item/ancillary use storage containers and trailers. In addition to the 80-acre landfill site, the County also used a 37.5-acre Free Use borrow area formerly leased

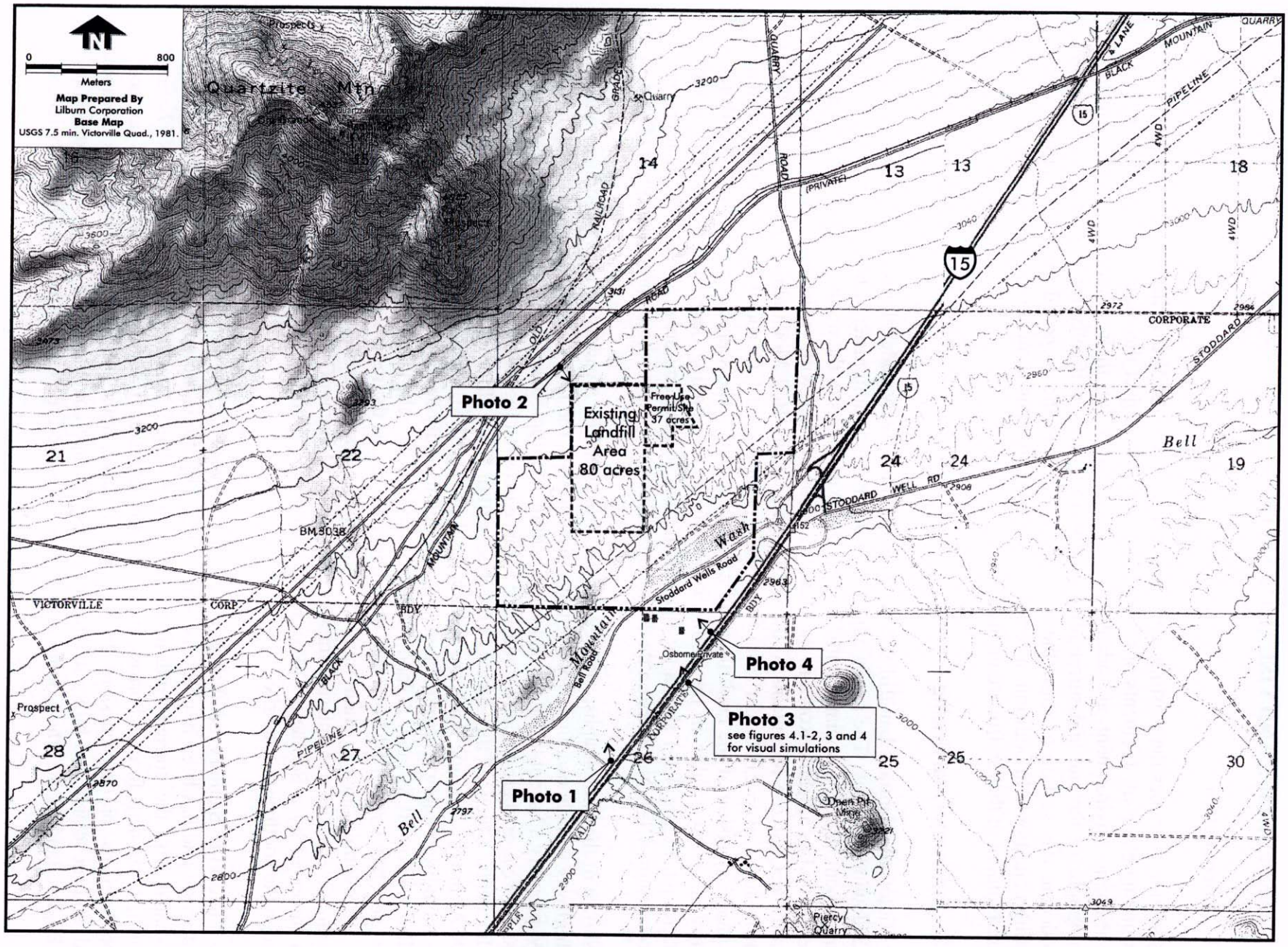

Photo Locations

Victorville Sanitary Landfill
San Bernardino County, California

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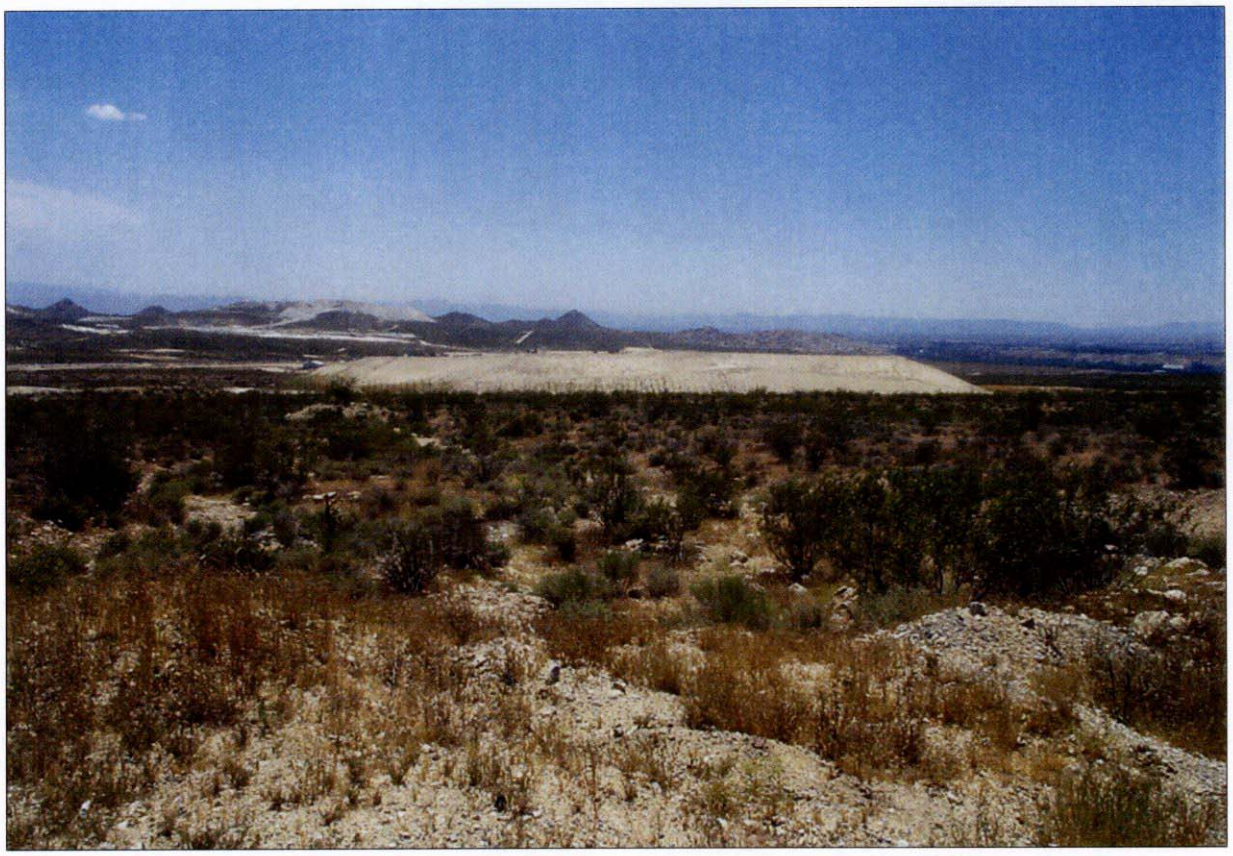
Figure 4.1-1

Photograph 1: Looking northwest from a point approximately 1 mile from the site. Quartzite Mountain on the left.



Photograph 2: Looking southeast from near private railroad alignment toward landfill. Limestone mine in background.

Photos

Photograph 3: View looking northwest from Stoddard Wells Road, toward landfill and mountains.

Photograph 4: View looking northwest from Stoddard Wells Road, I-15 and private air strip in the foreground.

Photos

from the BLM as a source of cover material after the six-acre borrow area was depleted. The 80-acre landfill and adjacent 37.5-acre borrow area along with the proposed expansion area are shown in Figure 4.1-1.

The surrounding area that is privately held is relatively undeveloped with a few commercial and industrial uses located near the Stoddard Wells Road intersection with the landfill's access road, approximately 1,500 feet from the site.

The distant and expansive views experienced within Sidewinder Valley are the most scenic, being less encumbered by man-made features than the site and immediate vicinity. There are however numerous manmade features which detract from the undisturbed nature of the valley. A large limestone quarry is located east of I-15 and is noticeable from many of the same vantage points of the landfill within the valley's viewshed. The extremely light colored limestone and large disturbed surface area are noticeable from great distances within the valley. The I-15 freeway splits the valley floor as a four-lane roadway and significantly adds to the disturbed nature of Sidewinder Valley. In addition, several unpaved roads associated with off-highway vehicle (OHV) use are visible within the valley creating additional disturbed features. The area also contains power transmission lines and a private railroad line.

Applicable Policies, Plans and Regulations

County of San Bernardino

The County General Plan, defines a feature or vista as scenic if it:

- Provides a vista of undisturbed natural areas;
- Includes a unique or unusual feature which comprises an important or dominant portion of the viewshed (the area within the field of view of the observer); or
- Offers a distant vista which can provide relief from less attractive views of nearby features (such as views of mountain backdrops from urban areas).

Bureau of Land Management

The project site is located adjacent to the California Desert Conservation Area (CDCA) in which public lands are administered by the BLM. The property surrounding the site on the north, west and south is located within a Multiple-Use Class M (Moderate Use) area.

Western Mojave Plan and EIR/EIS

The Western Mojave Desert Plan (WEMO) is one of six concurrent plan amendments that when completed will update the BLM's 1980 CDCA Plan. The CDCA encompasses 25 million acres, 9.4 million acres are located in the WEMO Plan Management Area on either public or private lands. The BLM has recently released the Draft EIR/EIS for the WEMO Plan that is a Habitat Conservation Plan for sensitive biological resources. Neither the WEMO amendment to the CDCA Plan nor the CDCA itself address other issues such as Aesthetics and Visual Quality.

City of Victorville

Although not located within the corporate boundaries of the City of Victorville, the site lies within the sphere of influence of the City. Aesthetics and scenic resources are not specifically addressed in the City of Victorville General Plan. However, Goal 4 of the Land Use Element defines "Victorville as an aesthetically pleasing community with development standards which reflect community needs".

4.1.3 Project Impacts and Mitigation Measures

Standards of Significance

A project would have a significant effect on the aesthetic environment if it would:

- Adversely affect a scenic vista;
- Degrade the existing visual character of the area or be out of character with the existing surrounding land uses; or
- Create new sources of light and glare that are obtrusive to existing land uses or would obscure the night sky.

Impact Analysis and Mitigation Measures

The proposed expansion of the Victorville Landfill would not create new sources of light and glare. Operation of the landfill is a daytime activity and nighttime activities are limited to maintenance of the landfill after it has closed for the day. Maintenance activities would generally be done during daylight hours after the landfill is closed for the day, except during winter months when daylight ends around the time the landfill is closing. When maintenance activities do require lighting the lights would be portable and would only be used at such time as maintenance activities are actually occurring. Therefore, these activities would not be obtrusive to nearby landuses or obscure the night sky.

Impact AE-1

The lateral and vertical expansion of the landfill over a period of 76 years would incrementally create a large soil covered mound in a relatively open desert setting. The size and character of the facility may interrupt views of the desert and Quartzite Mountain from the County-designated scenic highway (I-15). This impact is potentially significant.

Views of the area from the I-15 freeway, a County-designated scenic highway, are of the Sidewinder Valley and surrounding Mountains. Views also take in the manmade features that make up the existing landscape such as the limestone quarry east of the freeway, the electricity transmission lines, numerous off highway vehicle trails, and the landfill. These are the most prominent features on the landscape and are all visible from the scenic highway, and degrade the desert views that were once available, uninterrupted.

Due to its current appearance as a light-colored mound rising from the desert floor (see photos 1 through 4), the landfill is clearly visible from a distance along the I-15 freeway, as well from other vantage points around the valley.

Figure 4.1-2 shows an existing view of the landfill from Stoddard Wells Road looking northeast across the I-15 freeway. This view was chosen because the freeway is currently under construction so it was unsafe to stop anywhere along the side of the road to take photographs. However, this view is representative of typical views of the landfill seen from the I-15. Other views in Figures 4.1-2 through 4.1-4 represent the progressive development of the landfill through the three phases.

The second photo shows a simulation of the development of Phase 1A and that portion of Phase 1B that has been previously disturbed. This simulation shows the landfill at the maximum elevation of 3,182 feet for the existing mound as well as Phases 1A and 1Band shows a representation of conditions that would occur in approximately 26 years or 2029. At the point where these phases are completed, excavation, liner construction and landfilling would also be occurring below grade in the portion of Phase 1B not previously disturbed and Phase 2.

Figure 4.1-3 repeats the simulation of the first phase for the convenience of the reader. Because these graphics are a large size and are bound into the document, it is difficult to see the progression. The lower simulation shows a simulation of the landfill at the maximum elevation of 3,182 feet in Phases 1 and 2, as well as the excavation and liner construction for Phase 3. This simulation shows a representation of conditions that would occur in approximately 56 years or 2059.

Figure 4.1-4 repeats the last simulation in the top photo. The lower photo shows a simulation of the landfill at buildout of all phases to a height of 3,182 feet. This simulation shows a representation of conditions that would occur in approximately 76 years or 2081. This includes final cover of the landfill and revegetation of the site.

As phases of the landfill are completed, each phase would be closed and capped with a final cover and revegetation of that phase would commence. Revegetation would be done by hydroseeding a desert native mix across the finished slopes. The mix would consist of typical desert native grasses and forbs but no cacti or shrubs would be used. Revegetation of the site would allow the mound to be less obtrusive by blending the light color of the native soil with other more subtle colors associated with desert native plants. The intent of the revegetation plan is two-fold, first, revegetation would provide stabilization of slopes and second, it would allow the site to begin to blend in with the surrounding desert landscape.

The existing landfill is a prominent feature in the Sidewinder Valley. Views from various vantage points around the valley show it as a light colored mound on a variegated landscape. From many vantage points it is a feature in the background or middle ground of a view, sometimes noticeable other times obscuring views of the mountains and other parts of the valley depending on the location of the viewer in relation to the landfill along the freeway. At close range along the I-15 scenic corridor, the landfill can obstruct some views of the valley and mountains. As the landfill is expanded, views of the valley and mountains would slowly be

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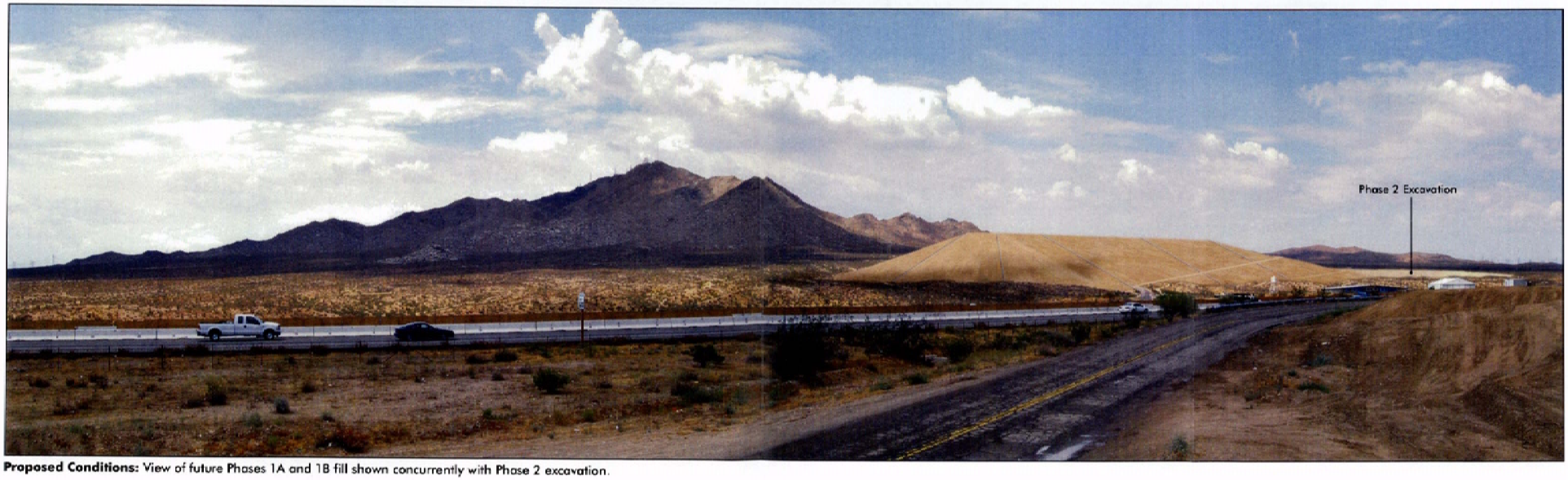
Current Conditions: View from Stoddard Wells Road looking northwest toward existing Victorville Landfill.



Proposed Conditions: View of future Phases 1A and 1B fill shown concurrently with Phase 2 excavation.

Phased Simulation

Victorville Sanitary Landfill
San Bernardino County, California

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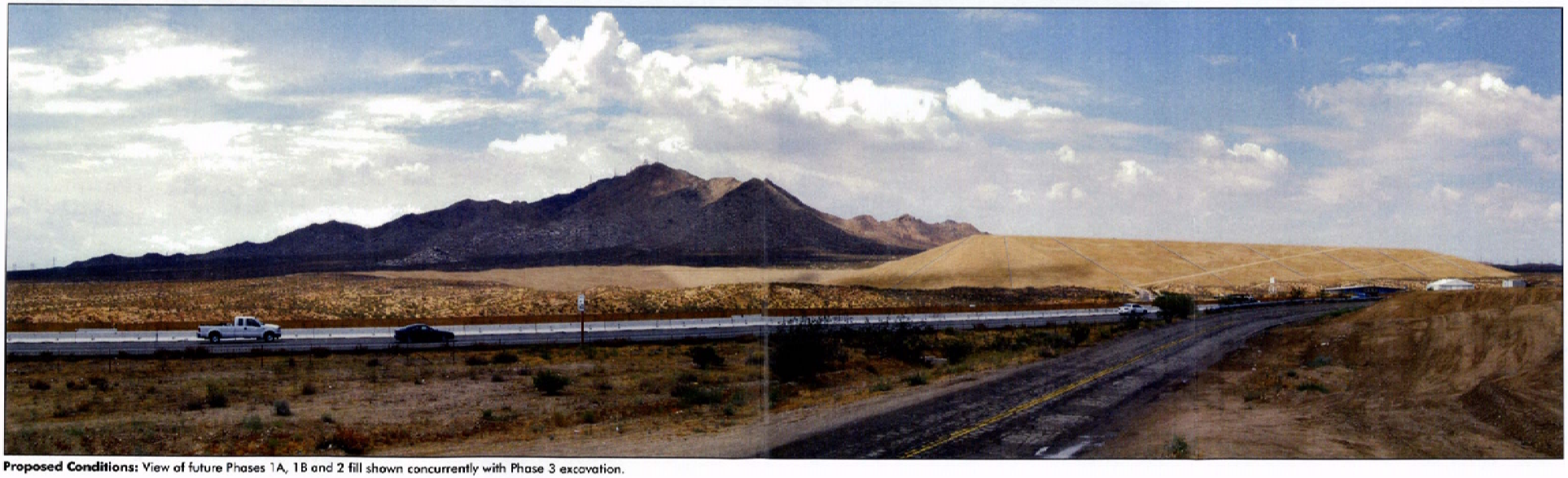
Figure 4.1-2

Proposed Conditions: View of future Phases 1A and 1B fill shown concurrently with Phase 2 excavation.



Proposed Conditions: View of future Phases 1A, 1B and 2 fill shown concurrently with Phase 3 excavation.

Phased Simulation

Victorville Sanitary Landfill
San Bernardino County, California

Proposed Conditions: View of future Phases 1A, 1B and 2 fill shown concurrently with Phase 3 excavation.

Proposed Conditions: View of future Phases 1A, 1B, 2 and 3 fill at final grade.

Phased Simulation

Victorville Sanitary Landfill
San Bernardino County, California

obscured as the landfill is altered from a background view to a middle ground view, then ultimately to a foreground view.

Although the Sidewinder Valley is not a pristine wilderness area, having been disturbed by numerous man-made features on the landscape, it is still an open rural area whose sparseness and lack of development can be appreciated by urban dwellers traveling along the I-15 through the desert. Development of the landfill would be a significant adverse impact on aesthetics and the existing visual character of the area due to its proximity to the I-15 scenic corridor and the ultimate massing of the facility.

Mitigation Measures

Mitigation Measure AE-1

A revegetation/landscape plan shall be prepared for the Victorville Sanitary Landfill by a qualified landscape architect or botanist with experience in revegetation of disturbed sites using native vegetation. This plan shall be completed within one year after approval of the project and shall be designed for implementation of a comprehensive landscape plan that will provide an effective vegetative cover over the long-term where slopes are at final stages of development. The Plan shall include a description of slope maintenance procedures that will be followed to ensure success.

Level of Significance After Implementation of Mitigation Measures

Revegetating final landfill slopes would allow the landfill to blend in with the surrounding landscape for color and texture. However, it would not lessen the overall mass created by the project. Therefore, impacts to aesthetics and visual quality would remain significant.

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4.2 AIR QUALITY

4.2.1 Introduction

This section of the EIR discusses the existing air quality in the vicinity of the Victorville Sanitary Landfill and the larger Victor Valley region, the potential air quality impacts associated with expanding and extending the life of the facility, and recommended mitigation measures for impacts determined to be potentially significant. Background material, including air emission calculations, is included as Appendix C.

4.2.2 Environmental Setting

Regional Setting

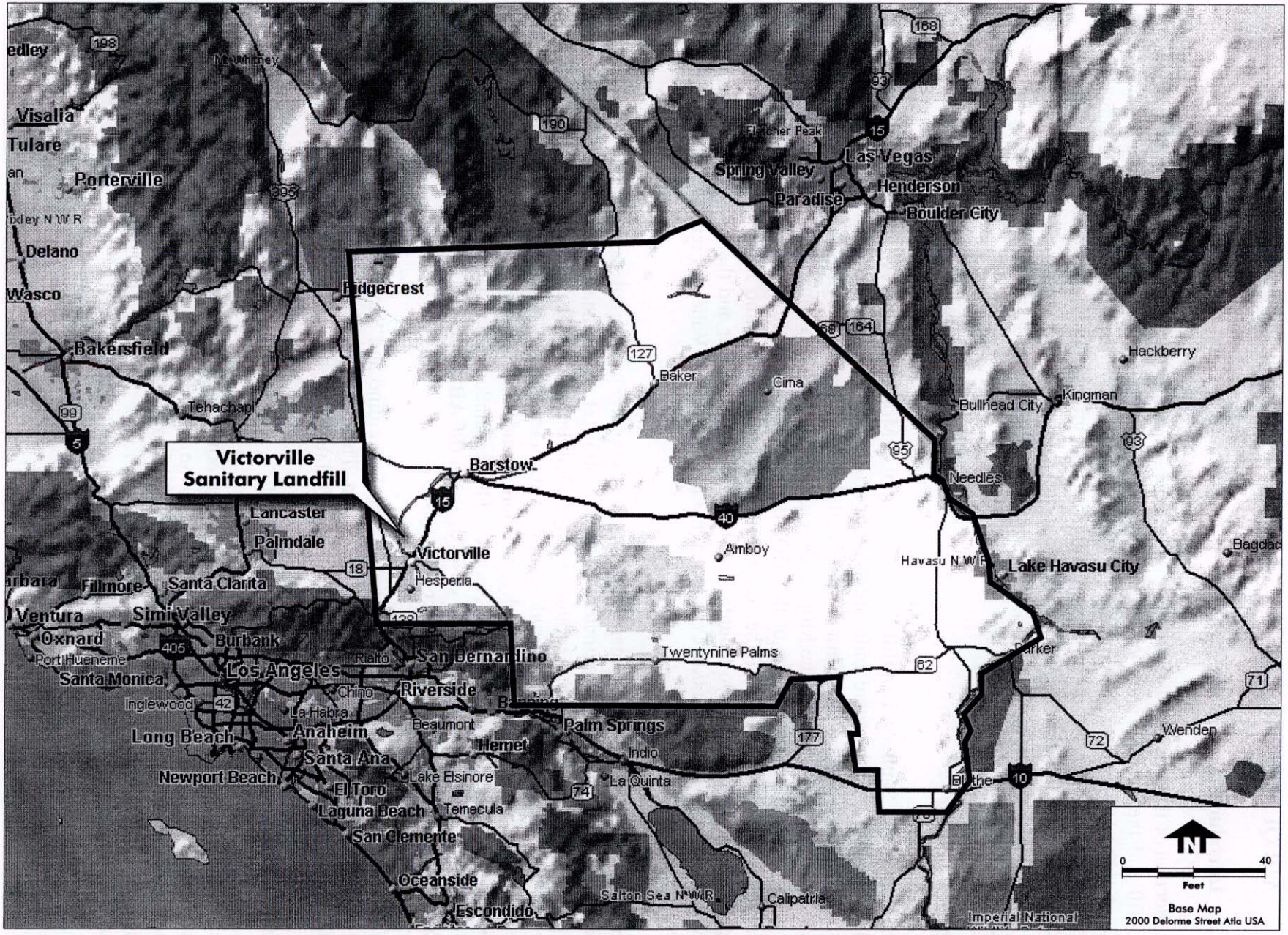
The Victorville Sanitary Landfill is located in the Mojave Desert Air Basin (MDAB) an approximately 21,000 square mile area. The MDAB encompasses the desert portion of San Bernardino, Los Angeles and Kern counties and the Palo Verde Valley (the area around Blythe) in eastern Riverside County. The Mojave Desert Air Quality Management District (MDAQMD) has jurisdiction over that portion of the MDAB within San Bernardino and Riverside counties. This area is generally north of the San Gabriel and San Bernardino mountains, west to Los Angeles County, north to Inyo County, east to the Colorado River and the Arizona and Nevada state lines and south to Riverside County (except the Palo Verde Valley). Figure 4.2-1 shows the boundaries of the MDAQMD.

The desert portion of San Bernardino County is commonly referred to as the High Desert because of its altitude at approximately 1,000 to 4,500 feet above mean sea level. The region is characterized by a series of low mountain ranges with broad alluvial valleys between. The Palo Verde Valley area of eastern Riverside County is included in the MDAB because it is located in the Mojave Desert and the topography, vegetation and other physical features transcend the political boundaries between the two counties. The remainder of San Bernardino and Riverside counties are located within the South Coast Air Basin (SCAB) under the jurisdiction of the South Coast Air Quality Management District (SCAQMD).

The High Desert region is influenced by the San Bernardino and San Gabriel mountain ranges that represent the southerly boundary of the region. These mountain ranges rise to an average of 7,500 feet and are divided by the Cajon Pass at 4,260 feet.

Local Setting

The Victorville Sanitary Landfill is located on the northeasterly end of Victor Valley on a rise between Victor Valley and Sidewinder Valley in the High Desert. Victor Valley is the largest population center in the High Desert with an overall population (incorporated cities and unincorporated communities) of approximately 271,000. Victor Valley cities are generally located along the I-15 Freeway, State Highway 395 and State Highway 18.



Mojave Desert Air Quality Management District

Victorville Sanitary Landfill
San Bernardino County, California

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Figure 4.2-1

Climate and Weather Overview

The High Desert is classified as an arid desert climate. In the Mojave Desert, this is modified by the San Gabriel and San Bernardino mountains forming barriers to precipitation. The rain shadow causes the aridity of the High Desert climate, while leaving the summers hot and the winters generally mild.

For most of summer, the region is under the northern edge of the Pacific Subtropical Ridge that limits cloud formation and allows strong daytime heating. This is a zone with no dominant winds, which allows more local effects such as the sea breeze passing through the Cajon Pass to control the local weather. The high pressure systems also contribute to the presence of persistent inversion layers that trap pollutants by preventing their dispersion through vertical mixing. In late summer, the ridge can move far enough north to allow humid air from the Gulf of California, and even as far east as the Gulf of Mexico, into the High Desert. When this happens, thunderstorms may form, causing isolated flash floods and high wind gusts.

Average high temperatures in summer are in the mid 90s to 100° Fahrenheit (F). Average low temperatures are in the mid 60s to 70s. During winter, the Polar Front Jet stream steers pressure systems from west to east across the region. Mild rains result from systems steered in from the southwest and northwest. Winter storm systems are often followed by periods of clear skies and strong westerly or northerly winds. Average high temperatures in winter are in the mid 50s and average low temperatures are in the mid 30s.

Three weather factors have significant impacts on air quality; wind, precipitation and inversion layers.

Wind

Although the High Desert is 80 miles from the ocean, the sea breeze can be a dominant weather feature. The sea breeze is caused by differential heating of land and water. Land heats faster than the ocean, and because hot air rises, air warmed over land during the day rises, and cooler denser air from the ocean moves in to replace it. Normally limited to within a few miles of a coastline, the extreme differences in temperature between the desert and the Pacific Ocean make the sea breeze a regional phenomenon in southern California. The combination of extreme temperature differences and physical restraint on the air movements means there is a consistent source for strong wind blowing through Cajon Pass and across the High Desert. The sea breeze is a primary transportation medium, bringing pollutants out of the coastal valleys and into the desert.

The wind records for the Southern California Logistics Airport in Victorville show that the mean wind speed is 8.5 mph. Approximately 51 percent of the time, the winds had a southerly component, showing the influence of the sea breeze through Cajon Pass. The winter storms, however, bring the region strong west to northwest winds. These winds act to disperse air pollutants and block the advection of smog through the pass into the desert.

Precipitation

The High Desert receives precipitation from winter cold fronts and moist southerly air masses during the late summer. Precipitation at Southern California Logistics Airport averages less than five inches a year. Summer thunderstorms bring highly variable amounts of localized rain. The rain from these storms falling into the dry air often evaporates before reaching the surface. However, if the storm lasts long enough, the area beneath the storm may get several inches of rain over a short time leading to flash floods and rapid erosion in washes and gullies.

Inversions

Inversions are layers in the atmosphere where the temperature increases with height instead of decreasing as is normal. Inversions trap pollutants by limiting the vertical mixing which normally disperses pollutants into the upper atmosphere. There are two types of inversion affecting the High Desert. The first is the regional inversions caused by subsiding air within the high-pressure systems that dominate the summer weather. These subsidence inversions can occur at varying altitudes, with corresponding variable effects on the pollution levels. The lower the inversion level, the greater the concentration of pollutants between it and the ground. The second type is the radiation inversion that forms when the ground cools rapidly after sunset, cooling the air immediately above it at the same time. Radiation inversions can cause significant concentrations of pollutants because they are generally only a few hundred feet above the ground and are strongest during early morning commuting time. Especially in the desert, rapid heating of the ground usually disperses radiation inversions within an hour of sunrise.

Air Quality in the MDAB

Air quality is determined primarily by the types and amounts of contaminants emitted into the atmosphere, the size and topography of the local air basin and the pollutant-dispersing properties of local weather patterns. When airborne pollutants are produced in such volume that they are not dispersed by local meteorological conditions, air quality problems result. Dispersion of pollutants in the MDAB is influenced by periodic temperature inversions, persistent meteorological conditions and the local topography. As pollutants become more concentrated in the atmosphere, photochemical reactions occur, producing ozone and other oxidants.

Another major factor that influences the MDAB's ambient air quality is its location downwind from two air basins with substantial pollution sources. Due to the meteorological and topographical factors of the region, air pollutants from the South Coast Air Basin (SCAB) and the San Joaquin Valley Air Basin are transported into the MDAB contributing significantly to the ozone violations that occur. With the overall reduction in pollutant levels in the SCAB, the result has been a substantial decline in ozone violations in the Mojave Desert. However, with urban growth in the San Joaquin Valley rapidly increasing, and agriculture continuing to dominate that valley's economy, pollutant levels are increasing.

Air emissions from the proposed project are subject to federal, State and local rules and regulations implemented through provisions of the federal Clean Air Act, California Clean Air Act and the rules and regulations of the California Air Resources Board (CARB) and

MDAQMD. Under the provisions of the federal and California Clean Air Acts, air quality management districts with air basins not in attainment of the air quality standards are required to prepare an Air Quality Management Plan (AQMP). An AQMP establishes an area-specific program to control existing and proposed sources of air emissions so that the air quality standards may be attained by an applicable target date. The following is an overview of these rules and regulations.

Federal Clean Air Act

The federal Clean Air Act was established in an effort to assure that acceptable levels of air quality are maintained in all areas of the United States. These levels are based upon health-related exposure limits and are referred to as National Ambient Air Quality Standards (NAAQS). The NAAQS establish maximum allowable concentrations of specific pollutants in the atmosphere and characterize the amount of exposure deemed safe for the public. The NAAQS are established for Carbon Monoxide (CO); Sulfur dioxide (SO_2); Particulate matter less than 10 microns, aerodynamic diameter (PM_{10}); Particulate matter less than 2.5 microns, aerodynamic diameter ($PM_{2.5}$); Ozone (O_3); and Lead (Pb).

Primary and secondary NAAQS have been established and are shown in Table 4.2-1. The table also lists California air quality standards. Primary federal standards reflect levels of air quality deemed necessary by the federal EPA to provide an adequate margin of safety to protect public health. Areas that meet the standards are designated attainment and if found to be in violation of primary standards are designated as nonattainment areas. Secondary standards reflect levels of air quality necessary to protect public welfare from known or anticipated adverse effects of a pollutant.

NAAQS have been set for a number of criteria pollutants. Following is a brief description, their health effects and whether the MDAB is in attainment for these pollutants:

Ozone (O3) is a toxic gas that irritates the lungs and damages materials and vegetation. Data summarized in Table 4.2-2 indicate that levels of ozone periodically exceed the state standard in the project area but not the federal standard. Data are from the Victorville Air Monitoring Station. The MDAB is designated as a non-attainment basin for ozone and an Air Quality Attainment Plan was prepared in 1991.

Coarse Particulate matter (PM_{10}) consists of extremely small-suspended particles or droplets 10 microns or smaller in diameter that can lodge in lungs contributing to respiratory problems. PM_{10} arises from such sources as road dust, diesel soot, combustion products, abrasion of tires and brakes, construction operations and windstorms. PM_{10} scatters light and significantly reduces visibility. PM_{10} poses a health hazard, alone or in combination with other pollutants. Table 4.2-3 shows data gathered during the last five years from the Victorville Air Monitoring Station. PM_{10} levels infrequently exceed the state ambient air quality standards and do not exceed Federal standards in the project area.

Fine Particulate Matter ($PM_{2.5}$) consists of extremely small-suspended particles 2.5 microns in diameter and arise primarily from combustion sources. The MDAQMD currently monitors $PM_{2.5}$ in the urban areas of the MDAB such as Victorville. Table 4.2-4 shows data gathered during the last five years from the Victorville Air Monitoring Station and shows $PM_{2.5}$ is not a concern at the project site.

Table 4.2-1
Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		Federal Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone (O_3)	1 Hour	0.09 ppm (180 $\mu g/m^3$)	Ultraviolet Photometry	0.12 ppm (235 $\mu g/m^3$)[8]	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	---		0.08 ppm (157 $\mu g/m^3$)[8]		
Respirable Particulate Matter (PM_{10})	24 Hour	50 $\mu g/m^3$	Gravimetric or Beta Attenuation*	150 $\mu g/m^3$	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 $\mu g/m^3$		50 $\mu g/m^3$		
Fine Particulate Matter ($PM_{2.5}$)	24 Hour	No Separate State Standard		65 $\mu g/m^3$	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 $\mu g/m^3$	Gravimetric or Beta Attenuation*	15 $\mu g/m^3$		
Carbon monoxide (CO)	8 Hour	9.0 ppm (10mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10mg/m^3)	None	Non-Dispersive Infrared Photometry (NDIR)
	1 Hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		---	---	---
Nitrogen dioxide (NO_2)	1 Hour	0.25 ppm (470 $\mu g/m^3$)	Gas Phase Chemiluminescence	0.053 ppm (100 $\mu g/m^3$)	Same as Primary Standard	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	---		---		
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	---	Ultraviolet Fluorescence	0.030 ppm (80 $\mu g/m^3$)	---	Spectrophotometry (Pararosaniline Method)
	24 Hour	0.04 ppm (105 $\mu g/m^3$)		0.14 ppm (365 $\mu g/m^3$)	---	
	3 Hour	---		---	0.5 ppm (1300 $\mu g/m^3$)	
	1 Hour	0.25 ppm (655 $\mu g/m^3$)		---	--	---
Lead[9]	30 Day Average	1.5 $\mu g/m^3$	Atomic Absorption	---	Same as primary Standard	---
	Calendar Quarter	---		1.5 $\mu g/m^3$		High Volume Sampler and Atomic Absorption
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer – visibility of ten miles or more (0.07 – 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape		No Federal Standards		
Sulfates	24 Hour	25 $\mu g/m^3$	Ion Chromatography*			
Hydrogen sulfide	1 Hour	0.03 ppm (42 $\mu g/m^3$)	Ultraviolet Fluorescence			
Vinyl Chloride[9]	24 Hour	0.01 ppm (26 $\mu g/m^3$)	Gas Chromatography			

*On June 20, 2002, the Air Resources Board approved staff's recommendation to revise the PM_{10} annual average standard to 20 $\mu g/m^3$ and to establish an annual average standard for $PM_{2.5}$ of 12 $\mu g/m^3$. These standards will take effect upon final approval by the Office of Administrative Law. Information regarding these revisions can be found at http://www.arb.ca.gov/research/aaqs/std-rs/std-rs.htm.

(1) California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter – PM_{10}, $PM_{2.5}$, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations

(2) National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24 hour standard is attained when 99 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. For $PM_{2.5}$, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.

(3) Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

(4) Any equivalent procedure which can be shown to the satisfaction of ARB to provide equivalent results at or near the level of the air quality standard, may be used.

(5) National Primary Standards: The levels of air quality necessary to protect public health welfare from any known or anticipated adverse effects of a pollutant.

(6) National Secondary Standards: The levels of air quality necessary to protect public welfare from any known or anticipated adverse effect of a pollutant.

(7) Reference method as described by EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by EPA.

(8) New federal 8-hour ozone and fine particulate matter standards were promulgated by U.S. EPA on July 18, 1997. Contact U.S. EPA for further clarification and current federal policies.

(9) The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

Table 4.2-2
Ozone Data from the Victorville Air Monitoring Site
1998 – 2002

Year	Days Exceeding One Hour State Standard	Days Exceeding One Hour Fed. Standard	Maximum One Hour Reading (ppm)
1998	49	14	0.162
1999	19	0	0.119
2000	24	3	0.138
2001	15	0	0.114
2002	30	3	0.127

Source: CARB, 2003
State Standard – 0.09 ppm based on one-hour average
Federal Standard – 0.12 ppm based on one-hour average
Note: Station moved from Armagosa Road to Park Avenue in 2001.

Table 4.2-3
Particulate Matter (PM_{10}) Data from the Victorville Air Monitoring Site
1998 – 2002

Year	Days Exceeding State Standard	Days Exceeding Federal Standard	Maximum 24-Hour Reading (μ/m^3)
1998	1	0	70
1999	3	0	78
2000	1	0	52
2001	Not Available	Not Available	Not Available
2002	9	0	98

State Standard – 50 μ/m^3 based on 24-hour average
Federal Standard – 150 μ/m^3 based on 24-hour average
μ/m^3 = micrograms per cubic meter
Note: Station moved from Armagosa Road to Park Avenue in 2001.

Table 4.2-4
Fine Particulate Matter ($PM_{2.5}$) Data from the Victorville Air Monitoring Site
1998 – 2002

Year	Days Exceeding State Standard	Days Exceeding Federal Standard	Maximum 24-Hour Reading (μ/m^3)
1998	Not Available	Not Available	Not Available
1999	0	0	25
2000	0	0	31
2001	0	0	31
2002	0	0	38

State Standard – 50 μ/m^3 based on 24 hour average
Federal Standard – 150 μ/m^3 based on 24 hour average
μ/m^3 = micrograms per cubic meter
Note: PM_{25} monitoring began in 1999.

Carbon monoxide (CO) is a gas produced almost entirely from automobiles that interferes with the transfer of oxygen to the brain. Peak levels of CO occur in winter and are highest where there is heavy traffic. Table 4.2.5 shows CO data from the Victorville Air Monitoring Station. Regional monitoring data indicate that CO levels are not a concern in the project area. NAAQS thresholds have not been exceeded in the last five years.

Table 4.2-5
CO Data from the Victorville Air Monitoring Station
1998 – 2002

Year	Days Exceeding State 8-Hour Standard	Days Exceeding Federal 8-hour Standard	Maximum 8-Hour Reading (parts per million)
1998	0	0	1.8
1999	0	0	3.2
2000	0	0	1.6
2001	0	0	1.7
2002	0	0	1.8

State and Federal Standard – 9 ppm (8-hour) as shown in Table 4.2-1.
Note: Station moved from Armagosa Road to Park Avenue in 2001.

Nitrogen dioxide (NO_2) is a gas that can cause breathing difficulties at high levels. Peak readings of NO_2 occur in areas that have a high concentration of combustion sources (e.g., motor vehicle engines, power plants, refineries and other industrial operations). Federal ambient air quality standards for NO_2 have not been violated since 1991.

Sulfur dioxide (SO_2) is a gas produced when fossil fuels are burned. SO_2 is the main pollutant contributing to the formation of acid rain. This pollutant does not exceed air quality standards in the area.

Lead (Pb) is a heavy metal used in industry and for years was a component in gasoline. Since the elimination of lead as a gasoline additive lead in the atmosphere in southern California has been virtually eliminated.

California Clean Air Act

Under the federal Clean Air Act, state and local authorities have primary responsibility for assuring that their respective regions are in attainment of, or have a verifiable plan to attain, the National Ambient Air Quality Standards (NAAQS). The federal Clean Air Act also provides state and local agencies authority to promulgate more stringent ambient air quality standards, which is the case in California. The California Ambient Air Quality Standards (CAAQS) for the above criteria pollutants and the following pollutants are also included in Table 4.2-1 above: Nitrogen dioxide (NO_2); Hydrogen sulfide (H_2S); Sulfates; and Visibility-reducing particles.

Hydrogen sulfide (H_2S). The MDAQMD is one of three districts in California classified for non-attainment of H_2S. This pollutant is not commonly found in the ambient atmosphere but can

originate from natural sources such as volcanoes, sulfur hot springs, or in the case of the Mojave Desert, related to the mineral brine associated with the dry lakebed at Trona, approximately 45 miles northeast of the project site. The state ambient air quality standard for H_2S is not health-based but rather an aesthetic one, because the compound smells like rotten eggs. However, due to the distance from the source, this is not an issue in the Victor Valley. Furthermore, the proposed project would not contribute additional H_2S to the atmosphere.

Sulfates are produced by the reaction in the air of sulfur dioxide (SO_2) which is a component of acid rain. Sources for sulfur dioxide include coal burning power plants and diesel engines. California does not have any coal burning power plants and all diesel fuels sold in the state are now lower in sulfur and sulfates are not an issue in the area. However, within the MDAQMD, the area around Trona is non-attainment for sulfates due to the mineral brine associated with the dry lakebed at Trona. The proposed project would not contribute to additional sulfates in the atmosphere.

Visibility-reducing particles are common in the MDAB due to the vast open desert area, especially during windy conditions. Particles reduce visibility, obscuring the desert scenery, including views of the mountains.

Reactive Organic Gases (ROG) In addition to these pollutants ROG is also considered in the air quality analysis of projects in the state. Ozone is a secondary pollutant that is the result of chemical reactions between other pollutants, most importantly reactive hydrocarbons (also referred to as ROG), and NO_2, which occurs only in the presence of bright sunlight. The result is the formation of smog. There are no federal or state air quality standards for hydrocarbons or ROG as there are for other pollutants, however the MDAQMD does have thresholds for determining the severity of emissions of several criteria pollutants including ROG.

Mojave Desert Air Quality Management District

The MDAQMD has local regulatory review and primary permitting and enforcement authority over potential stationary sources of air pollution within the Mojave Desert portions of San Bernardino County, including all cities and towns. The EPA and California Air Resources Board (CARB) serve as technical review and advisory agencies, providing technical advice and guidance when necessary.

Air Quality Attainment Plans

The MDAB is a designated nonattainment basin for ozone. In 1991 San Bernardino County Air Pollution Control District (APCD) prepared the Air Quality Attainment Plan (AQAP) for ozone. This plan established programs and control strategies to achieve the ozone standards and to maintain attainment of the other criteria pollutants. Measures in the 1991 AQAP include an updated permitting program for stationary pollution sources, reasonable control technology for all existing and future sources, provisions to develop area and indirect control programs such as land use and transportation measures and public education programs. In 1993 the APCD was separated from the County under State Assembly Bill 2522, and an autonomous agency – the MDAQMD – was created that encompassed the High Desert region of San Bernardino County.

In 1994, the EPA designated most of the Mojave Desert as nonattainment for PM_{10} based on violations of standards between 1989 and 1991. The MDAQMD prepared the Mojave Desert Planning Area (MDPA) Federal PM_{10} Attainment Plan in 1995 to provide dust control programs to meet federal PM_{10} standards by the year 2000. The MDPA covers only the southwestern portions of the Mojave Desert (Victor Valley area) because most of the controllable sources and receptors of PM_{10} and recording instrumentation are located in the Victor Valley. The plan outlines a program for implementation and enforcement of dust control measures. These measures are generally reflected through MDAQMD Rules 401 - Visible Emissions, 402 - Nuisance, and 403 - Fugitive Dust Control. The federal standard for PM_{10} has been met within the area for the past eight years and a change of status to attainment is currently being evaluated.

Nonattainment Designations and Classification Status

The USEPA and the CARB have designated portions of the Districts nonattainment for a variety of pollutants, and some of those designations have an associated classification. Table 4.2.6 lists these designations and classifications.

Table 4.2.6
State and Federal Air Quality
Designations and Classifications

Ambient Air Quality Standard	Status
One-hour Ozone (Federal)	Nonattainment; classified Severe-17 (portion of MDAQMD outside of Southeast Desert Modified AQMA is attainment)
Eight-hour Ozone (Federal)	Unclassified
Ozone (State)	Nonattainment; classified Moderate
PM_{10} (Federal)	Nonattainment; classified Moderate (portion of MDAQMD in Riverside County is attainment)
New PM_{10} (Federal)	Unclassified
$PM_{2.5}$ (Federal)	Unclassified
PM_{10} (State)	Nonattainment
Carbon Monoxide (State and Federal)	Attainment
Nitrogen Dioxide (State and Federal)	Attainment
Sulfur Dioxide (State and Federal)	Attainment
Lead (State and Federal)	Attainment
Particulate Sulfate (State)	Attainment (Searles Valley Planning Area is nonattainment)
Hydrogen Sulfide (State)	Unclassified (Searles Valley Planning Area is nonattainment)
Visibility Reducing Particles (State)	Unclassified

Source: MDAQMD and AVAQMD CEQA and Federal Conformity Guidelines, March 2002.

Attainment Plans

The MDAQMD has adopted attainment plans for a variety of nonattainment pollutants. Table 4.2-7 lists the attainment plans applicable to the project area

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Table 4.2-7
MDAQMD Attainment Plans

Name of Plan	Date of Adoption	Applicable Area	Pollutant(s) Targeted	Attainment Date
1991 Air Quality Attainment Plan (AQAP)	26-Aug-91	San Bernardino County portion	NO_x and VOC	1994*
Mojave Desert Planning Area Federal Particulate Matter Attainment Plan	31-Jul-95	Mojave Desert Planning Area	PM_{10}	2000*
Triennial Revision to the 1991 Air Quality Attainment Plan	22-Jan-96	Entire District	NO_x and VOC	2005

*Note: A historical attainment date given in an attainment plan does not necessarily mean that the affected area has been re-designated to attainment; please refer to Table 4.2-6.
Source: MDAQMD and AVAQMD CEQA and Federal Conformity Guidelines, March 2002.

4.2.3 Project Impacts and Mitigation Measures

Standards of Significance

Significant impacts to air quality may result if development of the proposed project:

- Generates total emissions (direct and indirect) exceed the thresholds of significant in Table 4.2-8;
- conflicts with implementation of any applicable air quality plans of the MDAQMD;
- violates any air quality standard or contributes to an existing air quality violation;
- results in a cumulatively considerable net increase in ozone and PM_{10} which the Mojave Desert region is in nonattainment;
- permits development that involves the burning of hazardous, medical, or municipal waste as waste-to-energy facilities;
- causes sensitive receptors to be exposed to substantial pollutant concentrations; or
- creates objectionable odors affecting a substantial number of people.

Table 4.2-8
MDAQMD CEQA Significant Emissions Thresholds

Criteria Pollutant	Annual Threshold (tons)	Daily Threshold (pounds)
Carbon Monoxide (CO)	100	548
Oxides of Nitrogen (NO_2)	25	137
Volatile Organic Compounds (VOC)	25	137
Oxides of Sulfur (SO_2)	25	137
Particulate Matter (PM_{10})	15	82

Source: MDAQMD and AVAQMD CEQA and Federal Conformity Guidelines, March 2002

Impact Analysis

The impact of a proposed project on air quality is based on estimating the air pollutant emissions that could be caused by the project and comparing them to the significant emissions thresholds and air quality standards above. This assessment depends on the project description, the estimated schedule for excavation of new areas for new landfill phases, the number of pieces of equipment that would be used for excavation, construction of the landfill liner system, daily landfilling activities, flare emissions, and the number of vehicles that enter and leave the site per day.

To determine if a proposed project may significantly impact ambient air quality in the vicinity, the MDAQMD utilizes the net emissions increases as shown in Table 4.2-8 as CEQA thresholds of significance. It should be noted that the triggering of any of the above emission thresholds for the activities related to the proposed project does not necessarily indicate that the project is incapable of operating in compliance with state and federal air quality standards. Instead, further review may be needed to determine whether the process and emission controls adopted in the project design would be adequate to ensure that the project would not contribute to the exacerbation of existing air quality non-attainment in the MDAB. In order to comply with this requirement, the MDAQMD implements its rules and regulations that must be adhered to by the landfill operator. Specifically, the landfill gas (LFG) collection and monitoring system with its flare system, would need to comply with its permit and monitor LFG emissions, and operations must comply with dust control requirements.

Potential air contaminant emissions attributable to existing activities and the proposed action were estimated using standard methodologies published in the MDAQMD "Emissions Inventory Guidance for Mineral Handling and Processing Industries" and SCAQMD "Air Quality Handbook," which are based on emission factors and assumptions formulated by the EPA in AP-42, "Compilation of Air Pollutant Emission Factors (updated via Internet, 2003)." Calculations and assumptions used to estimate potential air contaminant emissions from the landfill's current and proposed activities are documented in the Air Quality Emissions Inventory tables included in Appendix C and are summarized below.

The Victorville Sanitary Landfill is a Class III municipal solid waste facility that does not accept hazardous or medical waste. SWMD does not intend to develop a waste-to-energy facility at the site.

Estimated Emissions from Existing Landfill Operations

Current landfill operations include the following emission sources that are described in more detail below.

- Mobile Sources – Exhaust emissions from construction equipment used to push and compact refuse, excavate cover material, and grade cover material over deposited refuse, and customer vehicles and trucks, and commercial refuse and transfer trucks onsite and offsite.

- Fugitive Dust - Results from equipment activities from excavating, moving and grading of the daily soil cover, and customer vehicle and truck movement on landfill roads, and wind erosion.

- Stationary Source – SWMD currently holds a MDAQMD Authority to Construct (Permit #C008239 – see Appendix C) to construct, monitor, and maintain a LFG collection and monitoring system and a flare to burn off the LFG. A LFG control and recovery system [per MDAQMD Rule 1126 and New Source Performance Standards Subpart WWW – Standards of Performance for Municipal Solid Waste Landfills (40 CFR 60.750)] is currently being constructed at the landfill for the Phase 1 area to prevent public nuisance (odors) and to protect public health. It is expected to be completed by the end of 2003. A series of polyethylene pipes will transport LFG from gas extraction wells to the gas flare station, which is to be located in the south central part of the landfill. The LFG collection and monitoring system will be expanded as necessary as landfilling activities expand into Phases 2 and 3 (see Figure 3-16 in Chapter 3.0). The current system under construction consists of a minimum of 35 vertical extraction wells, interconnected by a polyethylene header pipe, which terminates at a flare station with particulate scrubbers, where the LFG is combusted (see Figure 4.2-2). The wells are spaced at approximately 300-foot intervals. The flare will be source tested periodically to assess combustion emissions compared to the raw LFG and to determine the destruction efficiency of the methane and other non-methane components.

  Fugitive LFG emissions are currently monitored quarterly to determine if excessive LFG is migrating from the landfill or being emitted into the atmosphere. Subsurface LFG migration is monitored through a system of probes or wells installed along the perimeter of the landfill property. The current system consists of 2 gas probes positioned at the perimeter of the landfill to monitor LFG concentrations. LFG emissions monitoring also requires that surface samples be taken over the entire landfill footprint. If LFG is detected at the surface of the landfill or in the monitoring probes in excess of allowable limits, the gas collection system is adjusted to reduce LFG to acceptable health levels at the property boundary. LFG subsurface migration monitoring results are reported quarterly to the LEA and CIWMB.

Table 4.2-9 summarizes the existing daily and annual emissions from the ongoing permitted landfill operations utilizing an average refuse disposal rate of 500 tons per day (tpd). (Note: the gas flare is not currently operational and emissions listed are based on measured flare emissions from the Mid-Valley Landfill in the City of Rialto, approximately 30 miles southeast of the site).

Table 4.2-9
Summary of Estimated Air Emissions
Existing Conditions/Phase 1 (500 tpd)

Daily Emissions (lbs/day)

Emission Source	Estimated Emission Rate				
	PM10	ROC	CO	NOX	SOX
Exhaust Emissions					
Customer Vehicle Emissions (Onsite)	0.1	0.6	5.2	3.4	
Landfill Equipment Exhaust Emissions	7.0	5.9	16.9	81.0	9.1
Fugitive PM10					
Bulldozing Operations	13.4				
Grading Roads at the Landfill	0.8				
Wind Erosion	52.5				
Scraper Activity	18.6				
Customer Vehicle Travel on Access Roads	138.9				
Landfill Gas					
Flare Station	3.3	3.7	138.1	7.4	3.2
Total	**234.6**	**10.2**	**160.2**	**91.8**	**12.3**

Annual Emissions (tons/year)

Emission Source	Estimated Emission Rate				
	PM10	ROC	CO	NOX	SOX
Exhaust Emissions					
Customer Vehicle Emissions (Onsite)	0.02	0.1	0.9	0.6	---
Landfill Equipment Exhaust Emissions	1.2	1.1	3.0	14.5	1.7
Fugitive PM10					
Bulldozing Operations	2.4	---	---	---	---
Grading Roads at the Landfill	0.14	---	---	---	---
Wind Erosion	9.58				
Scraper Activity	3.33	---	---	---	---
Customer Vehicle Travel on Access Roads	24.9	---	---	---	---
Landfill Gas					
Flare Station	0.60	0.68	25.20	1.35	0.58
Total	**42.2**	**1.8**	**29.2**	**16.5**	**2.3**

Source: Output from EMFAC 2000 and URBEMIS 2001 based on existing landfill activities.

Air Pollutant Sources and Emissions

Emission sources directly and indirectly associated with excavation and landfill activities are addressed in this section. The proposed project includes the extension of the landfill projected closure date from its current date of 2005 to 2081, a period of 76 years. Emissions from the existing and proposed operations using these time period estimates, were categorized as follows:

Landfill Operations – The rate of landfilling will continue to increase with time due to the anticipated growth in the region (estimated at 2.7 percent per year). Emissions associated with the continuation and expansion of landfill operations fall into the following categories:

On-site Stationary Emissions. The County currently holds a MDAQMD permit to construct a LFG gas collection system and flare system to burn off methane and eliminate harmful components of the LFG. LFG would increase over time with the increase in refuse deposited on-site. The gas collection and flare system would be expanded as necessary to safely collect and burn off LFG to prevent excessive fugitive LFG emissions. Annual LFG monitoring would be conducted in compliance with MDAQMD Rule 1126 and ATC Permit #C008239 and an approved Compliance Plan effective July 1, 1996. In order to prevent public nuisance (odors) and to protect public health, concentrations of total organic compounds, measured as methane, may not exceed 500 parts per million by volume (ppmv) at any single point above the landfill space, and that integrated samples collected above the surface may not exceed 50 ppmv. If measured emissions exceed these limits; remediation is required to reduce the emissions. Typically, remediation consists of adding and compacting cover material and/or adjusting pressure on LFG wells to better control fugitive LFG emissions.

LFG (fugitive) and flare combustion emissions are based on standard emission rates based on site volumes and the extrapolation of this rate to the expected refuse tonnage. An alternative to burning the LFG with the flare is to utilize a cogeneration power plant to burn the LFG and produce heat or electrical energy. As the amount of refuse and the LFG production increases with time, a cogeneration power plant may become feasible.

On-site Mobile Emissions. The quantity of vehicle and heavy-duty equipment (dozers, water trucks, and graders) exhaust emissions is dependent upon the amount of solid waste deposited daily. With increased amounts of waste disposal, the working face and the amount of daily cover demands would increase, thereby resulting in additional vehicle trips and equipment usage, leading to additional exhaust emissions.

Engine exhaust emissions from on-site mobile sources are estimated using a typical equipment inventory supplied by the landfill operator, emission factors provided by CARB's EMFAC 2002 and URBEMIS2001 models, and project data regarding hours of operation. Heavy-duty equipment includes dozers, a compactor, tractor, water truck, and a grader. Future diesel exhaust emission factors decrease over time as these factors take into account future state regulations that require reductions in exhaust emissions.

In addition, refuse truck, transfer truck, and self-haul vehicles produce emissions from the hauling distance onsite from the landfill entrance to the active working face. Emission factors for refuse vehicles are taken from CARB's EMFAC 2002 and URBEMIS2001 models which take into account future required lower emission standards.

On-site Fugitive Emissions. Emissions include PM_{10} (dust) from heavy-duty equipment used on-site for landfill cover operations, on-site refuse hauling (road dust), road grading, and wind erosion (blowing dust) of landfill cover and other disturbed areas. Typical required fugitive dust control techniques (currently used by the landfill operator) include water spraying, limiting vehicle

speeds, constructing an all-weather unloading pad at the active working face, and applying broken concrete and asphalt to construct a solid road base. These are estimated to reduce dust emissions by approximately 65 percent. (Note: the landfill access road is paved from Stoddard Wells Road to the scale house, a distance of about one-third mile). Mitigation measures recommending continued use of constructing and hard pack road and additional applications of water and chemical stabilizers on the new lengths of the haul roads in sufficient quantity and frequency to maintain a stabilized surface, paving portions of the main access road, and sweeping of the paved access road and public street to reduce trackout, are expected to result in approximately 90 percent control of haul road dust emissions.

Off-site Mobile Emissions. Refuse truck, transfer truck, and self-haul vehicle emissions result from the hauling on-site of refuse from a point of pick-up. Emission factors for refuse vehicles are taken from CARB's EMFAC 2002 and URBEMIS2001 models which takes into account future required lower emission standards. Numbers of refuse trucks are based on the assumptions used in the 1998 SWFP revision such as distances traveled, numbers and types of specific vehicles, and an assumed growth rate.

Excavations - Fugitive dust results from scraping of soil for cover material throughout the life of the project plan and the below grade excavations in Phases 2 and 3 to provide additional onsite landfill space. Frequent water spraying of the active excavation area would reduce dust emissions. Also, excavations would be below grade to depths of 40 feet in Phase 1B, 100 feet in Phase 2 and to 200 feet in Phase 3. Therefore the dust and exhaust emissions from excavations would tend to settle in the pits themselves and would not be entirely entrained with the surface winds.

Fugitive dust from the scraping of soil for cover material is included in the daily landfill operations during Phases 1 and 2. During the landfilling in these phases, the excavated material will be used daily for cover and no substantial stockpiles are expected. Emissions during landfilling and Phase 3 excavation (estimated separately as portions may be dug outside of daily landfill needs) calculations used the following: (1) emission factors published by MDAQMD in their "Emissions Inventory Guidance, 2000; (2) a typical landfill and excavation equipment inventory; (3) project data regarding hours of operation; (4) meteorological data; and (5) information provided by the landfill operator. The silt content is assumed at 6 percent and the moisture content is assumed dry (2 percent) to show emissions without control.

Scraper Travel on Unpaved Roads: Emissions were estimated using the same methods described above for excavation and considered an average vehicle speed of five miles per hour. Round trip haul distance was estimated at one-third mile. Typical required fugitive dust control techniques (currently used by the landfill operator) include water spraying, limiting vehicle speeds, and applying broken concrete and asphalt to construct a solid road base. These are estimated to reduce potential haul road emissions by approximately 65 percent. Mitigation measures recommending continued use of constructing and hard pack road and additional applications of water and chemical stabilizers on the new lengths of the haul roads in sufficient quantity and frequency to maintain a stabilized surface are included. Based on data published by EPA and application of similar technologies at construction and mines in other California counties, fugitive dust control techniques could reduce potential haul road emissions by approximately 90 percent.

Wind Erosion of Disturbed Areas and Stockpiles: Standard EPA and SCAQMD methodologies assume that active excavation areas, and recently graded areas can be subject to wind erosion during periods when surface wind speeds exceed 12 miles per hour. Wind speed exceeds 12 miles per hour approximately 15 percent of the time based on Southern California International Airport wind data.

Wind erosion emissions were estimated using an emissions equation formulated by the EPA in AP-42. Calculations considered wind speed and the silt and moisture content of surface soils. The total area subject to wind erosion was estimated for active excavation operations by phase and sequence per phase. Standard landfill operations are to schedule excavations just ahead of landfill needs to avoid handling excavated cover material twice. That is, material excavated in parts of Phase 1 and eventually Phase 2 would be used for daily cover on the existing landfill and in Phases 1 and 2. Only during the large excavations in Phase 3 would mass grading take place ahead of need due to its depth and material need to be stockpiled. Emissions for the Phase 3 mass excavations have been estimated separately.

Actual wind erosion emissions are likely to be considerably lower than the calculated estimate due to: 1) the limited actual active excavations and stockpiles; 2) daily landfill and liners coverage; 3) temporary vegetative cover of excavations and stockpiles; and 4) dust control practices. Existing fugitive dust control techniques are estimated to reduce potential wind erosion emissions by approximately 50 percent. Recommended measures including additional watering, use of chemical dust suppressants, and speed limits, are estimated to reduce wind erosion by up to 80 percent. In addition, the estimated emissions for PM_{10} excavations will be conservative because the excavations would take place below grade with the upwind or west sides higher than the remainder of the pits to act as a windbreak.

In addition to these active measures, soon after an area is disturbed, fine soil particles typically subject to wind erosion are easily disaggregated and released to the atmosphere upon exposure to air currents (EPA, 1992). However, with time (depending on site conditions), the potential for further dust emissions becomes greatly reduced. This results from the eventual depletion of smaller particles. Also, dust control watering promotes the aggregation and cementation of the remaining fine materials to larger particles. Therefore, disturbed areas treated using dust control measures (such as water and dust suppressants and hydroseeding after 180 days of inactivity) and left undisturbed for periods longer than one year are typically assumed to no longer be a significant source of potential wind erosion emissions. Areas disturbed on a more frequent basis or in close proximity to operations are considered to be potential sources of wind erosion emissions.

This section addresses the potential regional and local ambient air quality impacts of the continuation and expansion of the landfill operations with respect to the significance criteria discussed above. An emissions inventory based on the existing landfill operations was compiled and is included in Appendix C. Emissions are estimated for the following proposed phases then compared to the existing operations to determine if significant increases to air pollutant levels may occur. These phases are:

- Existing Conditions (Phase 1 Excavation and Landfilling - years 1 through 10) - Landfill operations at an average of 500 tpd with only the annually increase in solid waste and no

other substantial changes in operations. Excavation of Phase 1A to a depth of about 20 feet and continued excavation of Phase 1B to depths ranging from 20 to 50 feet below grade to provide cover material and surface area for fill as currently occurs;

- Scenario 1: Phase 2 Excavation and Phase 1 Landfilling (years 11 through 35) - Landfill operations at an average of 1,100 tpd on Phase 1 and staged excavation of the 117-acre Phase 2 expansion area to a depth of 80 feet during this span with material used for cover on Phases 1 and 2. These additional landfill and excavation activities would require an additional dozer and scraper;

- Scenario 2: Phase 2 Excavation and Landfilling (years 36 through 50) - Landfill operations at an average 1,600 tpd and ongoing staged excavation of Phase 2. Excavation material would be used for daily cover and final cover for Phases 1 and 2; and

- Scenario 3: Phase 2 Landfilling and Phase 3 Landfilling and Excavation (years 51 through 76) - Landfill operations would occur up to an average of 3,000 tpd and completion of excavations of Phases 2 and 3 area would also occur. Material excavated during Phase 3 would be used for daily cover and final landfill closure. A substantial increase in construction equipment is planned to excavate Phase 3 area as Phase 3 represents maximum activities at the landfill with both landfill and extensive excavations planned.

Tables 4.2-10 through 4.2-12 summarize potential air pollution emissions associated with the proposed actions and scenarios discussed above. The total emissions under each scenario and the net emissions increase, between existing conditions and the three phases for the proposed landfill operational rates and the excavation operations, are evaluated in Table 4.2-13. Net emission increases (between each phase and existing conditions) are compared with the significant emission thresholds discussed in Table 4.2-13. Data presented in Table 4.2-13 indicates that air pollution emissions associated with the proposed project increase for stationary source, fugitive dust, and engine exhaust-related contaminants. These increases for one or more criteria pollutants are greater than the MDAQMD recommended significance thresholds for each phase. This is discussed below.

- Existing Conditions/Phase 1 (500 tpd) - The existing operations result in emissions as shown in Table 4.2-13 above. These emissions act as the baseline for comparison of significance with the future planned phases.

- Scenario 1 (1,100 tpd) – This daily average of refuse is expected to be reached by approximately 2040. Based on the net emissions increase analysis summarized in Table 4.2-13, Scenario 2 will not result in significant air quality impacts.

- Scenario 2 (1,600 tpd) – This scenario corresponds to the average daily rate of 1,600 tpd expected to be reached around 2054, over 50 years from 2003. The listed emissions are greater than existing conditions and result in significant pollutant levels of PM_{10} and CO. This is mainly due to the increased dust producing activities onsite and the increased LFG flare combustion, which releases CO.

Table 4.2-10
Summary of Estimated Air Emissions
Scenario 1 (1,100 tpd; Years 11 - 35)

Daily Emissions (lbs/day)

Emission Source	Estimated Emission Rate				
	PM10	ROC	CO	NOX	SOX
Exhaust Emissions					
Customer Vehicle Emissions (Onsite)	0.2	0.6	4.0	2.7	
Landfill Equipment Exhaust Emissions	11.0	0.0	27.7	123.9	14.0
Fugitive PM10					
Bulldozing Operations	17.8				
Grading Roads at the Landfill	0.8				
Wind Erosion	42.0				
Scraper Activity	30				
Customer Vehicle Travel on Access Roads	82.1				
Landfill Gas					
Flare Station	5.9	6.6	248.7	13.2	5.8
Total	**189.8**	**7.2**	**280.4**	**139.8**	**19.8**

Annual Emissions (tons/year)

Emission Source	Estimated Emission Rate				
	PM10	ROC	CO	NOX	SOX
Exhaust Emissions					
Customer Vehicle Emissions (Onsite)	0.03	0.1	0.7	0.5	---
Landfill Equipment Exhaust Emissions	2.0	0.0	5.0	22.2	2.6
Fugitive PM10					
Bulldozing Operations	3.2	---	---	---	---
Grading Roads at the Landfill	0.14	---	---	---	---
Wind Erosion	7.67				
Scraper Activity	5.37	---	---	---	---
Customer Vehicle Travel on Access Roads	14.7	---	---	---	---
Landfill Gas					
Flare Station	1.08	1.20	45.39	2.41	1.06
Total	**34.1**	**1.3**	**51.1**	**25.1**	**3.6**

Table 4.2-11
Summary of Estimated Air Emissions
Scenario 2 (1,600 tpd; Years 36 - 60)

Daily Emissions (lbs/day)

Emission Source	Estimated Emission Rate				
	PM10	ROC	CO	NOX	SOX
Exhaust Emissions					
Customer Vehicle Emissions (Onsite)	0.3	0.8	4.5	2.5	
Landfill Equipment Exhaust Emissions	13.8	11.1	35.1	154.1	17.4
Fugitive PM10					
Bulldozing Operations	22.3				
Grading Roads at the Landfill	0.6				
Wind Erosion	30.0				
Scraper Activity	60.2				
Customer Vehicle Travel on Access Roads	208.7				
Landfill Gas					
Flare Station	21.2	23.7	894.8	47.6	21.0
Total	**357.1**	**35.6**	**934.4**	**204.2**	**38.4**

Annual Emissions (tons/year)

Emission Source	Estimated Emission Rate				
	PM10	ROC	CO	NOX	SOX
Exhaust Emissions					
Customer Vehicle Emissions (Onsite)	0.04	0.15	0.81	0.45	---
Landfill Equipment Exhaust Emissions	2.47	1.99	6.28	27.58	3.20
Fugitive PM10					
Bulldozing Operations	3.99	---	---	---	---
Grading Roads at the Landfill	0.11	---	---	---	---
Wind Erosion	5.48				
Scraper Activity	10.78	---	---	---	---
Customer Vehicle Travel on Access Roads	37.36	---	---	---	---
Landfill Gas					
Flare Station	3.87	4.33	163.30	8.69	3.83
Total	**64.09**	**6.46**	**170.39**	**36.72**	**7.03**

Table 4.2-12
Summary of Estimated Air Emissions
Scenario 3 (3,000 tpd; Years 65 - 76)

Daily Emissions (lbs/day)

Emission Source	Estimated Emission Rate				
	PM10	ROC	CO	NOX	SOX
Exhaust Emissions					
Customer Vehicle Emissions (Onsite)	0.4	1.3	6.7	2.0	---
Landfill Equipment Exhaust Emissions	19.6	16.0	49.7	212.7	24.1
Fugitive PM10					
Bulldozing Operations	35.7				
Grading Roads at the Landfill	1.1				
Wind Erosion	88.0				
Scraper Activity	71.4				
Customer Vehicle Travel on Access Roads	285.3				
Landfill Gas					
Flare Station	52.2	58.3	2205.4	117.4	51.7
Total	**553.7**	**75.6**	**2261.8**	**332.1**	**75.8**

Annual Emissions (tons/year)

Emission Source	Estimated Emission Rate				
	PM10	ROC	CO	NOX	SOX
Exhaust Emissions					
Customer Vehicle Emissions (Onsite)	0.07	0.23	1.20	0.36	---
Landfill Equipment Exhaust Emissions	3.51	2.86	8.90	38.07	4.43
Fugitive PM10					
Bulldozing Operations	6.39	---	---	---	---
Grading Roads at the Landfill	0.20	---	---	---	---
Wind Erosion	16.06				
Scraper Activity	12.78	---	---	---	---
Customer Vehicle Travel on Access Roads	51.07	---	---	---	---
Landfill Gas					
Flare Station	9.53	10.64	402.49	21.43	9.44
Total	**99.60**	**13.74**	**412.58**	**59.86**	**13.87**

Table 4.2-13
Comparison of Emission Increases
To Significance Thresholds
Daily Emissions (lbs/day)

Scenario / Pollutant	PM_{10}	ROC	CO	NOx	SOx
Existing Conditions/Phase 1	234.6	10.2	160.2	91.8	12.3
Scenario 1 – 1,100 tpd	189.8	7.2	280.4	139.8	19.8
Scenario 2 – 1,600 tpd	357.1	35.6	894.8	204.2	38.4
Scenario 3 – 3,000 tpd	553.7	75.6	2,261.8	332.1	75.8
NET EMISSION CHANGE COMPARED TO EXISTING CONDITIONS					
Scenario 1 - Net Emission Increase	(44.8)	(3.0)	140.2	48.0	7.5
Scenario 2 - Net Emission Increase	122.5	25.4	734.6	112.4	26.1
Scenario 3 – Net Emission Increase	319.1	65.4	2,101.6	240.4	63.5
Significance Thresholds	**82**	**137**	**548**	**137**	**137**
NET EMISSION CHANGE COMPARED TO SIGNIFICANCE THRESHOLDS					
Scenario 1 – Greater than thresholds?	No	No	No	No	No
Scenario 2 - Greater than thresholds?	Yes	No	Yes	No	No
Scenario 3 –Greater than thresholds?	Yes	No	Yes	Yes	No

- Scenario 3 (3,000 tpd) – This scenario is based on the maximum daily landfill loading of 3,000 tpd and the startup of filling Phase 3 excavations (around 2065). The emissions exceed the significance threshold for the criteria pollutants of PM_{10}, CO, and NOx and are considered significant.

Mass Excavation Emissions – Phase 3 will likely be mass excavated by an outside contractor. This activity would take approximately four separate operations of up to one year in duration during the last phase of the project over 50 years from now. Each operation is expected to need the following pieces of equipment: 10 scrapers, 3 dozers, 2 water trucks, 1 loader, 1 back drag, and 1 grader. Construction emissions from equipment exhaust and dust which would be short-term impacts, were estimated in Appendix C and summarized in Table 4.2-14. Emissions from Mass excavations were reduced by standard dust control measures required for onsite operations and general construction projects. The estimated emissions would exceed significance thresholds for PM_{10} and NO_x and are considered short-term significant impacts.

Liner Construction – Liners will be constructed at the base and slopes of the excavations as needed to stay ahead of the solid waste disposal volumes. Areas to be lined could range from 3 to 20 acres or more depending on the engineering design and capacity needs. For the basis of the air quality calculation for liner construction, a conservative sized area of 20 acres is used. An area to be lined is rough graded by onsite operations that utilize the material for daily cover. A liner contractor would construct the liner, which is described in Chapter 3 and shown in Figure 3-5. Liner construction may take place for up to a 6-month period about once every 3 to 5 years depending on the area lined.

Table 4.2-14
Summary of Estimated Air Emissions
Phase 3 – Mass Excavations
Daily Emissions (lbs/day)

Emission Source	Estimated Emission Rate				
	PM10	ROC	CO	NOX	SOX
Exhaust Emissions					
Construction Equipment Exhaust	42.6	30.6	120.1	435.1	50.6
Fugitive PM10					
Bulldozing Operations	53.5				
Grading	3.4				
Wind Erosion	61.6				
Scraper Activity	138.2				
Total	**299.3**	**30.6**	**120.1**	**435.1**	**50.6**
CEQA Significance Thresholds	82	137	548	137	137
Significant (Yes or No)	**Yes**	**No**	**No**	**Yes**	**No**

Annual Emissions (tons/year)

Emission Source	Estimated Emission Rate				
	PM10	ROC	CO	NOX	SOX
Exhaust Emissions					
Landfill Equipment Exhaust Emissions	7.6	5.5	21.5	77.9	9.3
Fugitive PM10					
Bulldozing Operations	9.6	---	---	---	---
Grading	0.61	---	---	---	---
Wind Erosion					
Scraper Activity	24.74	---	---	---	---
Total	**42.5**	**5.5**	**21.5**	**77.9**	**9.3**

Liner construction consists of preparing the base by grading, adding a two-foot layer of low permeable clay, an HDPE geomembrane, a geotextile fabric layer, a one-foot layer of gravel on the floor areas only, another protective geotextile, and a two-foot layer of onsite soil material. The clay and gravel will need to be imported to the site. Equipment needed includes two scrapers, a compactor, dozer, forklift, and trucks to import the offsite clay and gravel and liner materials. Table 4.2-15 lists the estimated liner construction emissions, which would be short-term impacts. Emissions from liner construction were reduced by standard dust control measures required for onsite operations and general construction projects. The estimated emissions do not exceed significance thresholds and are considered less than significant with implementation of existing dust control measures and recommended mitigation measures.

Indirect Emissions - The criteria established for determining the significance of the proposed activities require that both indirect and direct project-related air contaminant emissions be evaluated with respect to the significant emission thresholds listed in Table 4.2-13. Indirect air contaminant emissions are attributed to the off-site mobile emission sources.

Mobile source emissions are regulated by CARB through setting limits on emissions from various engine types. The hauling of solid waste to the site by refuse trucks, transfer trucks, and smaller personal vehicles produces engine exhaust emissions based on the estimated number of miles driven. The emission factors for diesel trucks and smaller gas vehicles were taken from the

EMFAC 2002 emissions model. The miles driven per truck type and per phase were based on SWMD's existing and forecasted solid waste disposal rates.

Table 4.3-15
Estimated Air Emissions
Liner Construction
Daily Emissions (lbs/day)

Emission Source	Estimated Emission Rate				
	PM10	ROC	CO	NOX	SOX
Exhaust Emissions					
Vehicle/Truck Emissions (Onsite)	0.1	0.3	2.6	2.8	na
Construction Equipment Exhaust	16.7	8.4	26.5	117.6	12.8
Fugitive PM10					
Bulldozing Operations	17.8				
Grading	1.4				
Wind Erosion	14.0				
Scraper Activity	9.6				
Truck Travel on Access Roads	17.4				
Total	**77.0**	**8.8**	**29.0**	**120.4**	**12.8**
CEQA Significance Thresholds	82	137	548	137	137
Significant (Yes or No)	No	No	No	No	No

Table 4.2-16 estimates the daily emissions of criteria pollutants expected per scenario and truck activity. The data show that emissions generally remain similar as emissions per vehicle decrease over time because new diesel engine requirements become more effective. These requirements generally offset the increase in trucks trips and vehicle miles traveled assumed per scenario. None of the pollutant emissions exceed significance thresholds for vehicles and vehicle trips.

CO Hot Spot. Vehicle traffic information provided in the Traffic Analysis was used to determine whether the increased volume of private vehicles and refuse truck traffic using the site would result in unhealthful levels of CO adjacent to intersections in the site vicinity. The project does not meet the carbon monoxide emissions thresholds for a significant air quality impact. Projects requiring carbon monoxide hotspot review are typically high-density vehicle lane construction, rail and transit systems, congested urban intersections, transportation corridor designations and other transportation systems with adjacent sensitive receptors. The project does not generate a substantial increase in traffic and is located in an isolated rural setting with no traffic congestion and no adjacent sensitive receptors.

Table 4.3-16
Offsite Trucks And Vehicles
Estimated Daily Emissions (lbs/day)

	PM_{10}	ROC	CO	NO_x
Existing Conditions/Phase 1				
Private Vehicles	0.15	2.65	24.83	2.76
Refuse Vehicles	0.98	3.28	24.90	30.46
Transfer Trucks	0.6	1.88	15.30	17.48
TOTAL	**1.73**	**7.81**	**65.03**	**50.59**
Scenario 1 – Years 11 through 35				
Private Vehicles	0.34	2.30	19.99	1.99
Refuse Vehicles	1.06	3.51	18.40	23.93
Transfer Trucks	0.67	2.22	11.67	15.10
TOTAL	**2.08**	**8.02**	**50.06**	**41.10**
Scenario 2 – Years 36 through 60				
Private Vehicles	0.54	1.87	13.89	1.31
Refuse Vehicles	1.10	3.50	15.23	15.17
Transfer Trucks	0.69	2.19	9.52	9.48
TOTAL	**2.33**	**7.56**	**38.64**	**16.48**
Scenario 3 – Years 65 through 76				
Private Vehicles	1.03	3.57	26.51	2.51
Refuse Vehicles	2.1	6.68	29.03	29.18
Transfer Trucks	1.32	4.20	18.25	18.34
TOTAL	**4.44**	**14.44**	**73.79**	**50.02**
CEQA Thresholds	**82**	**137**	**548**	**137**
Thresholds Exceeded	**No**	**No**	**No**	**No**

Sources: Lilburn Corporation, 2003; BAS & Co SWD, 2003; Hernandez, Kroone, & Associates, 2002.

Consistency with the Air Quality Attainment Plan (AQAP). The 1991 AQMP and its Triennial Revision (1996) outlines emission reduction strategies for stationary source emissions including reformulated petroleum based fuels and mandatory diesel exhaust reductions for new equipment built after specified years. Emission reduction strategies for area-wide and mobile emissions include road dust suppression, watering of construction sites, and trip reduction measures. Measures to control emissions currently employed on-site including the LFG collection and flare system (Rule 1126) and the proposed mitigation measures listed below for the expansion project comply with recommended AQMP emission reduction strategies and the MDAQMD's Rules and Regulations. Implementation of these measures, as part of the proposed project, will result in consistency with the AQAP.

Consistency with the Regional Solid Waste Plan. The concept of regionalizing the County's landfill operations, which is considered an essential public service, is consistent with the County's Solid Waste Partnership Strategy Implementation Plan (PSIP) which has been reviewed for consistency with regional SCAG plans.

The proposed landfill expansion would compliment a portion of the countywide management of the waste disposal program. In October 1996, the County of San Bernardino Board of Supervisors adopted the PSIP to provide a framework for reducing the number of County-operated landfills into a consolidated system of five regional landfills, with a network of transfer stations and community collection centers providing service in the San Bernardino Valley, Victor Valley, Mountain, North Desert and East Desert regions of the County, as defined in the PSIP. This is discussed in Chapter 3.0.

The environmental effects of designating the Victorville Sanitary Landfill as a regional facility and diverting all solid waste to this landfill were addressed in a Negative Declaration adopted by the County in 1998. The adopted revisions to the SWFP took affect in 1998 and allowed the County in the short term to develop the Victorville facility as the regional landfill for the Victor Valley region. Since that time, the facility has been accepting municipal solid waste from throughout the Victor Valley from commercial haulers driving directly to the site or from the various transfer facilities serving the region.

The following discussion assesses the potential impacts and lists recommended mitigation measures to reduce identified impacts.

Impact AQ-1:

Landfill gas fugitive emissions and flare combustion emissions would contribute to a net increase of criteria and toxic air pollutants. This could become a significant impact without mitigation.

An air pollutant is considered toxic if it has the potential to cause or contribute to an increase in mortality or a serious illness, or if it could pose a present or potential hazard to human health. Toxic air contaminants have been identified through legislation including the Toxic "Hot Spots" Information and Assessment Act, Assembly Bill 2728, which identifies federal hazardous air pollutants listed in the federal Clean Air Act, and the Toxic Air Contaminant Control Program.

The LFG produced through anaerobic digestion of the organic material contained in the waste stream consists of primarily methane, carbon dioxide, and trace amounts of other reactive organic compounds. A number of these trace organic species are considered toxic. They are required to be monitored quarterly through the in-place subsurface and surface LFG monitoring system, generally around the perimeter of the mound and the site with results submitted to the MDAQMD.

The proposed expansion project is designed to comply with MDAQMD Rule 1126 which includes the operation and maintenance of a gas collection system, and the perimeter ground and surface quarterly monitoring of LFG to ensure that no significant levels are migrating offsite. The project also includes the operation of a gas flare system to effectively burn off the LFG.

The LFG gas collection and flare system discussed previously is a required design feature to reduce the LFG emissions from impacting public health and safety. A flare completely burns the LFG with no resulting smoke emissions, reducing potential nuisance odors, methane and other

trace toxic species. Based on the required on-site flare emissions source tests, 99 percent of the methane and 88 to 99 percent of the trace species are destroyed. However, a by-product of the flare combustion is CO. Amounts of CO exceed significant thresholds during Scenario 2 and 3 as LFG increases over time. Since the time frame for this potential impact is over 50 years from now, air quality modeling was not conducted since the existing conditions and technological improvements would likely substantially change.

Quarterly surface and subsurface monitoring and the emissions assessments for the landfill must be submitted to and assessed by the MDAQMD to assure that no emissions exceed the established criteria and toxic thresholds. If measured emissions are approaching or exceeding these thresholds, then remediation action is implemented which may include adding more cover material or improving the gas collection and/or flare system. Therefore, health impacts related to the potential to emit toxic air pollutants are considered less than significant with ongoing compliance with MDAQMD regulations.

Approval of the project's design features and compliance with MDAQMD requirements and permits will assure that the level of impact will be less than significant with respect to LFG levels. Source test monitoring of the flare is required annually to monitor combustion emissions.

Mitigation Measure AQ-1:

If or when emissions of CO or the other criteria pollutants approach significant levels, additional control measures shall be implemented in consultation with the MDAQMD and in compliance with current regulations at that time.

Mitigation Measure AQ-2:

If feasible, a co-generation system should be constructed to utilize the LFG and conserve energy resources. The economic feasibility and environmental benefits of the utilization of LFG for the operation of a co-generation system shall be conducted at such time the system is proposed.

Level of Significance After Implementation of Mitigation Measures

On-going compliance with MDAQMD regulations would ensure that impacts remain less than significant.

Impact AQ-2:

The daily excavations, landfill operations and truck and equipment travel on-site would produce a net increase of fugitive PM_{10}. Compliance with MDAQMD rules will reduce impacts by controlling emissions but not below established thresholds. This is a significant impact.

PM_{10} emissions associated with Scenarios 2 and 3 would be significant when compared to significance thresholds used in this analysis. The site's current SWFP includes conditions for the mitigation of air quality impacts and for compliance with the MDAQMD rules and Abatement

Orders; the SWFP is included in Appendix B of this EIR. Condition 16 requires the operator to submit information to the LEA indicating compliance as related to LFG monitoring/control (Rule 1126), fugitive dust or PM_{10} control, and MDAQMD equipment permits.

As can be seen in Table 4.2-3, the NAAQS in 2002 were exceeded 3 days out of the 60 days measured and the CAAQS were exceeded 38 times. The PM_{10} emissions when combined with the existing air quality would exacerbate the current poor air quality. This is considered a significant air quality impact during Phases 2 and 3.

The operator of the landfill would implement emission controls necessary to assure fugitive dust and process emissions do not exceed applicable opacity limits, and are not visible beyond the property boundary, in accordance with MDAQMD Rule 401 (Visible Emissions). Fugitive dust and PM_{10} would also be controlled by the requirement for the operator to comply with Rule 403(C)(2). Additional measures and a Fugitive Dust Emissions Control Plan will be required by the MDAQMD per Rule 403(C)(3) when disturbed areas exceed 100 acres and would be monitored daily. The Plan requires various strategies for controlling dust including: watering roads, disturbed areas and stockpiles; using chemical dust stabilizers; and removing track-out.

Other features of the landfill operation designed to reduce emissions, particularly PM_{10}, include adherence to the County's Windy Weather Policy that requires the landfill operator to divert haulers to a windy weather tipping area; water unpaved roads more frequently; and in extreme cases, close the landfill, and hydroseeding excavation areas that are inactive for more than 180 days.

The expansion project includes filling the excavated pits with refuse. Maximum depths range from 20 to 200 feet below the natural grades. During periods when landfilling would occur below grade, refuse and cover material will have less exposure to the wind.

Beyond these requirements, the following mitigation measures comply with MDAQMD rules with respect to development and use of the existing and new landfill operations and are selected as additional mitigation to be included in the design to further reduce significant impacts.

Mitigation Measure AQ–3:

Unpaved refuse haul roads, service roads and operations areas shall be treated with water at least once per every two hours of active operation, and/or treated with a chemical stabilizer in sufficient quantity and frequency to maintain a stabilized surface.

Mitigation Measure AQ-4:

Truck and mobile equipment speeds on interior haul roads shall not exceed 15 miles per hour. Speed limits shall be posted.

Mitigation Measure AQ-5:

Excavation areas shall be treated with water during active extraction phases. As excavation areas are completed, landfill development (liner construction) and landscaping shall be implemented over landfill final and interim slopes.

Mitigation Measure AQ-6:

Additional permanent landfill roads from public streets to the scalehouse shall be paved to reduce the use of unpaved roads (existing access road is paved).

Mitigation Measure AQ-7:

Sweeping of paved roads shall be performed on heavily-used on-site paved roads and within 500 feet of the access road for the landfill as necessary to control on-site and track-out dust.

Mitigation Measure AQ-8:

Prior to excavating Phases 2 and 3, SWMD shall prepare a Dust Control Plan that describes all applicable dust control measures that will be implemented as required under MDAQMD Rule 403.2.

In addition, Mitigation Measure GEO-2 requires areas not active for 180 days to be hydroseeded to reduce wind erosion.

Level of Significance After Implementation of Mitigation Measures

Estimated increases in PM_{10} emissions for Phase 1 are less than significant. Estimated increases for Phases 2 and 3 are considered significant when compared to the significance thresholds adopted for this analysis. Mitigation measures shall be implemented to reduce dust emissions to the lowest reasonable extent. Based on information and references summarized in the Air Quality Appendix to the EIR, these measures are estimated to substantially reduce PM_{10} emissions by up to 90 percent.

However, after consideration of feasible mitigation measures air quality impacts associated with the proposed project activities during Phases 2 and 3 remain significant due to the increased landfill activity.

Impact AQ-3:

Engine exhaust emissions from excavation and landfill equipment and commercial haulers would contribute to a net increase of criteria pollutants including NO_x, CO, and ROC during Phase 3. This is a significant impact.

Engine exhaust emissions are produced by the operation of diesel fueled construction-type equipment such as bulldozers, scapers, and graders. Even with all mobile equipment meeting engine specifications and current CARB requirements, exhaust emissions would still exceed CEQA thresholds during Phase 3 operations around 2065 based on current and forecast emission factors.

Mobile pollutant sources are regulated at the state level by CARB, not through the MDAQMD or local counties and cities. Diesel truck exhaust has been the focus of recent studies. The CARB

recently approved a comprehensive Diesel Reduction Plan to reduce emissions from both new and existing diesel-fueled engines and vehicles. The goal of the plan is to reduce diesel PM emissions and the associated health risk by 75 percent in 2010 and 85 percent or more by 2020. Measures to reduce diesel emissions will include:

- More stringent emission standards for new diesel fueled engines and vehicles;
- Retrofitting existing engines with particulate traps;
- Require low sulfur content in diesel fuel (note that the MDAQMD Rule 405-B.5.b requires the use of low sulfur diesel fuel which is distributed County-wide by diesel fuel suppliers and used by the County for its mobile equipment); and
- Evaluate alternatives for diesel-fueled engines and vehicles.

Mitigation for diesel emissions from equipment and trucks are embedded in the compliance for all diesel fueled engines, trucks, and equipment with the statewide CARB Diesel Reduction Plan. These measures will be implemented by CARB in phases with new rules imposed on existing and new diesel-fueled engines.

Mitigation Measure AQ-9:

All internal combustion engine-driven equipment and vehicles shall be kept tuned according to manufacturer's specifications and properly maintained. Maintenance logs shall be available for review through the LEA inspections. Equipment and vehicles shall not be left idling for prolonged periods (> 30 minutes).

Mitigation Measure AQ-10:

The operator shall comply with all existing and future CARB and MDAQMD regulations related to diesel-fueled trucks and equipment, which may include among others in the future: (1) meeting more stringent emission standards; (2) retrofitting existing engines with particulate traps; (3) use of low or ultra low sulfur diesel fuel; and (4) use of alternative fuels or equipment.

Level of Significance After Implementation of Mitigation Measures

Based on current and near future emission factors for diesel equipment, exhaust emissions would exceed thresholds in Phase 3 (around 2065). This is considered a significant air quality impact. However, with implementation of future controls and emission standards that would be updated with time, it is possible that emissions would be less than thresholds. Emissions should be re-evaluated prior to Phase 3 due to the long time frame and changes likely to occur in standards and equipment emissions.

Impact AQ-4:

Engine exhaust and dust emissions from mass excavation planned for Phase 3 would contribute to a short-term increase of criteria pollutants that would exceed significance thresholds. This is a significant impact.

The planned mass excavation for Phase 3 areas would produce PM_{10} and NOx that exceed the significance thresholds levels based on current and forecast emission factors. Mitigation measures AQ-3 through AQ-10 will reduce dust and engine emissions but not below levels of significance as exhaust and dust emissions would still exceed CEQA thresholds during Phase 3 operations around 2065.

Level of Significance After Implementation of Mitigation Measures

Based on current and near future emission factors for diesel equipment, exhaust emissions would exceed thresholds in Phase 3 (around 2065). This is considered a significant air quality impact. However, with implementation of future controls and emission standards that would be updated with time, it is possible that emissions would be less than thresholds. Emissions should be re-evaluated prior to Phase 3 due to the long time frame and changes likely to occur in standards and equipment emissions.

Impact AQ-5:

Engine exhaust and dust emissions from liner construction planned every three to five years may contribute to a short-term increase of criteria pollutants that could exceed significance thresholds. This is a potential significant impact.

Engine exhaust and dust emissions are produced by the operation of diesel fueled construction-type equipment. These emissions would not exceed CEQA thresholds during the temporary construction of the liners and are not considered significant. Mitigation measures AQ-3 through AQ-10 would be applicable to the liner construction activities with respect to dust control and maintaining and updating equipment.

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4.3 BIOLOGICAL RESOURCES

4.3.1 Introduction

This section describes the biological resources that exist on the proposed Victorville Sanitary Landfill expansion area. Impacts to plant and wildlife species and habitats are addressed in this section, and mitigation measures and programs to reduce impacts to those species and habitats are identified. This section includes impacts to species listed under the Federal Endangered Species Act (FESA), California Endangered Species Act (CESA), candidate species for future listing, and species listed in California Native Plant Society (CNPS) Inventory of Rare and Endangered Vascular Plants. This section incorporates the results from the following studies completed previously: *Biological Assessment for the Proposed San Bernardino County Landfill Conveyance Project*, Circle Mountain Biological Consultants, June 1996; *Environmental Assessment for the Proposed Conveyance of Federally Managed Public Lands to the County of San Bernardino for Uses Related to Solid Waste Management* (BLM, October 1997); *Baseline Biological Survey of the Victorville Sanitary Landfill, San Bernardino County, California,* Lilburn Corporation, July 1998; and *Report of Mitigation Activities at Various Sanitary Landfill Locations in San Bernardino County, California.* Lilburn Corporation, June 2001.

4.3.2 Environmental Setting

Description of Physical Environment

The Victorville Sanitary Landfill site is located in the Mojave Desert, also known as the High Desert region of San Bernardino County due to its elevation between 1,000 and 4,500 feet above mean sea level. The project site is at an average elevation of 3,100 feet. The High Desert is characterized by a series of mountain ranges interspersed with long, broad valleys. The site is located southeasterly of Quartzite Mountain (elevation 4,500 feet) in an area that drains into Bell Mountain Wash and ultimately into the Mojave River. The mountains to the northwest drain toward Bell Mountain Wash in a series of blue line streams, two of which traverse the project site.

The High Desert is classified as a dry-hot desert climate, distinguished by hot dry summers and mild winters with limited rainfall. In the Mojave Desert, this is further modified by the San Gabriel and San Bernardino mountains forming barriers to precipitation. The rain shadow causes the aridity of the High Desert climate, while leaving the summers hot and the winters generally mild. Average high temperatures in summer are in the mid to upper 90s °F (32-35°C) average low temperatures are in the middle 60s (15-20°C). Average high temperatures in winter are in the mid 50s (10-15°C) and average low temperatures are in the mid 30s (-1 - 2 °C).

The High Desert receives most of its precipitation from winter cold fronts. Precipitation at Southern California Logistics Airport located approximately four miles northwest of the Victorville Sanitary Landfill averages less than five inches (4.66 inches) a year. Summer thunderstorms bring highly variable amounts of localized rain. The rain from these storms falling into the dry air often evaporates before reaching the surface. However, if the storm lasts long

enough, the area beneath the storm may get several inches of rain over a short period of time leading to flash floods.

Site Survey Results

A number of biological surveys have been conducted on the project site. The most recent, in April 1997, found a total of 79 plant taxa. Total plant taxa identified on-site during all field surveys was 129. These taxa represented most species that germinated that year and the dried remains from the previous year. The majority of the expansion area is vegetated with Mojave Creosote Bush Scrub and Joshua Tree Woodland elements. Dominant plant species observed include: creosote bush (*Larrea tridentata*), burrowbush (*Ambrosia dumosa*), brittlebush (*Encelia farinosa*), Joshua tree (*Yucca brevifolia*), and peach thorn (*Lycium cooperi*).

Numerous washes and drainages pass through the project boundaries. These drainages connect to Bell Mountain Wash, which crosses the project area at the southeastern corner. Bell Mountain Wash supports some Desert Saltbush Scrub elements, but was reported as being heavily disturbed by off-highway vehicle use. Representative plant species in this area include: fourwing saltbush (*Atriplex canescens*), allscale (*A. polycarpa*), rubber rabbitbrush (*Chrysothamnus nauseosus*), and cheesebrush (*Hymenclea salsola*).

Several species considered sensitive exist within the vicinity of the project area. Sensitive species consist of species listed by the federal and state government as threatened or endangered, candidates for future listing, or listed within the California Native Plant Society (CNPS). No sensitive vegetation species were found onsite during the survey. Examples of sensitive plant species found in the area include: Mojave monkeyflower, Pygmy poppy, and Southern skullcap.

Wildlife Resources

A total of twenty-four vertebrate species were identified on the project site during the 1997 survey, consisting of 10 reptile, 42 bird, and 13 mammal species. Several species observed which are considered common in the Mojave Desert included: side-blotched lizard (*Uta stansburiana*), western whiptail (*Cnemidophorus tigris*), red-tailed hawk (*Buteo jamaicensis*), common raven (*Corvus corax*), black-throated sparrow (*Amphispiza bilineata*), desert cottontail (*Sylvilagus audubonii*), and white-tailed antelope squirrel (*Ammospermophilus leucurus*).

In addition to these species, two sensitive species were also observed during the survey: desert tortoise (*Gopherus agassizii*) and loggerhead shrike (*Lanius ludovicianus*). The desert tortoise is a federally and state listed "threatened" species. Loggerhead shrike is a California "Species of Special Concern". These species observed onsite are discussed in further detail below. In addition, it has been assumed that the Mohave ground squirrel (*Spermophilis mohavensis*) could inhabit the site. The landfill site is located in habitat that is suitable for the squirrel.

<u>Desert Tortoise</u>
The desert tortoise is widely distributed over portions of the Mojave, Sonoran, and Colorado Deserts of the western United States and northwestern Mexico. The tortoise is a highly adaptable species that digs burrows in the ground to escape extreme heat conditions and for protection

from predators. The tortoise eats a variety of annual flowers, perennial grasses, and perennial shrubs. Desert tortoise populations have declined due to several factors including urbanization, livestock grazing, off-highway vehicle use, utility construction, mineral and energy development, predation, and disease outbreaks. Desert tortoise occupy the site.

In August 2000, limits of Phases 1B, 2 and 3 were surveyed to determine where to install perimeter fencing. Tortoises found within this expansion area were relocated outside the fenced perimeter per the 1999 USFWS Biological Opinion and Section 7 Consultation between the BLM and USFWS for the land conveyance. Surveys and tortoise monitoring continued concurrently with the tortoise fencing installation. Fencing around the perimeter of the proposed expansion areas was completed in September 2000. A Clearance Survey was conducted between September and October 2000 subsequent to installation of the fencing. Two tortoises were found on the site during the survey and were relocated outside the perimeter fencing. This perimeter fence was installed to prevent desert tortoise from re-entering the expansion area. Continued monitoring on the perimeter fence is necessary to ensure no additional tortoise are located on the site and the fence area is not breached allowing tortoise to re-enter the site.

Loggerhead Shrike

Loggerhead shrike can be found in a wide variety of habitats, from open to brushy areas, and from desert to coastal habitats. The loggerhead shrike preys on animals from an elevated point, striking them from above. They are often observed on telephone poles, trees, fences, etc. Nesting loggerhead shrikes with young were observed on the western portion of the expansion area during the 1997 survey.

Mojave ground squirrel

Mojave ground squirrel (*Spermophilus mohavensis*) is a small, seasonally active diurnal (day active) species which is endemic to the Mojave Desert. This species lives in a variety of habitats including Mojave Creosote Bush Scrub, Joshua Tree Woodland, Desert Saltbush Scrub, and Shadscale Scrub with sandy to gravelly soils. Mojave ground squirrels are mainly active on the surface during the spring and early summer months. This species is state listed as a threatened species and is a federal Species of Concern. Mojave ground squirrels have been recorded as occurring approximately 1.5 miles southwest of the project site (CNDDB). The only squirrel species observed during the surveys was white-tailed antelope squirrel (*Ammospermophilus leucurus*).

Additional Sensitive Species in the Vicinity

Several wildlife species considered sensitive are known to exist within the vicinity including: San Diego horned lizard, Golden eagle, Prairie falcon, and Le Conte's thrasher. None of these species were observed onsite during the 1997 survey.

Additionally, the California Natural Diversity Data Base (CNDDB) printout for the Victorville Quadrangle lists several species which are associated with riparian habitats found along the Mojave River. These species include: California red-legged frog (*Rana aurora draytonii*), Cooper's hawk (*Accipiter cooperii*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), willow flycatcher (*Empidonax traillii*), yellow-breasted chat (*Icteria virens*), summer tanager (*Piranga rubra*), Mojave vole (*Microtus californicus mohavensis*), southwestern pond turtle (*Clemmys*

marmorata pallida), and least Bell's vireo (*Vireo bellii pusillus*). None of these species occur on the project site or surrounding areas due to lack of suitable habitat.

Survey Results

The Baseline Biological Assessment (Lilburn, 1998) included a site survey completed in April 1997 over the entire proposed landfill expansion area. The survey involved walking transects at 30-foot intervals over the entire site and recording all plant and vertebrate species observed. Some species not observed during the survey were identified through indirect signs (i.e., scat, tracks, calls, nests, burrows, etc.). The survey report is included in Appendix D.

Lilburn Corporation also conducted a previous biological survey for the site during February and March 1992, of which the results were included in a report entitled, *A Biological Survey of the Victorville Disposal Site Proposed Expansion Area*. The 1992 project area only encompassed portions of the existing proposed Phase 2 expansion area. The survey report is included in Appendix D.

A biological assessment was completed by Circle Mountain Biological Consultants in 1996 entitled, *Biological Assessment for the Proposed San Bernardino County Landfill Conveyance Project*. The report provided information to the BLM and County for the preparation of the Environmental Assessment (BLM, 1997). A survey for the report was completed during March/April 1996 over the existing proposed landfill expansion area. Because this survey report encompassed all of the landfill sites that were included in the BLM/ County land transfer, this survey report is not included. However, it is available for review at the County Government Center in Victorville. See Chapter 1.0 for address.

A compilation of all the plant and vertebrate species identified from the three separate surveys are included below. The results of the three surveys differed based on their findings and observations. This variation is attributed to a number of factors including: year, season, rainfall amount that year, survey location, survey methodology, etc. The plant species observed are included in Table 4.3-1, while the vertebrate species are included in Table 4.3-2.

Applicable Policies, Plans, and Regulations

Many species included in on Tables 4.3-1 and 4.3-2 above are protected under State and/or federal regulations, including CESA and FESA. The U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) are responsible for the implementation of those acts at the federal and state level respectively. The County of San Bernardino Development Code also protects biological resources.

West Mojave Coordinated Management Plan

The project site is located in desert tortoise critical habitat, a formal designation of lands deemed necessary for the recovery of the federally listed desert tortoise. The project area is located within the Mojave Desert, which provides habitat for a number of threatened or endangered species. The BLM is preparing the West Mojave Coordinated Management Plan (West Mojave Plan), which will be a comprehensive interagency program for the conservation of biological

Table 4.3-1
Vascular Plant Species Observed on the Victorville Sanitary Landfill Expansion Areas, San Bernardino County, California

Gymnospermae	**Cone Bearing Plants**
Ephedraceae	**Ephedra Family**
Ephedra nevadensis	Nevada joint-fir
Angiospermae	**Flowering Plants**
Dicotyledoneae	Dicots
Apiaceae	**Carrot Family**
Lomatium sp.	Lomatium
Asteraceae	**Sunflower Family**
Acamptopappus sphaerocephalus	goldenhead
Adenophyllum cooperi	Cooper's dyssodia
Ambrosia acanthicarpa	annual bur-sage
A. dumosa	burrobush
A. psilostachya	western rageweed
Chaenactis fremontii	desert pincushion
Chrysothamnus nauseosus	rubber rabbitbrush
Dicoria canescens	bugseed
Encelia actoni	Acton's encelia
E. Farinosa	brittlebush
E. virginensis	encelia
Ericameria cooperi	Cooper goldenbush
Eriophyllum wallacei	Wallace's woolly sunflower
Heterotheca grandiflora	telegraph weed
Hymenoclea salsola	cheesebush
Lessingia lemmonii	lessingia
Malacothrix glabrata	desert dandelion
Nicolettia occidentalis	nicolettia
Rafinesquia neomexicana	desert chicory
Stephanomeria parryi	stephanomeria
S. exigua	annual mitra
S. pauciflora	wire-lettuce
Tetradymia spinosa	cotton-thorn
Xylorhiza tortifolia var. *tortifolia*	Mojave-aster
Boraginaceae	**Borage Family**
Amsinckia tessellata	checker fiddleneck
Cryptantha angustifolia	narrow-leaved forget-me-not
C. micrantha	purpleroot cryptantha
C. nevadensis	Nevada cryptantha
C. pterocarya	wing-nut cryptantha
Plagiobothrys arizonicus	Arizona popcornflower

Table 4.3-1
Vascular Plant Species Observed on the Victorville Sanitary Landfill Expansion Areas, San Bernardino County, California

Brassicaceae	**Mustard Family**
* *Brassica geniculata*	short-pod mustard
* *B. nigra*	black mustard
* *B. tourneforti*	wild turnip
Caulanthus lasiophyllum	California mustard
Descurainia pinnata	tansy mustard
* *D. Sophia*	flixweed
Erysimum capitatum	wall-flower
* *Hirschfeldia incana*	short-pod mustard
Lepidium flavum	yellow peppergrass
L. fremontii	desert alyssum
L. lasiocarpum var. *lasiocarpum*	sand peppergrass
* *Sisymbrium altissimum*	tumble mustard
* *S. irio*	London rocket
* *S. orientale*	sisymbrium
Cactaceae	**Cactus Family**
Echinocactus polycephalus var. *polycephalus*	cottontop cactus
E. engelmannii	calico cactus
Opuntia basilaris var. *basilaris*	beavertail cactus
O. echinocarpa	golden cholla
O. ramosissima	diamond cholla
Sclerocactus polyancistrus	Mojave fishhook cactus
Chenopodiaceae	**Goosefoot Family**
Atriplex canescens	fourwing saltbush
A. polycarpa	allscale
Eurotia lanata	winter fat
Grayia spinosa	hop-sage
Krascheninnikovia lanata	winter fat
* *Salsola tragus*	Russian thistle
Cucurbitaceae	**Gourd Family**
Cucurbita palmata	coyote melon
Euphorbiaceae	**Spurge Family**
Chamaesyce albomarginata	rattlesnake weed
C. polycarpa	small-seeded sandmat
Stillingia paucidentata	few-toothed stillingia
Fabaceae	**Pea Family**
Astragalus layneae	locoweed

Table 4.3-1
Vascular Plant Species Observed on the Victorville Sanitary Landfill Expansion Areas, San Bernardino County, California

A. lentiginosus	Dapple-pod
Lupinus sp.	Lupine
Psorothamnus arboscens	Mojave indiobush
Psorothamnus fremontii	indigobush
Senna armata	spiny senna
Geraniaceae	**Geranium Family**
* *Erodium cicutarium*	red-stem filaree
Hydrophyllaceae	**Waterleaf Family**
Phacelia distans	common phacelia
P. fremontii	Fremont's phacelia
P. tanacetifolia	phacelia
Pholistoma membranaceum	white fiesta-flower
Lamiaceae	**Mint Family**
* *Marrubium vulgare*	horehound
Salazaria mexicana	bladdersage
Salvia carduacea	thistle sage
S. columbariae	chia
Loassaceae	**Loasa Family**
Mentzelia albicaulis	blazing-star
M. nitens	Venus blazing star
Petalonyx thurberi	sandpaper plant
Malvaceae	**Mallow Family**
Eremalche exilis	trailing mallow
Malva parviflora	cheeseweed
Sphaeralcea ambigua	desert mallow
Nyctaginaceae	**Four O'Clock Family**
Mirabilis bigelovii	wishbone bush
Papaveraceae	**Poppy Family**
Eschscholtzia glyptosperma	desert gold poppy
E. minutiflora	little gold poppy
Onagraceae	**Evening-Primerose Family**
Cammissonia boothii ssp. *decorticans*	woody bottle-washer
Plantaginaceae	**Plantain Family**
* *Plantago ovata*	woolly plantain
Polemoniaceae	**Phlox Family**
Eriastrum diffusum	miniature woolly-star

Table 4.3-1
Vascular Plant Species Observed on the Victorville Sanitary Landfill Expansion Areas, San Bernardino County, California

E. sapphirinum ssp. *ambiguum*	Mojave woolly-star
Loeseliastrum schottii	Schott's gilia
Polygonaceae	**Buckwheat Family**
Chorizanthe brevicornu	brittle spineflower
C. rigida	spiny-herb
Eriogonum deflexum	skeleton weed
E. fasciculatum	California buckwheat
E. gracillimum	**buckwheat**
E. inflatum	desert trumpet
E. nidularium	whiskbroom
E. plumatella	Yucca buckwheat
E. viridescens	**buckwheat**
Oxytheca perfoliata	saucer plant
Rumex hymenosepalus	wild rhubarb
Ranunculaceae	**Crowfoot Larkspur**
Delphinium parishii	desert larkspur
Rosaceae	**Rose Family**
Prunus faciculata	desert almond
Rutaceae	**Rue Family**
Thamnosma montana	turpentine-broom
Solanaceae	**Nightshade Family**
Datura wrightii	Jimson weed
Lycium andersonii	Anderson desert thorn
L. cooperi	peach thorn
Nicotiana trigonophylla	desert tobacco
Tamaricaceae	**Tamarisk Family**
* *Tamarix* sp.	tamarisk
Zygophyllaceae	**Caltrop Family**
Larrea tridentata	creosote bush
Monocotyledoneae	**Monocots**
Amaryllidaceae	**Amaryllis Family**
Dichelostemma pulchella	blue dicks
Liliaceae	**Lily Family**
Calochortus s.p. *kennedyi*	desert mariposa-lily
Yucca brevifolia	Joshua tree
Y. schidigera	Mojave yucca

Table 4.3-1
Vascular Plant Species Observed on the Victorville Sanitary Landfill Expansion Areas, San Bernardino County, California

Poaceae	**Grass Family**
Achnatherum hymenoides	Indian ricegrass
A. speciosum (*Stipa speciosa*)	desert needlegrass
* *Bromus diandrus*	common ripgut-grass
* *B. madritensis* ssp. *rubens*	red brome
* *B. tectorum*	downy brome
Erioneuron pulchellum	fluff grass
* *Schismus barbatus*	Mediterranean schismus

* non-native species
Note: Table 4.3-1 represents a compilation of the results of the three site surveys 1992, 1996, and 1997.

Table 4.3-2
Vertebrate Species Observed on the Victorville Landfill Expansion Area, San Bernardino County, California

Reptiles	
desert tortoise	*Gopherus agassizii*
long-nosed leopard lizard	*Gambelia wislizenii*
zebra-tailed lizard	*Callisaurus draconoides*
side-blotched lizard	*Uta stansburiana*
desert horned lizard	*Phrynosoma platyrhinos*
desert night lizard	*Xantusia vigilis*
western whiptail	*Cnemidophorus tigris*
night snake	*Hypsiglena torquata*
sidewinder	*Crotalus cerastes*
Mojave rattlesnake	*C. scutulatus*
Birds	
great blue heron	*Ardea herodias*
great horned owl (pellets)	*Bubo virginianus*
lesser nighthawk	*Chordeiles acutipennis*
northern rough-winged swallow	*Stelgidopteryx serripennis*
ruby-crowned kinglet	*Regulus calendula*
blue-gray gnatcatcher	*Polioptila caerula*
House sparrow	*Passer domesticus*
turkey vulture	*Cathartes aura*
northern harrier	*Circus cyaneus*
red-tailed hawk	*Buteo jamaicensis*
ring-billed gull	*Larus delawarensis*
California gull	*L. californicus*
mourning dove	*Zenaida macroura*

Table 4.3-2
Vertebrate Species Observed on the Victorville Landfill Expansion Area, San Bernardino County, California

greater roadrunner	*Geococcyx californianus*
Costa's hummingbird	*Calypte costae*
ladder-backed woodpecker	*Picoides scalaris*
Say's phoebe	*Sayornis saya*
ash-throated flycatcher	*Myiarchus cinerascens*
horned lark	*Eremophila alpestris*
tree swallow	*Tachycineta bicolor*
violet-green wallow	*T. thalassina*
cliff swallow	*Hirundo pyrrhonota*
barn swallow	*H. rustica*
American crow	*Corvus brachyrhynchos*
common raven	*Corvus corax*
rock wren	*Salipinctes obsoletus*
cactus wren	*Campylorhynchus brunneicapillus*
sage thrasher	*Oreoscaptes montanus*
phainopepla	*Phainopepla nitens*
verdin	*Auriparus flaviceps*
northern mockingbird	*Minus polyglottos*
loggerhead shrike	*Lanius ludovicianus*
European starling	*Sturnus vulgaris*
orange-crowned warbler	*Vermivora celata*
Brewer's sparrow	*Spizella breweri*
black-throated sparrow	*Amphispiza bilineata*
sage sparrow	*A. belli*
white-crowned sparrow	*Zonotrichia leucophrys*
red-winged blackbird	*Aeglaius phoeniceus*
western meadowlark	*Sturnella neglecta*
Brewer's blackbird	*Euphagus cyanocephalus*
house finch	*Carpodacus mexicanus*
Mammals	
Beechey ground squirrel	*Otospermophilus beecheyi*
botta pocket gopher	*Thomomys bottae*
gray fox	*Urocyon cinereoargenteus*
badger	*Taxidea taxus*
bobcat	*Lynx rufus*
desert cottontail	*Sylvilagus audubonii*
black-tailed jackrabbit	*Lepus californicus*
white-tailed antelope squirrel	*Ammospermophilus leucurus*
California ground squirrel	*Spermophilus leucurus*
kangaroo rat (burrows)	*Dipodomys* sp.
desert woodrat (nests)	*Neotoma lepida*
coyote (scat)	*Canis latrans*
desert kit fox (scat, dens)	*Vulpes macrotis arcipes*

Note: Table 4.3-2 represents a compilation of the results of the three site surveys 1992, 1996, and 1997.

resources. According to the 1999 Current Management Situation (BLM, March 1999), upon adoption, the West Mojave Plan will serve as a regional Habitat Conservation Plan (HCP) to meet the requirements of the FESA and CESA. An HCP is a mandatory component of an application for an incidental take permit issued pursuant to FESA or CESA.

Twenty-eight agencies having administrative responsibility or regulatory authority over species of concern within the planning area are jointly preparing the West Mojave Plan, including eleven incorporated cities and towns, four counties, one water district, four departments of the state of California, three agencies of the federal Department of the Interior, and five military installations (participating agencies). The participating agencies are cooperating with a variety of organizations that have a stake in the future management of the planning area to develop the West Mojave Plan. Collectively, these agencies and organizations are referred to as the "Supergroup."

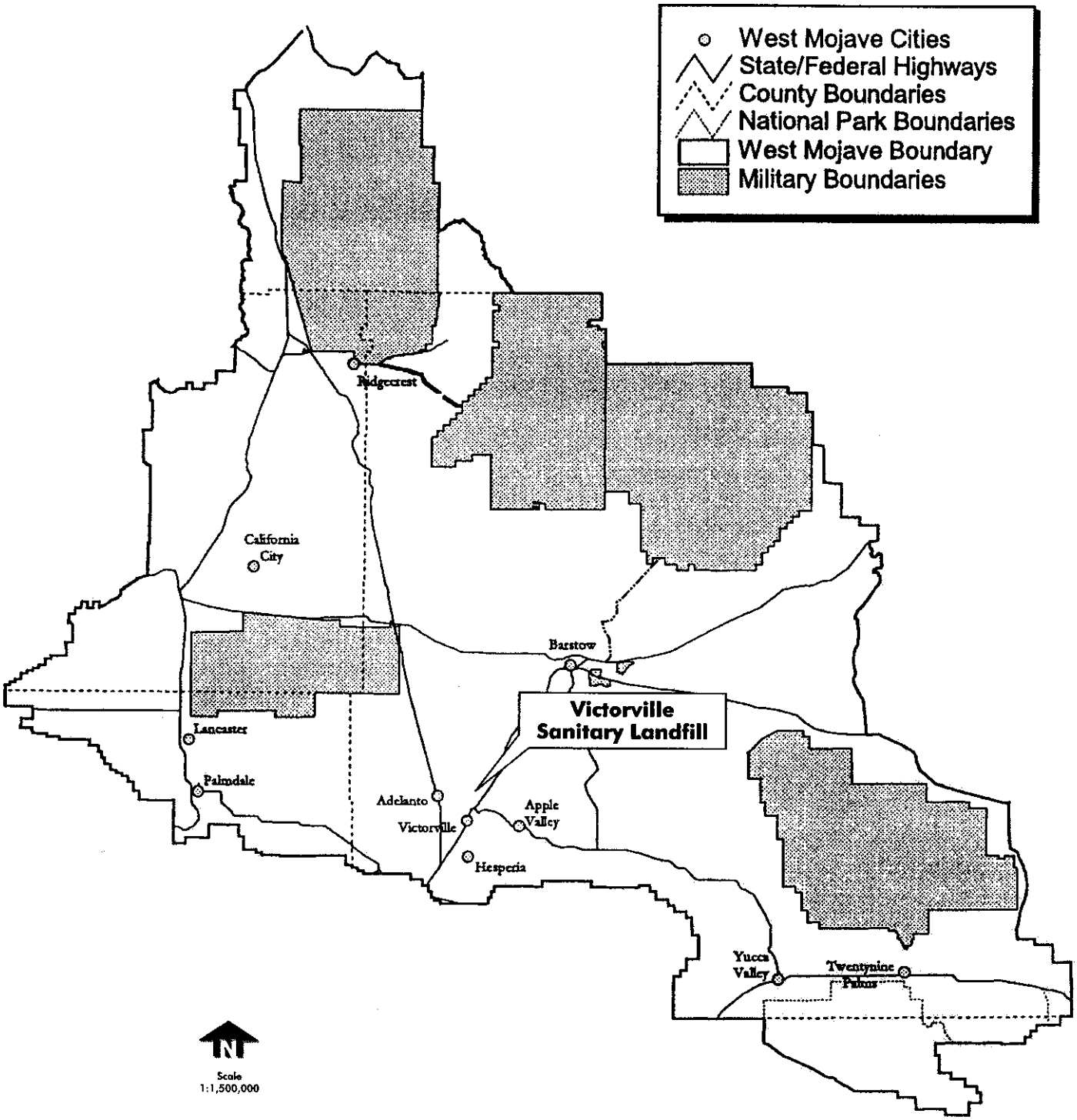
The West Mojave Plan will be consistent with the objectives of the *Desert Tortoise (Mojave Population) Recovery Plan* (Recovery Plan), prepared in 1994 in response to the 1990 listing of the desert tortoise as threatened by the USFWS.

The planning area (Figure 4.3-1) encompasses approximately 9,359,000 acres and extends from Olancha in Inyo County on the north to the San Gabriel and San Bernardino Mountains on the south, and from the Antelope Valley on the west to Twentynine Palms on the east.

A Regional HCP is being proposed because of the numerous agencies with jurisdiction in the planning area as well as the size of the planning area. The HCP and CDCA amendment have been evaluated in a Draft Environmental Impact Report and Statement (May 2003). The West Mojave Plan states the Plan and Amendment will allow state and federal land management agencies to implement their mandate to conserve and protect species of concern and habitats on public lands, a mandate which includes facilitating the recovery of these species. At the same time, the measures suggest a streamlined program to minimize and mitigate the impacts of projects on private lands. Thus the West Mojave Plan will serve as both a "conservation" plan and a "mitigation" plan.

According to the DEIR/EIS for the West Mojave Plan, adoption of the West Mojave Plan would allow the incidental take of federally listed species on private lands, the USFWS would issue incidental take permits to local jurisdictions under the authority of Section 10(a)(1)(B) of FESA (Section 10(a) permits). To allow incidental take of state-listed species, CDFG would issue incidental take permits to local jurisdictions under the authority of Section 2081 of CESA (Section 2081 permits). The Plan would function as the HCP required by FESA as a precondition to the issuance of its Section 10(a) permit, and would indicate how the permit issuance criteria for both the Section 10(a) and Section 2081 permits would be met. The term of those permits would be thirty years.

The permits would allow the incidental take of 58 species, including 17 birds, 10 mammals, 5 reptiles and 26 plants. In addition, conservation programs would be incorporated into the BLM's CDCA Plan that would address 63 species, including 19 birds, 10 mammals, and 34 plants.



Source: BLM, 2000

LILBURN CORPORATION

West Mojave Planning Area

Victorville Sanitary Landfill
County of San Bernardino, California

Figure 4.3-1

In the absence of an adopted West Mojave Plan (still under development) the County would prepare an HCP for the project site for the desert tortoise. This HCP would define procedures and offsets that would protect the specified species. The County's HCP would be subject to review and approval by USFWS and CDFG.

County of San Bernardino Development Code

The County of San Bernardino Development Code, as specified in Division 9, Chapter 4 – Desert Native Plant Protection, regulates the taking of desert plant species protected by the Development Code. Desert native plants (smoketree, all species of mesquites) with stems two inches or greater in diameter, or a height of six feet or greater, all species of the family Agavaceae, creosote rings with a diameter of ten feet or greater, and all Joshua trees are protected by the Development Code.

The California Desert Native Plant Act

The California Desert Native Plants Act regulates the taking of plant species for commercial purposes, in addition to regulating the permitting process for the taking of desert plant species in general, making it unlawful for "any person to destroy, dig up, mutilate, or harvest any living native plants, or living or dead parts of native plants, except its fruit, without obtaining written permission from the landowner and a permit…" State of California 1982, Division 23, Chapter 5, Section 80111). Any cacti species and species from the family Agavaceae (century plants, nolinas, and yuccas) are protected by this Act, in addition to any other species as described in the Act.

4.3.3 Project Impacts and Mitigation Measures

Thresholds of Significance

The expansion of the Victorville Sanitary Landfill would have a significant effect on biological resources if it would:

- Substantially affect a rare or endangered species of animal or plant or the habitat of the species;
- Interfere substantially with the movement of any resident or migratory fish or wildlife species;
- Substantially diminish habitat for fish, wildlife or plants;
- Impact a wetland habitat (such as marsh, riparian and vernal pools);
- Impact any locally designated natural community (designated by local governments for protection); or
- Interfere substantially with the existing conservation or preservation plans.

Impact a Wetland Habitat

The site is traversed by desert washes that are characterized as "blue line" streams on the USGS Quad map. These washes do not contain riparian vegetation. The ephemeral flows associated with the desert climate create discernable channels but they do not support vegetation (wildlife habitat) that is distinct from the surrounding vegetation (creosote bush scrub). They do not exhibit defined channel banks or other evidence of "ordinary high water marks" and, therefore, do not appear to meet federal criteria for jurisdiction as Waters of the U.S.

Other impacts associated with the expansion of the landfill are discussed in detail herein.

Impact BIO-1

Development of the project site would result in the loss of approximately 244 acres of habitat for the desert tortoise, a state and federal listed "threatened species. This is a significant impact.

The project site consists of approximately 491 acres. The original 80-acre landfill site is totally disturbed with landfilling and related activities (closed surface impoundments and cover material borrow area). In addition, SWMD is using an additional 37 acres for cover material under a Free Use Permit from the BLM for a total of 117 acres of disturbed area. As shown in Figure 3-5, the proposed landfill expansion would result in the use of 341 acres for landfill development (including areas already disturbed) and an additional 10 acres for a detention basin outside the landfill footprint and approximately 10 acres for the relocation of the entry road, for a total of 361 acres. Of the 361 acres, 117 are already disturbed. Total disturbance of new area would be 244 acres.

The Phase 1B and Phase 2 areas of the site are currently fenced. This was done in 2000 in compliance with the Biological Opinion issued for the land conveyance between the BLM and the County of San Bernardino. As the fencing project was completed, a qualified biologist removed the desert tortoises that were occupying the area. Prior to any ground disturbance in any portion of the undisturbed expansion areas a clearance survey would be performed to ensure that any desert tortoises that may have dug back into Phase 1B or Phase 2 areas are cleared out. In the interim, SWMD personnel are responsible for patrolling the perimeter fence to ensure that it is secure. The Phase 3 area is not fenced at this time but no activity is scheduled to begin in that area until after 2065.

In the Biological Opinion, USFWS concluded that the 1,155 acres of desert tortoise habitat transferred to the BLM would improve the overall management of the species because the land could be included in habitat enhancement and management plans. Implementation of the land transfer included the acquisition and management of compensation lands that support desert tortoise. It was the USFWS opinion that transferring the land would not result in direct adverse effects to desert tortoise. However, the Biological Opinion concluded that the land transfer would result in indirect effects on the species. Indirect effects are those that are caused by the action at a later time. The indirect effects of the land transfer are associated with the expansion of

the landfill. These include individuals being killed or injured by vehicles or equipment, by burrows being collapsed, or by being handled by uninformed workers.

As an interim measure, the County constructed tortoise exclusionary fencing around the Phase 1B and Phase 2 areas and conducted clearance surveys which resulted in the relocation of two individuals.

The potential effects of site development must be evaluated by USFWS through consultation under Section 10(a)(1)(B) of the federal endangered species act. In addition, because the tortoise is also a state listed "threatened" species, consultation with California Department of Fish and Game under Section 2081 of the Fish and Game Code will also be required.

Since it is known that desert tortoises occupy the site, no additional field surveys were conducted. The Biological Opinion issued by the U.S. Fish and Wildlife Service in February 1999 stated that the site is Category III habitat meaning that the compensation ratio is 1:1. This ratio was established for Category III habitat in conformance with the 1994 Desert Tortoise (Mojave Population) Recovery Plan and the 1991 document entitled "Compensation for the Desert Tortoise" approved by the Desert Tortoise Management Oversight Group. Compensation would have to take the form of the purchase of property containing desert tortoise habitat, that can be permanently protected and managed with emphasis on protection and preservation of desert tortoise. Fee title to the property would be conveyed to BLM or CDFG for protection and management purposes.

Mitigation Measures for the protection of the desert tortoise during ground disturbance and excavation in Phases 1B, 2 and 3 are as follows:

Mitigation Measure BIO-1

Prior to any new ground disturbance in Phase 1B, (first phase that would disturb previously undisturbed area) the County shall enter into consultation with USFWS and CDFG for impacts to the desert tortoise. In the absence of an adopted West Mojave Coordinated Management Plan, the County must prepare a Habitat Conservation Plan to accompany the application for an "incidental take permit" (Section 10). The HCP would ensure that there is adequate minimization and mitigation of the effects of the incidental take.

Concurrently the County shall enter into consultation with CDFG for an incidental take permit under Section 2081 of the Fish and Game Code. Compensation for the loss of habitat and the incidental take of individuals would be determined prior to any new disturbance.

The 1999 USFWS Biological Opinion also identified a number of measures that must be taken to minimize harm to individuals. These are as follows:

a. *The proponent shall designate a field contact representative (FCR) who will be responsible for overseeing compliance with protective stipulations for the desert tortoise and for coordination on compliance with the USFWS/CDFG. The FCR shall have the authority to halt all project activities that are in violation of the stipulations. The FCR*

may be an agent for the proponent, the site manager, any other project employee, or a contracted biologist/consulting firm.

b. *The proposed landfill expansion will include an employee education program. Prior to ground disturbance activities, new site employees shall be required to participate in this education program. The program may consist of a class or video presented by a qualified biologist or a video. Wallet-sized cards with important information for employees to carry are recommended. The proponent would be responsible for ensuring that the education program is presented prior to conducting ground-disturbance activities. New employees shall receive formal, approved training prior to working on-site. The program shall cover the following topics at a minimum:*

- *distribution of the desert tortoise;*
- *general behavior and ecology of the tortoise;*
- *sensitivity to human activities;*
- *legal protection;*
- *penalties for violations of State or Federal laws;*
- *reporting requirements; and*
- *project protective mitigation measures.*

c. *Landfill operation designs specified for the proposed landfill expansion shall be configured in a manner designed to minimize impacts to adjacent tortoise habitat/populations to the degree feasible and should take into consideration site topography, placement of facilities, location of animal burrows in buffer and adjacent land areas, public health and safety, deposition of wind-blown litter, and other limiting factors. Work area boundaries shall be delimited with flagging or other marking during initial facility upgrades, in order to minimize surface disturbance associated with vehicle straying. Special habitat features (tortoise and other animal burrows, woody vegetation, unique plant assemblages, etc.) located on the periphery of proposed site expansions, but outside of proposed landfill site fencing, shall be avoided to the extent possible.*

d. *Qualified biologists or person(s) trained in desert tortoise detection/monitoring work shall be required on-site during initial project activities (excavation of Phase 2 and Phase 3 areas). Such individuals shall have authority from SWMD to halt any action that might result in harm to a tortoise. The qualified tortoise monitor shall survey any area identified for earth disturbing activities immediately prior to disturbance activities. Should an active desert tortoise burrow be detected within the anticipated disturbance area, project activities shall halt until such time as an <u>authorized</u> tortoise handler (see measure BIO-6 below) has removed the tortoise from danger.*

e. *Only biologists authorized by the USFWS, under the auspices of the Biological Opinion issued for the land conveyance and/or ESA Section 10 Permit (if applicable), shall handle desert tortoises. The proponent shall submit the name(s) of the proposed biologist(s) to the USFWS for review and approval at least 15 days prior to the onset of activities. No project activities shall begin until an authorized biologist is approved.*

f. Tortoise excavation/relocation shall be completed under the direction of the authorized biologist. All tortoises found within impact areas shall be marked and removed from the area of potential impact, into suitable habitat close to the original location but outside the perimeter of the landfill site, preferably within Tortoise Critical Habitat Units if feasible and concurred upon by the USFWS.

g. If the removal of a tortoise is during the season of above-ground activity, the tortoises shall be placed beside a nearby burrow of appropriate size. If the removal is not in the season of above-ground activity, the tortoise shall be moved (dug out of burrow if necessary) on a seasonably warm day and placed at the mouth of a nearby burrow of appropriate size. If the tortoise does not enter the burrow, an artificial burrow may be needed. The authorized biologist shall be allowed some judgment and discretion to ensure that survival of the tortoise is likely. Relocated animals shall be monitored at scheduled intervals for a period of at least six months, to determine relocation success/health status of relocated animals. Use of telemetry equipment on a limited number of relocated tortoises is highly recommended, if feasible and concurred upon by the USFWS.

h. Tortoises moved during the course of project activities shall be marked for future identification. An identification number using the acrylic paint/epoxy covering technique shall be placed on the fourth left costal scute (USFWS 1990). Thirty-five mm slide photographs of the carapace, plastron, and the fourth costal scute shall be taken. No notching is authorized.

i. Desert tortoises may be handled only by the authorized biologist and only when necessary. New latex gloves shall be used when handling each tortoise to avoid the transfer of infectious diseases between animals. Aside from the initial site clearance, any tortoise moved shall be placed in the shade of a shrub in the direction in which it was facing when found or at the entrance to an unoccupied burrow. In general, tortoises should be moved the minimum distance possible to ensure their safety. In handling desert tortoises, the authorized biologist shall follow the General Handling Protocol sections of the "Protocols for Handling Live Tortoises" prepared by the Arizona Game and Fish Department and others in 1990. Replacement of lost fluids with a syringe is not authorized.

j. The authorized biologist shall maintain a record of all desert tortoises encountered during project activities. This information shall include for each tortoise:

- *the locations (narrative and maps) and dates of observations;*
- *general condition and health, including injuries and state of healing and whether animals voided their bladders;*
- *location moved from and location moved to;*
- *diagnostic markings (i.e., identification numbers or marked lateral scutes).*

k. Prior to any earth-moving activities within each phase or subphase portion of the expansion area, tortoise-proof fencing shall be installed around the perimeter of that

phase or subphase area ensuring tortoises outside the expansion area do not enter the active site. (Note: fencing of Phases 1A, 1B and 2 have been completed.) The fence shall be inspected at regular intervals to ensure no potential areas that could be breached by wildlife exist.

l. An effort should be made to enclose as much of the landfill access roads as possible within this fence. The fence shall be constructed under the direction of a qualified biologist or approved tortoise fence technician. The fence shall be located to avoid all tortoise burrows; to the extent possible, burrows shall be placed on the outside of the exclosure.

The fence shall be a standard 4-5 strand barbed wire or chain link fence, with the lower portion consisting of a ¼-inch mesh hardware cloth panel. This panel shall extend 18 inches above ground and 12 inches below ground. Where burial of the fence is not possible, the lower 12 inches shall be folded outward against the ground and fastened to the ground so as to prevent tortoise entry. The fence shall be supported sufficiently to maintain its integrity. The gate at the facility entrance shall be tortoise-proof. This gate shall remain closed except during hours open to the public. The fence and access road shall be checked at least monthly and maintained when necessary by the proponent to ensure its integrity.

m. Following fence installation, an authorized biologist shall conduct a thorough survey for tortoises and tortoise burrows within the proposed fenced facility. All tortoise burrows shall be excavated, tortoises removed and burrows destroyed prior to additional earth disturbance. All tortoises found shall be marked and removed from the exclosure and place according to measure BIO-9. If the removal is during the season of above-ground activity, the tortoises shall be placed beside a nearby burrow of appropriate size. If the removal is not in the season of above-ground activity, the tortoise shall be moved (dug out of burrow if necessary) on a seasonably warm day and placed at the mouth of a burrow of appropriate size. If the tortoise does not enter the burrow, an artificial burrow may be needed. The authorized biologist shall be allowed some judgment and discretion to ensure that survival of the tortoise is likely.

n. No later than 90 days after completion of facility fencing/tortoise relocation activities, the FCR and authorized biologist shall prepare a report for the resource agencies. The report shall document the effectiveness and practicality of the mitigation measures, the number of tortoises excavated from burrows, the number of tortoises moved from the site, the number of tortoises killed or injured, and the specific information for each tortoise as described in BIO-11. The report shall make recommendations for modifying the stipulations to enhance tortoise protection.

o. Upon locating a dead or injured tortoise, the proponent is to notify the USFWS/CDFG. The information provided must include the date and time of the finding or incident (if known), location of the carcass, a photograph, cause of death, if known, and other pertinent information. USFWS/CDFG will advise the project proponent regarding the handling of the carcass. Injured animals shall be transported to a qualified veterinarian

for treatment at the expense of the project proponent. If an injured animal recovers, the USFWS should be contacted for final disposition of the animal.

p. *A landfill operations program addressing wind-blown litter arising from site operation, as well as ~~other potential~~ the development of a raven (Corvus corax) management plan~~provisioning impacts arising from landfill operations~~, shall be implemented that will facilitate the most effective refuse control practices, while minimizing potential provisioning of desert tortoise predators. The raven management plan developed shall be approved by CDFG.*

Level of Significance After Mitigation

With the implementation of the mitigation measures listed above, impacts to the desert tortoise within the proposed expansion area would be less than significant. According to the Environmental Assessment completed for the Proposed Conveyance of Federally Managed Public Lands (BLM, October 1997), the Victorville Landfill land conveyance resulted in the County of San Bernardino transferring 250 acres of suitable tortoise habitat to the BLM to compensate at a ratio of 1:1 (acres) of habitat that would be lost with the proposed landfill expansion. The land transfer and implementation of measures identified in the Biological Opinion issued by USFWS (mitigation measures BIO-2 through BIO-17) would ensure that no significant impacts to existing regional desert tortoise habitat or individuals occur with expansion of the landfill.

Impact BIO-2

Development of the site would result in additional loss of Mohave ground squirrel and its habitat a State of California threatened species. This is a potentially significant impact.

The project site is within the historic range of the Mohave ground squirrel which shares habitat in the region with the desert tortoise. The State of California lists both the desert tortoise and the Mohave ground squirrel as threatened under CESA.

The Mohave ground squirrel is a small pinkish-brown or gray squirrel up to 6.5 inches in length with a tail ranging from 2 to 3.5 inches. The species is nocturnal, and also hibernates during the winter emerging in March in the southern portions of the desert where the landfill site is located. Because the squirrel is a burrow dwelling species, grading and excavation activities could destroy or damage burrows and kill individuals.

The County has assumed that the Mohave ground squirrel is present on-site because the area is within its historic range and suitable habitat is present on-site. The County must apply for an Incidental Take Permit (Section 2081 of the Fish and Game Code) for the Mohave ground squirrel. Issuance of a permit would be based on a number of factors including quality of the habitat being lost.

Mitigation Measure BIO-2

SWMD shall enter into consultation with CDFG for a 2081 (Incidental Take Permit) for the Mohave ground squirrel, threatened under CESA. To determine compensations, CDFG may require SWMD to complete Cumulative Human Impact Evaluation Forms (CHIEF). Compensation in the form of acquisition and permanent preservation of Habitat Management Lands is the usual mitigation. Transfer of the lands to CDFG or an approved non-profit corporation would complete the mitigation requirements. Copies of documentation of the transfer of lands shall be provided to County Land Use Services Department.

Level of Significance After Mitigation

Mitigation in the form of consultation with CDFG and the acquisition and transfer of Habitat Management lands would reduce this impact to a less than significant level.

Impact BIO-3

Development of the project site would interfere with the movement of resident wildlife species common to the area. This is a potentially significant impact.

In addition to the loss of habitat, fencing the site would eliminate movement of wildlife to and from the site and around the site. As shown in Table 4.3-2, there is an abundance of wildlife that currently uses the site. These would be displaced as the landfill is developed. However, it should be noted that development of the landfill would occur over a period of 76 years so not all land would be disturbed at once. In fact, during the first 40 years of the proposed project, landfilling would occur in areas previously disturbed, in areas formerly used for cover material and septage impoundments.

Phase 1A, Phase 1B and Phase 2 are already fenced and currently prevent wildlife from moving across the site. Phase 3 is not scheduled to begin excavation until approximately 2065. Therefore, wildlife may continue to cross this portion of the site for many years in the future.

Mitigation Measures

Mitigation Measure BIO-3

Prior to disturbance of previously undisturbed land in Phase 3, SWMD shall conduct clearance surveys in areas scheduled for disturbance. Biologists shall comply with mitigation measures for desert tortoise identified in the Biological Opinion or in consultation with USFWS and CDFG. Results of the clearance surveys shall be documented and a report of findings submitted to the resource agencies.

Level of Significance After Mitigation

Each sequence of Phase 3 would be fenced to isolate the excavation area from the remaining areas yet to be disturbed. This would keep wildlife away from the construction equipment.

Surveys conducted prior to moving into a subsequent phase of Phase 3 would allow SWMD to determine if additional precautions should be taken. These would include moving tortoises outside the fence line (see Impact BIO-1). Therefore, this impact can be mitigated to a less than significant level.

Impact BIO-4

Development of the proposed project would result in the taking of desert plant species protected by the California Desert Native Plants Act and the County of San Bernardino Code, Division 9, Chapter 4 – Desert Native Plant Protection.

Although the project site has been disturbed by off-road vehicle use, domestic sheep grazing, transmission line and pipeline easements etc., there are areas that are less disturbed or have not been disturbed that support desert vegetation including Joshua trees, cholla, and beavertail cactus. The County of San Bernardino Development Code includes a chapter on Desert Native Plant Protection. Protected plants include Joshua Trees and creosote. In addition the State of California Food and Agriculture Code (Section 80001-80006) includes the California Desert Native Plants Act. Under this act, all species of cacti are protected. Under both regulations, desert native plants cannot be harvested or otherwise removed without a permit.

Mitigation Measure BIO-4

The operator/construction contractor shall relocate all species protected by the California Native Plants Act and the County of San Bernardino Code deemed suitable for transplanting by a qualified botanist/horticulturist. These plants will be used as landscaping onsite, be maintained in an onsite nursery area for future revegetation efforts or transported for use at another County facility.

Level of Significance After Mitigation

Implementation of this mitigation measure will reduce the impacts to plant species protected by the California Desert Native Plants Act and the County of San Bernardino to less than significant. The project includes designating a landscape area along the southeast property boundaries to act a buffer zone. Any species protected by these regulations that are deemed suitable for transplant can be relocated to the landscape area or another area onsite.

The burrowing owl (*Athene cunicularia*) is a special status species (federal and state) not seen on-site during field surveys, but is commonly reported from the area, has been observed in adjacent regions, could occur in the same habitat type as found on-site, and may with some certainty be observed within the project vicinity. CDFG is currently reviewing a request from the Center for Biological Diversity to formally list the Western burrowing owl as threatened or endangered (request submitted May 2003).

Effects to this species would be the potential loss of nesting and foraging habitat over the life of the project (76 years) and potential loss of eggs and young if the specie were to breed on site, and if construction takes place during the nesting season (late February to July). So although the

species was not identified on site in previous surveys, it is mobile and could occupy the site in the future.

The protocol is to survey the area and identify occupancy then conduct a forced dispersal (outside the nesting season) and eliminate the burrows. If nests are encountered, they cannot be disturbed during the nesting season.

Mitigation Measure BIO-5

Prior to disturbance of previously undisturbed land in Phases 2 and 3, SWMD shall survey areas to be disturbed and adjacent areas for burrowing owls in accordance with Department of Fish and Game protocol. Results of the survey shall be documented and a reported to CDFG for review.

Level of Significance After Mitigation

Less than significant.

4.4 CULTURAL RESOURCES

4.4.1 Introduction

This section of the EIR addresses historic and pre-historic resources that together comprise Cultural Resources. This section also addresses Paleontologic Resources. Information for this section is summarized from *An Archaeological Assessment of the 430-acre Victorville Sanitary Landfill Project, San Bernardino County*, prepared by Archaeological Associates, June 1997. (note: the 430 acres included only the expansion areas, the proposed buffer area and portions of the 80-acre permitted area). Information on paleontologic resources is from *Paleontologic Assessment San Bernardino County Victorville Sanitary Landfill San Bernardino County, California*, prepared by San Bernardino County Museum, June 1997. The Cultural Resources Survey Report and the Paleontologic Assessment are included in Appendix E.

4.4.2 Environmental Setting

Cultural Resources

Cultural resources generally consist of sites of archeological significance that are prehistoric or historic, and a few historic structures. Prehistoric archaeological resources may date from prior to 8,000 years ago to around 1770, the time of historic contact between indigenous people and Europeans. Historic archaeological resources include refuse deposits such as can and bottle dumps, filled-in privy pits and cisterns, melted adobe walls and foundations, collapsed structures and associated features, and roads and trails. They may date back from the earliest Spanish mission to the beginning of the last century; roughly the period between 1770 and 1900.

A records search conducted for the proposed expansion of the Victorville Landfill indicated no pre-historic archaeological resources were found within the site. Records revealed that one historic resource was found within the boundaries of the landfill. The records search at the Archaeological Information Center at the San Bernardino County Museum included a search of the immediate area surrounding the site. The search included a review of all previously recorded prehistoric and historic archaeological sites situated on or within a one-mile radius of the project area. Additionally, the National Register of Historic Places, California Historic Landmarks, and California Points of Historical Interest were reviewed for the purpose of identifying any historic properties. This search found five additional historical sites within one mile of the site.

The historic resource found on-site is PSBr-38H, a 115kV transmission line used to supply electricity to the Boulder Dam project (formerly Hoover Dam) in 1931. The Boulder Dam-San Bernardino 115kV transmission line is a three-cable line supported by a series of twin tower, H-frame posts. The transmission line was constructed in 1931 by the Southern Sierras Power Company to provide power for the building of Boulder Dam and to provide power to Boulder City. Once the construction of Boulder Dam was completed the current was reversed and power was provided to the City of San Bernardino, which still uses the transmission lines.

The five additional historic sites within a one-mile radius of the Victorville Landfill are as follows:

SBr-3159H is the Mojave Northern Railroad Grade located a ¼ mile west of the landfill. The site was a gravel mining railroad grade with fragments of railroad ties and old and recent trash. The grade starts at a cement plant in Oro Grande and continues to Quartzite Mountain. The grade was associated with the Southwestern Portland Cement Company, which operated from 1916-1925.

SBr-4411H comprises part of the Mormon Trail (also know as California Historic Landmark #577). William Stanford laid out this portion of the Mormon Trail in 1850. The Trail reaches from the Cajon Pass to the California/Nevada border and was traversed by Mormon Pioneers, wagon freighters, and government railroad survey parties.

SBr-6321H is a trash scatter from the 1950s and 60s. Artifacts discovered at the site were mostly bottles dating from 1920 to 1964. Test investigations revealed that the site is actually a non-site.

SBr-6328H was thought to be a historic or pre-historic trail, but upon further investigation it was concluded the trail was nothing more than modern off-road motorcycle tracks. Site SBr-6328H is also considered a non-site.

SBr-7694H comprises a Los Angeles Department of Water and Power 287.5kV transmission line located ¼ mile northwest of the Victorville Landfill. The transmission line is also known as the Lytle Canyon Transmission Line, which provided electricity to the City of Los Angeles from the Boulder Dam project. The transmission lines sit atop parallel rows of steel "Y" frame towers. Along with the twin pair of power lines connected to Los Angeles, is a third line connected to the Lytle Creek Powerhouse #1 owned by Southern California Edison. The power lines were built in 1933 and 1936 and carried the heaviest power load in the world at that time.

Previous Studies Conducted in the Project Area

The results of the records search also indicated that three archaeological studies have been conducted in the vicinity of the landfill. The first was conducted in 1992 and comprised a cultural resources assessment of 160 acres of land situated in the northeast ¼ of Section 23. At that time, the property was proposed as a borrow area to provide cover material for the landfill. It was surveyed as part of a land exchange parcel between the BLM and the County of San Bernardino Solid Waste Management Department. The results of this assessment were completely negative. No historic or prehistoric material was observed anywhere within the 160 acres.

In 1994, a survey was conducted by Southern California Edison Company staff of approximately 2,000 feet for a proposed utility line extension. The alignment extended from Stoddard Wells Road to the entrance of the Victorville Landfill. Plans included the erection of nine new

overhead wood poles. Other than noting the presence of PSBr-38H (Boulder Dam-San Bernardino 115kV Transmission Line), no additional sites were located.

In 1996 a third study of the landfill was completed for the land conveyance between BLM and the County. The survey covered the 490-acre site that is the project site. No additional historic or prehistoric sites were encountered within the study area.

Results of the Field Survey Conducted in the Expansion Areas in 1997

In conjunction with the records search, a pedestrian field study was conducted on May 22, 23, and June 16, 1997 by Archaeological Associates. Starting in the southwest corner and continuing in a northwesterly direction parallel transects were walked at 15-20 meter intervals. The field study results were completely negative. See Appendix E for the survey report.

The results of the field reconnaissance and records search for archaeological resources concluded that project related activities would not adversely affect the Boulder Dam-San Bernardino transmission line: PSBr-38H. The field investigation was also entirely negative and no additional work was recommended.

Paleontological Resources

The San Bernardino County Museum (SBCM), Paleontological Resource Assessment Program of the Earth Sciences section, conducted an assessment of the paleontological resources at the Victorville Landfill site in June 1997. A review of the literature and search of the Regional Paleontological Locality Inventory (RPLI) at the SBCM indicated the presence of 147 different locations within eight miles of the Victorville Landfill site that contained paleontological resources (five within two miles of the site). Additionally, the area has a high potential to contain significant non-renewable resources, because sediments where other paleontological resources have been encountered match sediments found on the Victorville Landfill site.

Previous geologic mapping of the area indicates that the Victorville Landfill property is situated upon alternating lascustrine (=lake) and fluviatile (=river) sediments dating to the early to middle Pleistocene Epoch. These sediments have been tentatively inferred to be the distalmost (farthest from the center) extent of the Victorville Fan. Previous surveys on the Fan have reported the occurrence of fossils representing extinct Pleistocene vertebrates in these sediments.

4.4.3 Project Impacts and Mitigation Measures

Thresholds of Significance

Significant impacts related to cultural resources would result from development of the proposed project if:

- A significant loss and impact to paleontological and archeological resources found within the project area would occur as a result of project development.

- Any paleontological and cultural resources encountered during site excavation and grading are not properly inventoried and salvaged to avoid damage to those resources.

Cultural Resources

The results of the field reconnaissance and records search for archaeological resources concluded that project related activities would not adversely affect the Boulder Dam-San Bernardino transmission line: PSBr-38H. The field investigation was also entirely negative and no additional work was recommended.

Impact CR-1 – Paleontologic Resources

Development of the proposed project may have an adverse impact on the paleontological resources that may exist on the site. This is a potentially significant impact.

The literature review indicated that the sediments present within the boundaries of the Victorville Landfill have high potential to contain significant nonrenewable paleontologic resources subject to adverse impact during excavation for future landfilling. The review of the RPLI demonstrated the numerous paleontologic resource localities are present in the near vicinity of the Victorville Landfill property. All of these localities are recorded from Older Pleistocene sediments similar to those present within the boundaries of the Victorville Landfill Expansion project.

The field survey verified the presence of medium- to coarse-grained, tan to yellow-grey to green-grey to grey sediments of presumed Pleistocene age, covered in some areas by a thin veneer of desert pavement. Much of this material appeared heavily calichified. However, isolated lenses of silts and clays which ranged from tan to green to grey in color were also observed intermittently throughout the property, particularly in washes and in rodent burrow tailings; these sediments, also of presumed Pleistocene Epoch age, exhibited a lithology conducive to the preservation of paleontologic resources. Additionally, finer-grained sediments of presumed Pleistocene Epoch age were observed at depth as a distinctive dark horizon in the existing borrow pit; sediments of this nature are conducive to fossil preservation.

No invertebrate or vertebrate fossils were observed or recovered during the field survey portion of the assessment. However, packrat middens-that is, plant middens amassed through many years by packrats (*Neotoma* sp.) were identified from two localities within the boundaries of the Victorville Landfill Expansion area. *Neotoma* middens have been known to accumulate through decades and even centuries as successive generations of packrats add collected plant matter to the midden. These middens can in some cases be paleontologic "treasure troves," in that they can provide:

- sequences of well-preserved plant fossils which enable reconstructions of past climatic conditions;

- potentially, time stratified sequences of radiometric dates which enable more accurate interpretations of paleoenvironmental change through time; and

- occasionally, identifiable microfossil bones which permit comparisons with other, undated microfossil faunas to be advanced.

Packrat middens have been previously employed to track climatic shifts and changes in plant distribution in the Great Basin and the Mojave Desert throughout the later part of the Pleistocene Epoch (± 40,000 years BP to ± 11,000 years BP), as well as through much of the Holocene Epoch (< 11,000 years BP). Such middens are therefore highly paleontologically sensitive.

The packrat middens observed within the boundaries of the Victorville Landfill Expansion property did not have the appearance of advanced age characteristic of late Pleistocene/early Holocene packrat middens. However, such age determinations are preliminary at best. Further, the presence of these middens within the boundaries of the Victorville Landfill property suggests that other middens not observed during the field survey may also be present in the area; these middens, too, if encountered will need to be salvaged and studied in order to determine their age and potential paleontologic significance.

Excavation in conjunction with development of the landfill has a high potential to adversely impact significant nonrenewable paleontologic resources present within the boundaries of the Victorville landfill property.

Potential paleontological resources could be adversely impacted with site excavation and grading. The sediments of the landfill are presumed to be Pleistocene in age at depths below the veneer of the desert pavement. Isolated lenses of silts and clay, which exhibit a lithology capable of the preservation of paleontological resources, were also observed intermittently throughout the property. Finer grained sediments of presumed Pleistocene age were observed at depths as a distinctive dark horizon in the existing borrow cut; sediments of this nature are also capable of fossil preservation.

Mitigation Measure CR-1

A qualified vertebrate paleontologist must develop a program to mitigate impacts to nonrenewable paleontologic resources. This mitigation program should be consistent with the provisions of the California Environmental Quality Act, as well as with regulations currently implemented by the County of San Bernardino and the proposed guidelines of the Society of Vertebrate Paleontology. This program should include, but not be limited to:

1. *Pre-excavation sampling of the observed Neotoma middens, to better determine their potential antiquity;*

2. *Intermittent (1 day/month) monitoring of excavation in areas identified as likely to contain paleontologic resources by a qualified paleontologic monitor. The monitor should be equipped to salvage fossils as they are unearthed to avoid construction delays and to remove samples of sediments which are likely to contain the remains of small fossil invertebrates and vertebrates. The monitor must be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens.*

3. *Preparation of recovered specimens to a point of identification and permanent preservation, including washing of sediments to recover small invertebrates and vertebrates.*

4. *Identification and curation of specimens into a museum repository with permanent retrievable storage.*

5. *Preparation of a report of findings with an appended itemized inventory of specimens. The report and inventory, when submitted to the San Bernardino County Museum, will signify completion of the program to mitigate impacts to paleontologic resources.*

Level of Significance After Mitigation

With the implementation of the mitigation measure, any paleontological resources discovered within the projects boundaries during development will be inventoried and salvaged, and preserved for any necessary further investigation. The impacts to the paleontological resources will not be significant with implementation of this mitigation measure.

4.5 GEOLOGY AND SOILS

4.5.1 Introduction

This section describes the geology (including seismicity) and soils on and in the vicinity of the project site. The evaluation of geology, seismicity and soils is based on information from a geologic study entitled *Geologic Hazards Investigation of the Victorville Sanitary Landfill Expansion Area*, prepared by IT Corporation, April 2001; a seismic reflection survey report entitled *Final 2-D Seismic Reflection Survey Report, Victorville Sanitary Landfill, County of San Bernardino, California,* prepared by IT Corporation, June 1999; and the *Draft Geotechnical Investigation Lateral Expansion, Victorville Sanitary Landfill, San Bernardino, California*, by GeoLogic Associates, May 2001. In addition, information from the Southern California Earthquake Data Center was used to prepare this section. Reports used to prepare this section are voluminous and could not be reproduced as part of the technical appendices. They are available for review at the County Government Center, see Chapter 1.0 for location.

4.5.2 Environmental Setting

Regional Setting

Geology

The Victorville Sanitary Landfill is located in the Mojave Desert in an area characterized with isolated mountains surrounded by alluvial fans and broad alluvial plains. The mountain ranges adjacent to and the basement rocks underlying the alluvium consist of Precambrian to Cretaceous (65 million years and older) crystalline and sedimentary rock. Materials eroded from these rocks form the Cenozoic to Recent (younger than 65 million years) sediments that fill the basins and form most of the land surface in the area. Paleozoic (395 to 225 million years) metamorphosed limestone, quartzite and Mesozoic granitic (225 to 65 million years) are exposed in the mountains around the landfill. Quartzite Mountain, for example, is located to the north of the site. Major mountain systems in the area include the Shadow Mountains to the northwest, the San Gabriel Mountains to the southwest, and the San Bernardino Mountains to the southeast.

Soils

The soils mapped by the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) (formerly Soil Conservation Service) are representative of an arid environment, and the alluvial characteristics of the Mojave River Valley. These tend to be sandy and well to very well drained. The landfill site is located on the easterly portion of the Victorville fan, and slopes gently to the southeast from Quartzite Mountain at a four to six percent grade toward Bell Mountain Wash. Regional topography is shown in Figure 4.5-1. Age assessments of surface soil have determined that surface deposits are Pleistocene (two to three million years) in age. The old alluvial fan surface contains a one to two-foot thick zone of caliche (alluvium that has been cemented by porous calcium carbonate) cementing exposed soils approximately one foot below the surface along some drainage areas. Caliche is also known as desert pavement. The older portion of the fan surface is cut by numerous arroyos, showing unconsolidated sand and

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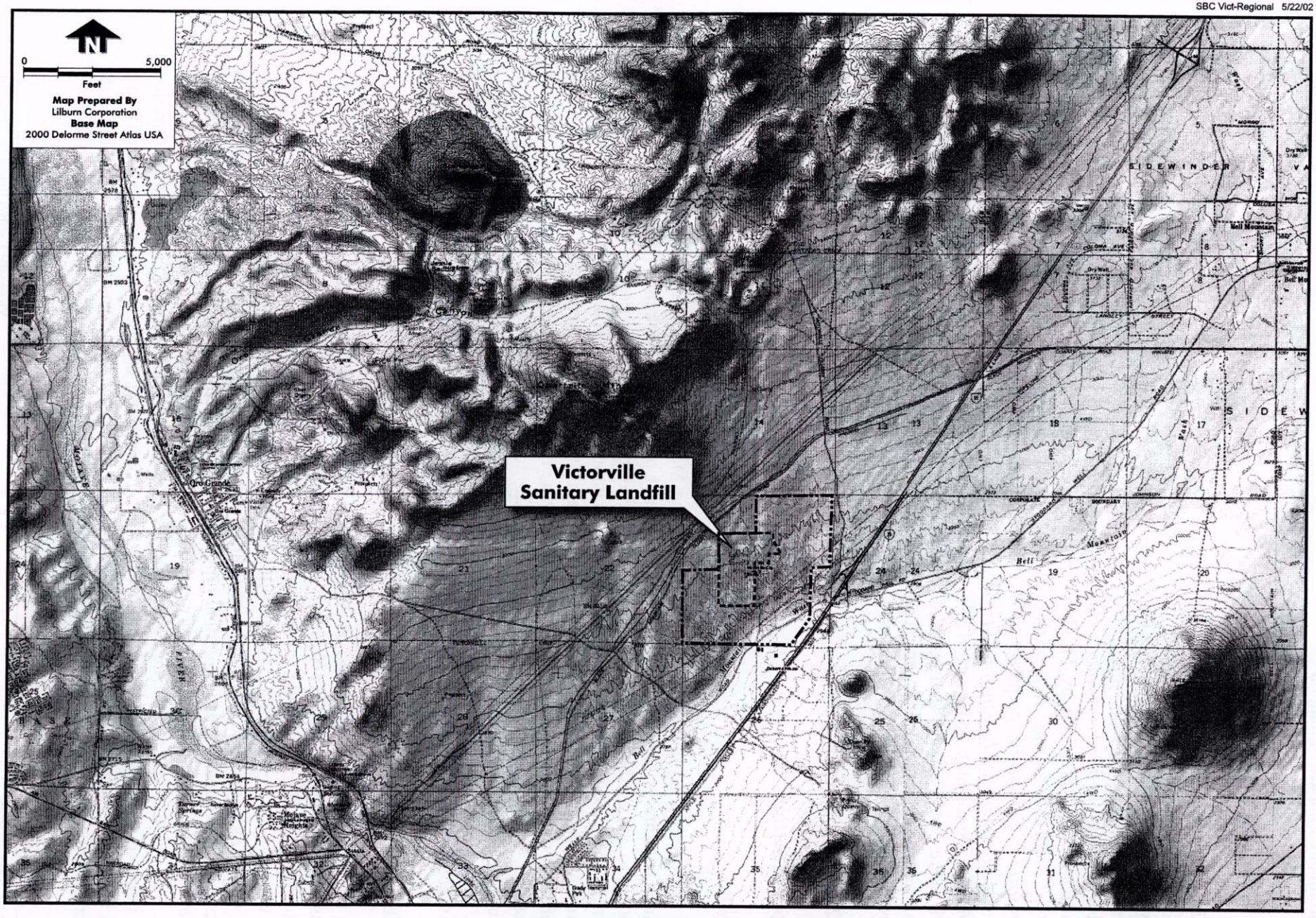

Regional Topography

Victorville Sanitary Landfill
San Bernardino County, California

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Figure 4.5-1

gravel at their base. The older portions of the alluvial surface are composed of gravel and gravelly sand that ranges from loose to well cemented. Gravel clasts in the area range from cobbles to small boulders consisting of quartzite, schist, granite, and marble. Clastic sediments like those found on the site consist of material that has been eroded, transported and redeposited in another location. Some gravels display thin coatings of caliche. At several exposures over the expansion area, bedding surfaces reveal thin, one to two-foot thick, discontinuous caliche layers. Desert pavement coats the upper low-relief surfaces throughout the proposed expansion area.

In April 2001, the borrow pit at the northeast corner of permitted landfill area was approximately 120 feet below grade and exposed the upper portion of the alluvial fan deposits. The exposed deposits from a depth of 90 feet to the surface consisted of sand to gravel, with very indistinctive bedding and many caliche-cemented horizons present. The alluvium exposed below a depth of 90 feet in the borrow pit had a darker, more brown color.

According to the seismic reflection survey report (IT Corporation, June 1999), boring logs for the landfill monitoring wells indicate the site is underlain by 175 to 275 feet of alluvial deposits consisting of interbedded sands, gravels, and caliche, all similar to surface exposures. Bedding dips to the south similar to the existing surface topography. Boring logs indicate that the bedrock under the alluvium is composed of quartz monzonite.

Seismicity

The Victorville Sanitary Landfill is located within the Mojave Geomorphic Province of California. This wedge shaped province has its western point where the Garlock fault and the San Andreas fault intersect near Tejon Pass, at Frazier Mountain north of Los Angeles. The Garlock fault extends northeast then east from there, forming the northern boundary of the province. The southern extent of the Basin and Range Geomorphic Province defines the remaining northern border, east to Nevada. The San Andreas Fault forms the southeastern boundary of the province to the San Bernardino Mountains where it bends southerly in the Cajon Pass which divides the San Gabriel Mountains and the San Bernardino Mountains. From Cajon Pass to the Morongo Valley, the southern boundary of the Mojave Province follows the northern edge of the San Bernardino Mountains, and continues along the northern edge of the Little San Bernardino Mountains southerly to the Colorado River.

The triangular-shaped western portion of the Mojave Province is shaped by stress between the North American Plate and the Pacific Plate at the "great bend" of the San Andreas fault. As these plates grind past each other, the San Andreas fault's right lateral slip accounts for most of the movement. However, many other right lateral faults in southern California also carry components of the movement, including the right lateral faults of the East California Shear Zone. In this area the predominantly northwest-southeast trending San Andreas fault bends east, then back southeast, in an S curve called the "great bend". This creates a catch where the North American Plate and the Pacific Plate are colliding obliquely, instead of sliding past each other. The North Frontal Fault Zone along the eastern side of the San Bernardino Mountains is a thrust fault system that corresponds to the southerly boundary of the province. This fault zone represents where the Pacific Plate is pushing the San Bernardino Mountains up and over the North American Plate. The geologic structure of the west Mojave is so complex, paleomagnetic

studies show entire mountain ranges are being slowly rotated clockwise (Norris and Webb, 1990).

Faults in the vicinity of the site include the Helendale fault approximately seven miles northeast. The North Frontal Fault Zone is located 15 miles southeast of the site. Other faults in the vicinity include the Cleghorn fault and Squaw Peak fault. See Figure 4.5-2 for the locations of faults in the vicinity. (Note: the three digit numbers shown on the exhibit are used in place of the fault names when cross-referenced to the "Fault Activity Map of California and Adjacent Areas" compiled by Jennings 1994 and are not germane to this discussion.) Table 4.5-1 is a summary of faults, their relative distance from the project sites and the projected maximum credible earthquake.

The following discussion describes earthquake faults in terms of the Maximum Credible Earthquake (MCE). MCE is based on correlations between the length, area, and displacement of a fault and earthquake magnitude. It is expressed in terms of moment magnitude (M_w), a comprehensive scale based on analysis of all seismic waves, and which is considered the best measurement of the size of the earthquake.

Earthquakes occur in southern California everyday but most often these are small enough that they are not felt by most people and cause no discernable damage. However, occasionally, large seismic events do occur. The most recent large earthquakes to affect areas of the Mojave Desert are the 1992 Landers earthquake that actually triggered seismic activity on other faults, the 1992 Big Bear earthquake which occurred three hours after the Landers earthquake on an undetermined fault, and the 1999 Hector Mine earthquake on the Lavic Lake fault.

In June of 1992, the region experienced shaking from the Landers earthquake of M_w 7.3. The event occurred on a complex system of north to northwest-trending faults, including the Johnson Valley, Homestead Valley and Emerson-Camp Rock faults of the Eastern California Shear Zone. A M_w 6.4 earthquake occurred in Big Bear three hours after the 1992 Landers earthquake but has not yet been attributed to a specific fault.

In October 1999, another large earthquake occurred along faults of the Eastern California Shear Zone. This M_w 7.1 earthquake was termed the Hector Mine earthquake after a nearby clay mine. This earthquake was generated by the Lavic Lake fault, a little-known structure southwest of Ludlow in the eastern Mojave Desert that was presumed not to have been active during the Holocene. The relatively short time frame between the Landers and Hector Mine earthquakes has led some investigators to suspect that the Mojave Desert is currently in a cycle of high seismicity.

The *Geologic Hazards Investigation Report of the Victorville Sanitary Landfill Expansion Area* (IT Corporation, 1999) indicated no Holocene faulting was found within the landfill expansion areas. Two anomalies were identified along the seismic reflection lines outside the expansion area but could not be related to any surface features or linears but instead may be caused by discontinuous caliche cementing in the subsurface. The investigation of the expansion area indicated that no potential for rapid geologic change or that Holocene faulting is present onsite. However, activities on any of the numerous faults (see Table 4.5-1) in the vicinity could affect the proposed landfill expansion. A generalized fault map is shown in Figure 4.5-2.

Table 4.5-1
Regional Faults

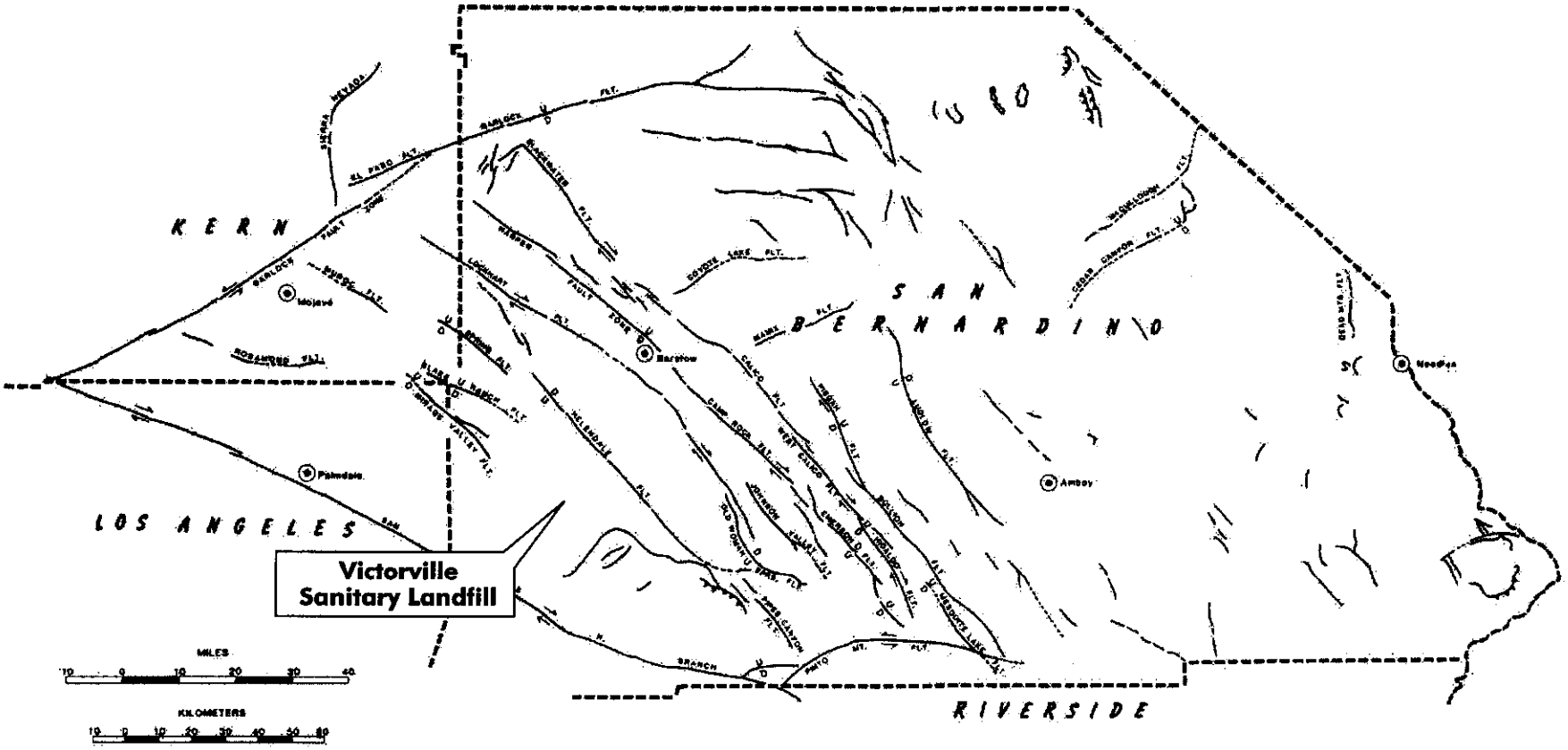
Fault	Type	Miles from Site	MCE	Seismic Activity	Remarks
Calico Fault Zone Calico Fault West Calico Fault	Right lateral strike slip fault	 39.1 43.4	Mw 6.5 – 7.1	Mw 5.0 – 1993 Mw 5.3 – 1997	Exhibited triggered slip in 1992 as a result of the Landers earthquake. 1997 earthquake was the last aftershock of the Landers earthquake to reach a magnitude of 5.
Lenwood	Right lateral strike slip fault	29.2	Mw 6.5 – 7.4	Holocene	No recent seismic activity on this fault. However the fault experienced triggered slip near the southe4ast and in 1992 due to the Landers earthquake.
Harper Fault Zone Gravel Hills Harper Lake	Right lateral strike slip	 31.2 30.8	Mw 6.5 – 7.2 Mw 6.0 – 6.7	Holocene	No recent seismic activity associated with this fault zone. Not affected by Landers earthquake.
Lockhart Fault	Right lateral strike slip	26	Mw 6.5 – 7.4	Holocene to Late Quaternary	Continuous with the Lenwood Fault system and may also form continuous fault system with the Helendale Fault.
Camp Rock Fault	Right lateral strike slip	33.1	Mw 6.0 – 6.8 up to 7.5 when combined with other faults	Mw 7.3 – 1992	Fault ruptured in the Landers earthquake of 1992.
Coyote Lake Fault	Left lateral?	34.7	--	--	No information about this fault. Surface trace somewhat concealed for much of its length.
Manix Lake Fault	Left lateral	52.1	Mw 6.0 – 7.0	Mw 6.5 – 1947	Surface rupture in 1947 was small but notable, making the first historic example of surface rupture along a fault in the Mojave Block.
Helendale Fault	Right lateral	10.3	Mw 6.5 – 7.3	Holocene	Helendale fault cuts through North Frontal fault zone of the San Bernardino Mountains.
Garlock Fault Zone	Left lateral	67.1	Mw 6.8 – 7.6	1500 A.D.	Most obvious geologic feature in southern California, clearly marking the northern boundary between the Mojave Clock and the southern end of the Sierra Nevada and Valleys of the westernmost Basin and range province. No earthquake has produced surface rupture in historic times although

Table 4.5-1
Regional Faults

Fault	Type	Miles from Site	MCE	Seismic Activity	Remarks
					cracks opened along a short segment of the fault in 1952 due to shaking during the Kern County earthquake. The most recent earthquake in the fault zone occurred in 1992 (M 5.7) near the town of Mojave, triggered by the Landers earthquake.
Bullion Fault	Right lateral	56.9	Mw 6.5 – 7.1	Mw 7.1 – 1999	Generally considered to be the southern extension of the Pisgah fault. Both may rupture in series as a single system. The Bullion Fault is also capable of rupturing in conjunction with the Lavic Lake Fault as demonstrated in October 1999.
Pisgah Fault	Right lateral	50.1	Mw 6.0 – 7.0	Holocene	Fault experienced triggered slip in 1992 due to the shaking during the Landers earthquake. May rupture in series with the Bullion fault to the south.
Landers (Kickapoo) Fault	Right lateral	60.8	Mw 7.3 or greater	Mw 7.3 – 1992	Discovered in 1992 after the Landers earthquake. This fault is a short connecting fault linking the Joshua Valley and Homestead faults. It may have slipped during, possibly even initiating the 1979 Homestead Valley earthquake whose epicenter was located near the surface trace of the Landers Fault.
Galway Lake Fault	Right lateral	45	Mw 6.0 – 7.0	Mw 5.3 – 1979 Mw 7.3 – 1992	Unknown fault until its first historic rupture in 1975. Connected at its southern and to the Emerson fault it has shown that it can rupture separately or in concert with other faults as in 1992. The Galway Lake fault and other smaller faults first noticed after the Landers quake may represent a connecting fault zone in formation, ultimately linking the Emerson – Camp Rock fault system with the Calico – West Calico faults.

Table 4.5-1
Regional Faults

Fault	Type	Miles from Site	MCE	Seismic Activity	Remarks
Homestead Valley Fault	Right lateral	52.1	Mw 6.0 – 7.0	Mw 5.3 – 1979 Mw 7.3 – 1992	Ruptured along most of its length (29 km) during the 1992 Landers earthquake with a peak lateral displacement of 3.35 meters. The 1979 rupture was only 3.25 km and maximum displacement of about 10 cm (4 inches). During the Landers earthquake this fault served as one of several links in a chain of connected fault rupture.
Johnson Valley Fault	Right lateral	39.5	Mw 6.5 – 7.3	Mw 7.3 – 1992	Ruptured in conjunction with the Landers earthquake in 1992. The Johnson Valley fault is linked to the Homestead Valley fault by the Landers fault.
Lavic Lake fault		58.8	Mw 7.1	Mw 7.1 – 1999	Fault is approximately 27 km in length from just northwest of Lavic Lake to its intersection with the Bullion fault east of Quackenbush Lake. Hector Mine earthquake of 1999 ruptured the entire known length of the fault, including a previously unmapped northern section of the fault that ruptured across alluvial fans and the drag bed of Lavic Lake south of Pisgah Crater. This earthquake also ruptured about 13 km of the Bullion fault to the south of its intersection with the Lavic Lake fault.
North Frontal Fault Zone	Primarily thrust	11.1	Mw 6.0 – 7.1	Holocene	65 km in length but is cut by the Helendale fault. This zone consists of numerous faults and is offset right-laterally by the Helendale fault forming a complex junction with the Old Women Springs fault. This is a thrust fault zone where the San Bernardino Mountains are being pushed up and over the Mojave Desert.
San Andreas Fault	Right lateral	22.1	Mw 8.2	1857	The southern portion of the San Andreas fault last ruptured in 1857 on a section between the Cajon Pass (separating the San Bernardino and San Gabriel mountains) and the Tejon Pass in the Tehachapi's.



Source: Geology of California, Norris and Webb,1990..

San Bernardino County Fault Map (Generalized)

Victorville Sanitary Landfill
County of San Bernardino, California

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Figure 4.5-2

Seismic Hazards

Although some faults, such as the Cleghorn and Helendale faults, have been inactive for some time, it bears repeating that the tectonic forces in this region will produce earthquakes. Potential hazards associated with seismic events in the Mojave Desert include ground shaking, ground rupture, liquefaction, seismically induced settlement, seismically induced landslides, and seiches/tsunamis.

- Ground Shaking is the most significant seismic hazard. It is the result of waves emanating from the focus of an earthquake being transmitted through the surrounding area bedrock and soils strata. It is expressed as the horizontal and vertical acceleration, as a fraction of gravity, that fault movement will generate. The duration of the movement is also significant, but is not easily expressed or predictable. Shaking is the most serious threat to the area posed by earthquakes. When the San Andreas fault ruptures, with an expected magnitude of 7.8 to 8.2, initial acceleration of up to 0.8g is a reasonable expectation. Duration of the shaking varies with distance from the fault and the length of the fault that ruptures in a given event. A major earthquake on the San Andreas can be expected to last between one and two minutes. The other faults listed in Table 4.5-1 are all capable of producing earthquakes in the M_w 6.5 to 7.0 range, with corresponding lateral accelerations of between 0.4g to 0.7g. These are significant threats, but those earthquakes would produce ten times less shaking than the rupture on the San Andreas fault will be, and their impact is correspondingly lower.

- Ground Rupture is the actual breaking and movement of the ground. It can be gradual and occur without earthquakes as creep on a fault, or it can happen rapidly and generate earthquakes. The amount of rupture determines the magnitude of an earthquake. For example: in the San Bernardino area, the San Jacinto fault has approximately ten feet of backlogged movement, while the San Andreas fault has about twenty feet. Hence the San Andreas fault is capable of producing earthquakes on an order of magnitude greater than the San Jacinto fault. The hazards of ground rupture and displacement are generally in the immediate vicinity of a fault, and are within the earthquake fault zone.

- Seismically Induced Settlement can occur when materials near the surface consist of loose compressible soils. Settlement is typically associated with high intensities of ground shaking, shallow groundwater and the presence of alluvial deposits or sandy soils.

- Liquefaction occurs when ground shaking from an earthquake causes a sediment layer that is saturated with groundwater to lose strength and behave like quicksand. This can cause near surface or surface failure. Liquefaction is a concern in areas that have a shallow groundwater level and a low drainage condition. Depth to groundwater beneath the site ranges from 100 feet below the surface on the northwest side to approximately 206 feet below the surface in the southeast.

- Seismically Induced Landslides may occur when severe ground shaking induces landslides in areas that have steep slopes.

- Seiches and Tsunamis are seismically induced waves created during severe earthquakes in closed bodies of water (seiches) and oceans (tsunamis). Seiching has been known to occur within storage tanks located near a fault zone, with resulting failure of the tank walls and localized flooding.

- Subsidence occurs where groundwater is depleted faster than the recharge rate so there is a potential for subsidence as the aquifer loses its interstitial water support during an earthquake. This phenomenon is not presently a problem in the Victor Valley area, where groundwater levels have dropped an average 25 and 40 feet. Normally, it takes groundwater drops of several hundred feet to trigger subsidence.

- Soil Instability takes three major forms:

  - *Insufficient strength*: if a soil does not have enough compaction or friction between the components, it can collapse under the weight of a structure built on it, or in the case of a landfill the weight of solid waste and cover material.

  - *Shrink/Swell*: some soils, particularly those with clay as a significant component, expand when wet and shrink as they dry. This requires special engineering of foundations to compensate for the changing volume without warping or cracking a building.

  - *Differential Settling*: this is a phrase that covers combinations of soil types on a site. If one soil is stronger than another, or has different shrink/swell characteristics, a structure could potentially be damaged by the stress across the soil type boundary.

The site is not included within an Alquist-Priolo Earthquake Fault Zone designated by the State of California to include traces of suspected active faulting. The closest Alquist-Priolo Zone to the site is associated with the Helendale fault, approximately seven miles from the site. According to the Geologic Hazard Investigation, a recent USGS Open-File Report (Catchings et al, 2000) interprets north-northwest trending faults cutting alluvium northwest of Victorville, based on a seismic survey and geologic lineaments. These structures are about four miles southwest of the landfill site and interpreted to be of "young age" because of their shallow depth. However, these structures occur in paleo-Mojave River fluvial or older deposits and no surface rupture is present.

Regulatory Requirements

The California State Water Resource Control Board (SWRCB) and California Integrated Waste Management Board (CIWMB) regulate the siting requirements for expansion of non-hazardous solid waste facilities including Victorville Sanitary Landfill. Regulations are set forth in Title 27, Division 2 of the California Code of Regulations, as revised July 18, 1997.

- Section 20260(d), Ground Rupture, and Section 20260(e), Rapid Geologic Change, are to be addressed by the Geologic Hazards Investigation. Rapid geologic change can be defined as an alteration of the ground surface through phenomena such as landslides, subsidence, liquefaction, and faulting.

- Section 20260(d) states that new Class III landfills shall not be located on a known Holocene fault (fault that is currently active or has been in the last 11,000 years).

- Section 20260(e) states that new Class III landfills can be located within areas of potential rapid geologic change only if the RWQCB finds that the containment structures are designed, constructed, and maintained to preclude failure.

4.5.3 Project Impacts and Mitigation Measures

Thresholds of Significance

Significant impacts related to geology, seismicity and soils would result from development of the proposed project if:

- People or structures are exposed 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;
  - strong seismic ground shaking;
  - seismic-related ground failure, including liquefaction; or
  - landslides.
- Substantial soil erosion or the loss of topsoil results.
- Development is permitted on a geologic unit or soil that is unstable, or that would become unstable and potentially result in on- or off-site landslides, lateral spreading, subsidence, liquefaction or collapse.
- Development is permitted on expansive soil, as defined in Table 18 – 1-B of the Uniform Building Code (1994) creating substantial risk to life or property.
- Development is permitted over soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available.

<u>Geologic Hazard Assessment</u>

The *Geologic Hazards Investigation of the Victorville Sanitary Landfill Expansion Area* included a geologic hazards assessment which investigated the proposed expansion area.

Ground Rupture or Holocene Faulting
No evidence of ground rupture was observed in the vicinity of the expansion area. Alluvial fan deposits are structurally unformed, with no direct evidence of faulting such as displacement, rupture of soil, or cementation and no indirect evidence such as springs, offset of drainages, or linear topographic features. No features were found to be associated with the vegetation lineaments identified on aerial photos and subsequently checked in the field. A review of the data generated by the seismic-reflection survey indicated no offset or reflector beds within the expansion areas.

Landslide Potential
The generally low topographic relief, nearly flat lying beds, and coarse, partially caliche cemented deposits preclude any potential for landslides originating in the expansion areas. No evidence of slope failure is visible or has occurred in the borrow area, which maintains almost a 1H:1V (horizontal to vertical) slope gradient. The nearest possible landslide potential area exists in the north from Quartzite Mountain, which is several thousand feet northwest of the landfill site.

Subsidence
The course, clast-supported, and well-compacted nature of the alluvial deposits eliminates any potential for ground subsidence in the landfill expansion areas. The deep water table in the vicinity and caliche cementing also reduce the potential for subsidence.

Liquefaction
The coarse, dry, and weak to strong cemented nature of the alluvial deposits and the deep water table which exists more than 100 feet below the surface prevent any possible liquefaction from occurring in the area.

Alquist-Priolo Earthquake Fault Zone
The project site is not located within an Alquist-Priolo Earthquake Fault Zone. The nearest Alquist-Priolo Zone is associated with the Helendale fault approximately seven miles northwest of the landfill.

Development of Structures
The proposed project is the expansion of the existing Victorville Sanitary Landfill. No structures are proposed to be developed as part of the project. The existing scalehouse is portable and could be moved as the working area of the landfill moves into different expansion phases. The scalehouse would not be located on any portion of the landfill that has been filled. Therefore, no structures would not be exposed to seismic hazards.

Septic Systems
No septic system is proposed for the landfill. Portable facilities are currently used on-site and that practice would continue during the extended life of the landfill.

The *Geologic Hazards Investigation of the Victorville Sanitary Landfill Expansion Area* was prepared to evaluate existing geologic, seismic and soil conditions in the expansion areas to determine if geologic hazards existed that affect the expansion of the landfill. Although no geologic hazards were identified on-site, the expanded landfill could be exposed to seismic activity that may compromise the integrity of the existing landfill and future expansion during seismic events. These include differential settlement, slumping and soil loss that could be caused by groundshaking. In addition, soil erosion or loss of topsoil is also evaluated.

Impacts and Mitigation Measures

Impact GEO-1

Expansion of the Victorville Sanitary Landfill includes excavation of phases to depths up to 200 feet below existing grade and fill in phases up to 220 above existing grade. Excavation could create unstable slopes in the pits created for landfilling. Development of a landfill mound could create unstable fill slopes. This is a potentially significant impact.

The proposed expansion of the landfill includes the excavation of the expansion areas to create space to accommodate disposal of solid waste as well as recovering soil that can be used for daily, intermediate and final cover material. The landfill site is located on an alluvial fan emanating from Quartzite Mountain to the northwest. Existing grade slopes in a southeasterly direction.

In Phase 1A excavation would be minimal, approximately 20 feet in depth to create space for placement of the liner system and environmental controls. In Phase 1B, approximately 43 acres of the 63-acre area have already been excavated to depths ranging from 60 feet below grade in the northwest corner of the borrow area to daylight at the southerly end of the borrow area to recover material for daily and intermediate cover. During this phase, an additional 10 to 40 feet of excavation would occur in the existing borrow area with the remaining 20 acres excavated to depths between 20 and 50 feet below existing grade. At the completion of excavation the landfill liner system and environmental controls would be placed so that the area drains to the south. The purpose of this design is to allow any leachate generated by the landfill to be collected in a sump at the lowest point of the landfill phase. In addition, the gently sloping site would also allow drainage to flow around the landfill and into the proposed desiltation/detention basin at the southerly end of the site south of the Phase 3 expansion area.

In the Phase 2 expansion area, elevations currently range from 3,090 feet above msl in the northwest corner to 2,940 feet above msl along the southerly edge of the area adjacent to Phase 1B a total 150-foot change in elevation. As excavation occurs in the Phase 2 area excavation in the northwest section would reach a depth of approximately to 2,960 feet above msl, creating a excavated area of 130 feet in depth. From there the excavation depth would decrease across the bottom of the Phase in 10-foot contours spaced at roughly 600-foot intervals to create a gently sloping pit bottom. The elevation of the Phase 2 area at the southwest corner would be 2,920 feet above msl a change in elevation at that point of only 20 feet. At that point, the area would be near daylight as it meets the surrounding landscape. A minimum of 20 feet below existing grade is proposed to allow for the liner system and environmental controls to be placed beneath the solid waste. At the completion of excavation the landfill liner system and environmental controls would be placed so that the area will drain to the south where leachate can be isolated in a sump at the lowest point of the phase.

Excavation of Phase 3 would occur in a similar manner. Existing elevations range from 3,020 feet above msl in the northeast corner of the area to 2,880 feet above msl at the southerly edge of the expansion area; a change in elevation on the surface of 140 feet. As excavation

occurs in the Phase 3 area, the northwest section would be excavated to depths averaging up to 200 feet below existing grade. Toward the southerly end of the area, excavation would be approximately 140 feet below existing grade to approximately 2,750 feet above msl. The lowest point in Phase 3 is in the southerly portion of the phase and would be the area where leachate would be collected.

Excavation would be done utilizing standard equipment and techniques. Each phase would be sequentially excavated over the life of the project. The side slopes of each phase would be developed in 40-foot vertical intervals at 2H:1V (horizontal to vertical) with 15-foot wide benches. This would result in a gross slope gradient of 2.5H:1V. Figure 3-13 in Chapter 3.0 shows cross sections of the project for both subgrade cut slopes and above grade fill slopes.

Landfilling of each phase would begin in the excavated areas and rise in height up to a maximum height of 3,160 in Phases 1 and 2 and 3,182 feet above msl in Phase 3. Because of the slope gradient of the site (five to six percent) this could result in the development of a mound up to 220 feet above the existing grade. Refuse fill slopes would be developed in 40-foot vertical intervals at 3H:1V with 20-foot wide benches. The fill slopes would have an ultimate slope gradient of 3.5H:1V.

Results of the Geotechnical Investigation for the Site

GeoLogic Associates conducted a geotechnical investigation of the site that included a study of native soils upon which the landfill would be developed, a slope stability analysis, and an analysis of the quality of site material for use in construction projects on site (i.e., base layer, drain rock, road base, final cover, etc.).

Foundation Conditions

The study of native alluvial soils showed that potential foundation soils (soils that would underlie the landfill expansion areas are very dense. The excavation of these soils and replacement with solid waste having a typical unit weight of approximately 80 pounds per cubic yard would not result in a significant increase in load on the subgrade soils below the proposed floor of the landfill. Therefore, it was concluded that native alluvial soils underlying the site can provide adequate foundation support for the proposed landfill development (GLA, 2001).

Slope Stability

The slope stability analysis was prepared and is included in the Draft Geotechnical Investigation for the landfill expansion (GLA 2001). As stated in the Investigation Report, the analysis was conducted prior to preparation of final grading plans so that engineers could establish limiting criteria to be used in the design of suitable slope orientations and gradients for both subgrade slopes and interim fill slopes. Analyses were completed using the proposed site phasing and development plans, available soils characteristics and published geosynthetic material strengths (liner system). The stability of subgrade cut slopes, fill slopes on the lined subgrade slopes, and above grade fill slopes were analyzed.

Title 27 CCR requires that the refuse prism must have a factor of safety of at least 1.5 under dynamic conditions, and that if this is not the case, a more rigorous analysis must be performed to estimate the magnitude of movement under seismic loading conditions. The MPE used to evaluate slope stability was a M_w 7.6 event on the San Andreas fault at a point 24 miles south of the site. If the factor of safety is less than 1.5, additional displacement analyses must be performed to evaluate the amount of displacement that could occur in the landfill cut slopes or fill slopes and containment system under seismic loads. The procedure for the analyses is based on methods for determining displacement of a rigid block resting on a sliding plane subjected to earthquake type motion. This is based on the premise that the sliding block will undergo displacement only during periods when the maximum ground acceleration exceeds the yield acceleration.

The analysis for the cut slopes with the proposed gradient of 2H:1V indicated that slopes between benches have a calculated factor of safety of 1.5 and the calculated factor of safety for the overall slope (including benches) was calculated to be approximately 1.9. Pseudo static analysis indicated a yield acceleration of 0.18g for slopes between benches and 0.27g for the gross slope. The maximum ground acceleration during the postulated MPE on the San Andreas fault is 0.18g. Therefore, no significant induced permanent displacement of the cut slopes is anticipated to occur. Therefore, slopes were considered to be stable at an overall slope gradient of 3.5H:1V.

Because final fill slope heights and configurations were not established prior to undertaking the slope stability analysis, an analysis was conducted to determine the run-out lengths (i.e. the horizontal length of the base liner) required to obtain a minimum calculated factor of safety of 1.5 for various slopes assuming that solid waste would be placed at 3H:1V with an overall slope gradient of 3.5H:1V. The analyses indicated that a minimum run-out length of 3.85 times the height of the slope would be required to obtain a minimum calculated factor of safety of 1.5. Pseudo-static analysis for these slopes indicated a yield acceleration of 0.077g so an evaluation of seismic-induced permanent displacement was done. This evaluation indicated displacements of less than two inches for the planned fill slopes with the run-out ratio of 3.85 times the height of the slope.

Material Utilization

In addition, the ability of the County to utilize the excavated material for landfill cover, drain rock and road base for on-site haul roads, was evaluated. The soils on the site are predominately alluvial material consisting of sand with gravel and cobbles, and approximately 15 percent silt and clay content to depths of 80 feet. Although the volume of this material was not calculated, geologists believe that there are sufficient quantities of material suitable for use as cover material as well as construction projects at the landfill including haul roads and the perimeter drainage system. The amount of low-permeability material found on site however, varies in quality and quantity such that it is not acceptable for use in landfill applications. As such, some cover material would be required to be imported.

Mitigation Measures

Mitigation Measure GEO-1

Planned cut slopes shall be developed at gradients of 2H:1V between benches for a overall slope gradient of 2.5H:1V. Fill slopes shall be developed at gradients of 3H:1V between

benches with an overall slope gradient of 3.5H:1V. In developing the final fill slope configurations, the minimum run-out ratio of 3.85 times the height of the slope shall be maintained at all times.

Level of Significance After Implementation of Mitigation Measures

On the basis of the slope stability analysis conducted for the proposed project, cut slopes with a gradient of 2H:1V between benches are adequately stable for static and seismic loading conditions. For fill slopes, the proposed 3H:1V between benches is satisfactory if a minimum run-out ration of 3.85 is maintained. For the seismic conditions the permanent seismic induced displacements have been estimated to be well within the acceptable limits. Therefore, slopes would be stable and this impact would be less than significant.

Impact GEO-2

Expansion of the Victorville Sanitary Landfill includes excavation in phases to depths up to 200 feet below existing grade and the construction of landfill phases to heights of up to 220 feet above grade. These activities would expose soils to wind and water erosion during site development and operation. This is a potentially significant impact.

In a dry, hot climate with persistent high winds (see Air Quality, Section 4.2), like the local conditions in the High Desert, wind erosion occurs. Blowing soil not only impacts the eroding zone by depletion, it affects land uses in surrounding areas where the dust reduces visibility, decreases air quality, abrades exposed surfaces and degrades machinery. The problem worsens with the degree of ground disturbance, so special care must be taken in mitigating these conditions where grading totally exposes the soil. With the high wind conditions characteristic of the High Desert area, any soil disturbance activities can potentially create soil erosion problems.

The County has an on-going dust control plan at the landfill including limiting the size of the active fill area, watering or using dust palliatives on the haul roads and stockpile areas, and hydroseeding areas of the landfill that are not anticipated to be disturbed for over 180 days. This plan includes the existing borrow site where excavation for cover material occurs.

The County anticipates excavating each phase of the project in subphases. For example, Phase 2 would be divided into six subphases to be excavated sequentially over a period of 40 years. The County does not intend to sell excavated material only use it for construction projects at the landfill as well as daily, intermediate and final cover of the landfill. Since the rate of disposal at the facility is not anticipated to increase at a rapid rate, and the excavated material is not intended to be sold as aggregate for commercial uses, the County has an opportunity to develop the landfill over a period of several years. So that the rate of excavation would be similar to current rate. As subphase excavation is completed, the area would be lined and filling would commence.

As currently occurs, in the future, haul roads would continue to be watered frequently during daily operations. In addition as an area is filled and the operator moves to a new fill area, the former would be treated with a dust palliative to reduce dust in areas that won't be disturbed for a while. For areas that are not disturbed for a period of 180 days or longer, the operator would seed the area to control erosion.

A soil loss map has been prepared to show annual soil loss by area. The completed landfill was divided into 10 areas. The landfill at completion represents an area of approximately 363 acres. The soil loss map shows an average of 1.93 tons per acre per year. To minimize soil loss, the County would establish native vegetation on the landfill surface. Overtime as wind erosion removes the silts and clays from the soil, an armoring effect is established where the landfill surface is "armored" by the remaining gravel and cobbles that are less susceptible to wind and water erosion.

Mitigation Measures

In addition to mitigation measures identified in Section 4.2 – Air Quality, the following mitigation measures would be applied to excavation and landfill activities at the site.

Mitigation Measure GEO-2

The County shall update its Dust Control Plan for the landfill site to include the additional landfill areas. In areas under excavation, water shall be applied at regular intervals throughout the day (determined by daily wind conditions) or dust palliatives should be applied on areas that are not intended to be disturbed over a longer period of time. Excavated areas that are not ready to be lined and filled that would be exposed for periods greater than 180 days shall be seeded with a grass mixture to reduce wind erosion until liner construction begins.

Level of Significance After Mitigation

With the implementation of mitigation measure GEO–2, any erosion impacts caused by wind and water will be mitigated to a less than significant level. This will assure a minimal soil erosion impact to the surrounding area. Section 4.2 - Air Quality includes mitigation measures to reduce soil erosion impacts to air quality and Section 4.7 – Hydrology and Water Quality includes mitigation measures to reduce soil erosion impacts to water quality.

Impact GEO-3

The project site is crossed by numerous drainages that could erode the landfill during storm events when water flows through them to Bell Mountain Wash. This is a potentially significant impact.

Water erosion is not generally a severe problem due to the low annual rainfall (average less than five inches per year). However, there are occasions, particularly during the summer months when thunderstorms can drop several inches of rain over a short duration, causing flash flooding. There are two issues associated with water erosion. The first is the drainage that could flow from off-site to on-site during a storm event. The second issue is the potential impact of heavy precipitation to damage the daily or intermediate cover of the landfill.

Drainage

There are three blue line streams that cross the project site that during storm events would carry flows across the site to Bell Mountain Wash. SWMD would be required to reroute the natural drainages around the landfill site to allow storm flows to continue to enter Bell Mountain Wash. To control stormwater run-on and reroute it around the landfill, SWMD has proposed a perimeter run-on control embankment constructed of rip-rap. The rip-rap embankment constructed at a 2H:1V slope around the perimeter of the landfill would be the outer embankment that supports the perimeter road. The inner embankment would be the on-site drainage channel that diverts stormwater runoff from the landfill, around the landfill and into a desiltation/detention basin that would be located at the base of the landfill adjacent to the southerly boundary of Phase 3.

Precipitation

During storm events, precipitation could be heavy enough to affect the daily or intermediate cover of the landfill or the active working face. Currently, on the existing landfill, the operator is required to protect the active working face from stormwater to "winterize" the site. This is generally done in September and October and consists of an inspection of the landfill and the downdrains that drain the water off the

Mitigation Measures

With the construction of the perimeter run-on control embankment, erosion associated with existing drainages would be eliminated and stormwater flows would continue to flow into Bell Mountain Wash. Therefore no mitigation would be required.

4.6 HAZARDS

4.6.1 Introduction

This section discusses any potential hazards that currently exist in the area surrounding the project site, or that could exist as a result of project development. Mitigation measures associated with the project related hazards are included in this section.

4.6.2 Environmental Setting

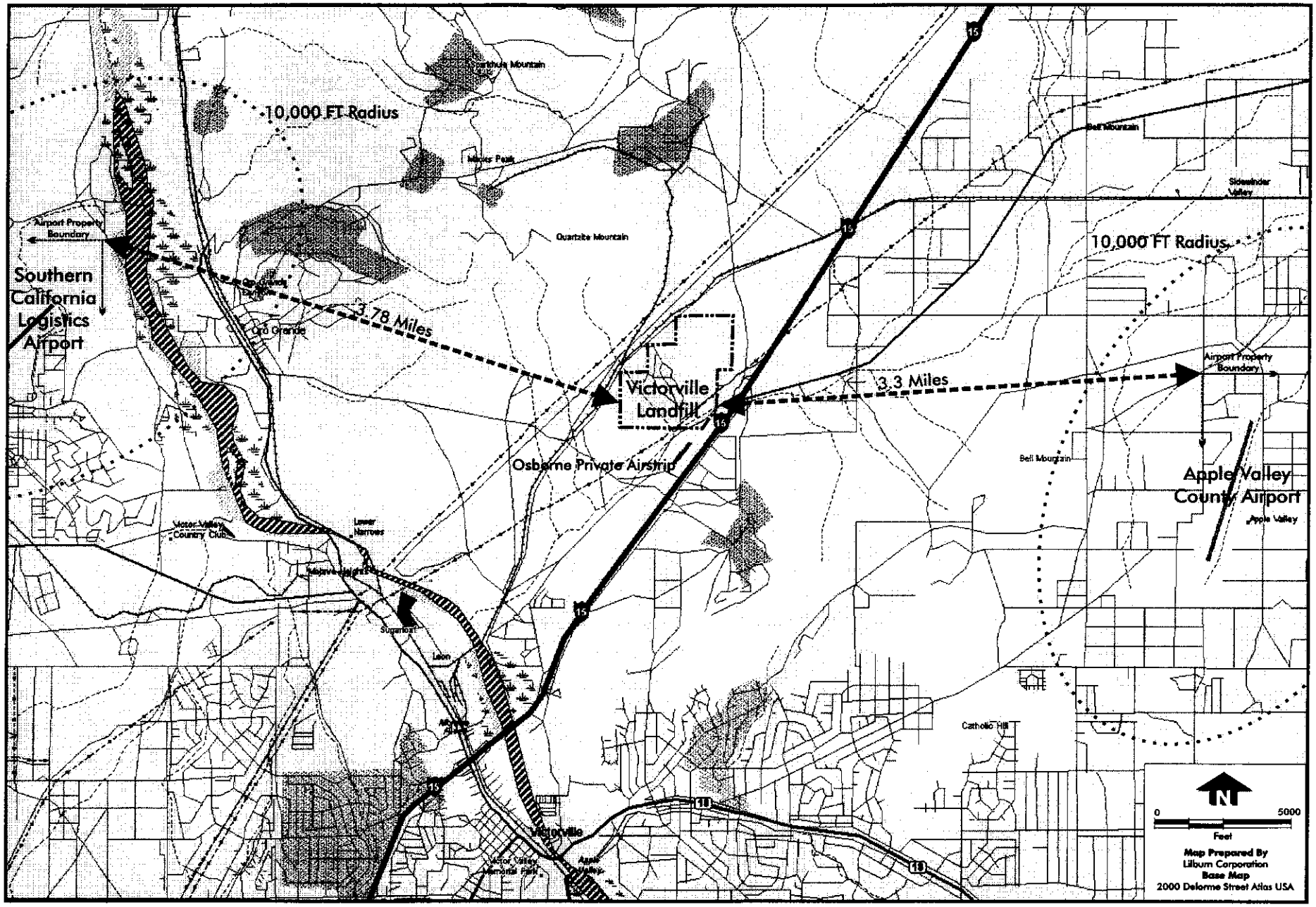
Impacts to Airports

The Victorville Landfill is located within five miles of the Southern California Logistical Airport (SCLA) and the Apple Valley Airport (Figure 4.6-1). The landfill is not located within an Airport Safety Overlay District, as indicated by the County of San Bernardino Hazard Overlay Maps.

The proximity and size of the SCLA triggers Federal Aviation Administration (FAA) Order 5200.5A which was incorporated as part of the U.S. Environmental Protection Agency (EPA) Final Rule for the Resource Conservation and Recovery Act (RCRA) of 1978 Subtitle D Solid Waste Disposal Facility Criteria. It can also be found in 40 CFR Section 258.10. This order can restrict the siting or expansion of landfills within specified distances of certain size airports. As a matter of policy, the FAA would oppose the siting or expansion of municipal solid waste landfills within five miles of the end of a runway at a major commercial airport utilized by commercial air transport carriers or within three to five miles of smaller commercial airports.

In particular, the FAA is especially concerned about general aviation airports having a runway length of over 5,000 feet and more than 1,000 to 2,000 annual turbine aircraft operations. According to the FAA, SCLA has two runways with runway lengths of 9,116 feet and 10,050 feet, respectively.

The Apple Valley Airport has a 6,500-foot runway and experiences approximately 55,000 annual aircraft operations per year. Aircraft operations include turbine and piston engine aircraft (personal communication, Connie Vojkufka, Apple Valley Airport, 2003). The Osborne Strip, a private landing strip, is shorter than the FAA 5,000-foot runway length criteria and does not receive turbine operations in excess of 1,000 annual aircraft. Past operations of both the landfill and the private landing strip have not resulted in land use conflicts, aviation hazards, or bird strike hazards (personal communication, John L. Osborne, 1997). The Victorville Sanitary Landfill is located approximately 4.5 miles west of the Apple Valley Airport runway (approximately 3.3 miles from the airport property boundary). The runway at the Apple Valley Airport is a north/south-facing runway while runways at SCLA face various directions. The Victorville Sanitary Landfill is not within the Airport Airspace and Runway Protection Zone of either of these facilities. This zone is a three dimensional, horizontal and conical imaginary surface that represents approach and departure routes.



Aviation Vicinity Map

Victorville Sanitary Landfill
San Bernardino County, California

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Figure 4.6-1

4.6.3 Project Impacts and Mitigation Measures

Thresholds of Significance

The proposed project would result in a significant impact to the area if the project creates an impact to the airports identified above or interferes with the airports of FAA's regulations and compliance measures.

Impact HA-1

The proposed landfill expansion project may require additional compliance measures in accordance Federal Aviation Administration (FAA) with regards to the Southern California Logistical Airport or the Apple Valley Airport due to the potential of bird strikes to occur. This is a potentially significant impact.

Foraging birds at a landfill pose a potential hazard to aircraft. Federal regulations require that the landfill operator demonstrate that a landfill operating within 10,000 feet of a jet airport would not cause a bird hazard to the airport. The site is located beyond the 10,000 foot threshold. The potential for landfilling activities to pose a significant threat to aircraft from birds which may forage the active landfill for food is low. There have been no reports of bird strikes attributed to the landfill.

The proposed landfill expansion will result in additional capacity and increased life of the landfill, but should not increase the daily volume of operations. Solid waste disposed in the landfill would continue to be covered daily to prevent any debris from being scattered by wind and to eliminate foraging of the waste by birds and other wildlife. As the daily operations would essentially remain much unchanged from the current conditions, the proposed landfill expansion should not attract additional birds to the area. No new bird hazards to the nearby aviation facilities should result with development of the proposed landfill expansion.

Mitigation Measure HA-1

In accordance with 40 CFR Section 258.10(b), the owner/operator will notify the affected airports and the Federal Aviation Administration (FAA) of the proposed landfill expansion project prior to construction.

Level of Significance After Mitigation

Notifying the airports and the FAA will help ensure that the landfill expansion project follows all the necessary guidelines as established by this agency, and minimizes the risk of any potential future impacts.

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4.7 HYDROLOGY AND WATER QUALITY

4.7.1 Introduction

This section provides a description of the existing surface drainage patterns for the Victorville Sanitary Landfill and the proposed expansion area. Information included within this section includes information from the following reports: *Hydrogeologic Assessment Report for Victorville Sanitary Landfill* and *Proposed Expansion Area* (IT Corporation, June 2001); *Engineering Review of Proposed Victorville Sanitary Landfill Expansion* (Golder Associates, January 2003); *Victorville Sanitary Landfill Expansion Project Description* (BAS, July 2002); and *Environmental Assessment for the Proposed Conveyance of Federally Managed Public Lands to the County of San Bernardino for Uses Related to Solid Waste Management* (BLM, October 1997). Due to the size of each of these reports they have not been included as technical appendices. They are available for review at the County Government Center.

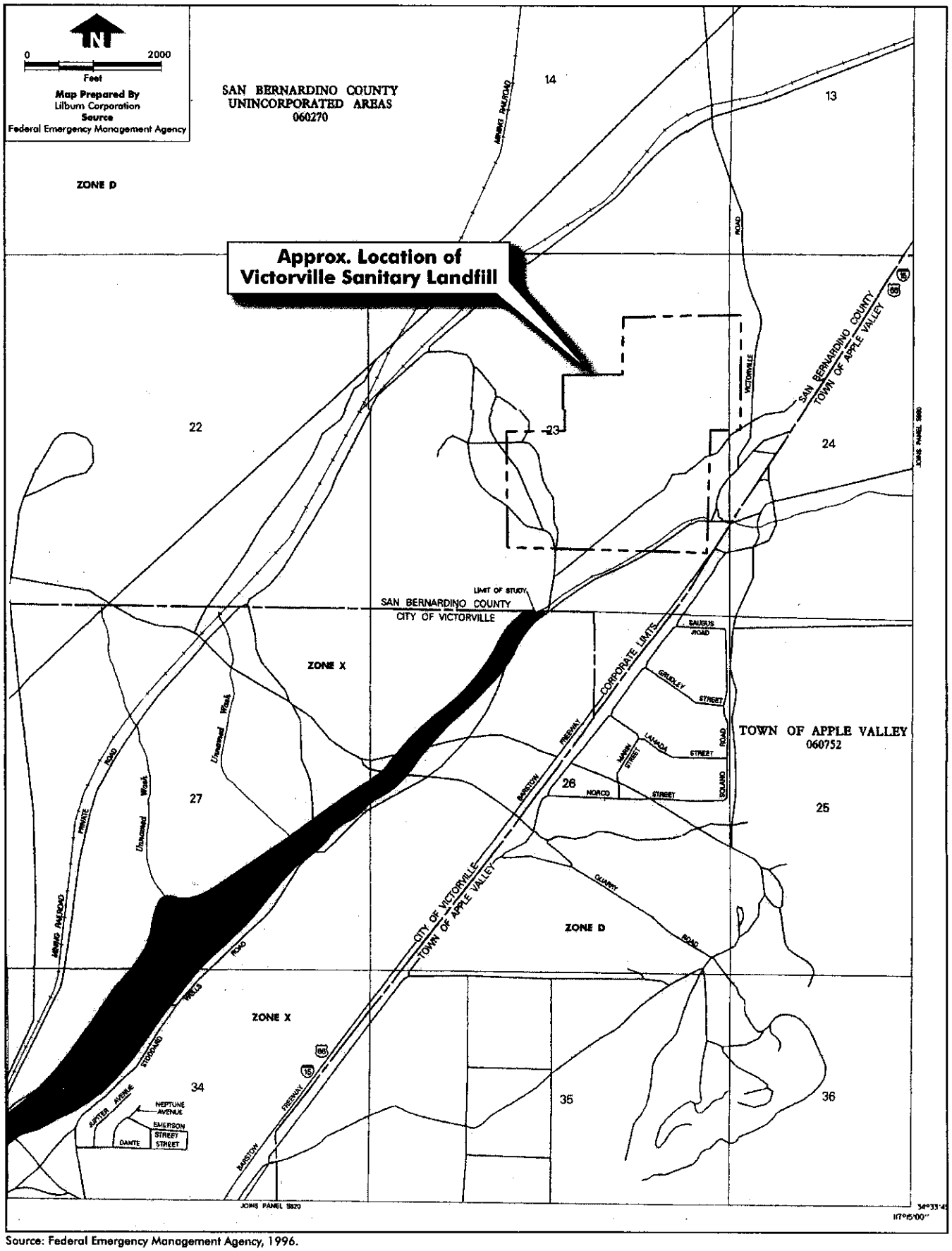
4.7.2 Environmental Setting

The average annual rainfall in the Victor Valley is less than five inches. The greatest accumulation of rainfall occurs during the months of January, February and March. Minimal rainfall and natural recharge results in water supply being a critical issue in an area that anticipates future urban growth.

The Victorville Sanitary Landfill is located in an area characterized as isolated mountains surrounded by alluvial fans and broad alluvial plains. Quartzite Mountain is located just north of the site. No continuously flowing streams or water bodies are currently located within one mile of the site. Natural drainages on and near the site flow south and southeast to Bell Mountain Wash located on the southwest portion of the site in an area that would not be developed. The Bell Mountain Wash drainage basin is a tributary of the Mojave River located approximately three miles southwest of the site. Surface water flows in the vicinity of the landfill is normally ephemeral occurring in small intermittent washes during and immediately following precipitation events.

Natural land surfaces for the site range in elevations of approximately 2,080 feet to 3,080 feet above mean sea level. According to the BLM report, Flood insurance rate maps prepared by FEMA indicate the site is located in Zone D, an area with an undetermined flood hazard (FEMA 1996). Floodplain information, as shown in Figure 4.7-1, indicates that the area immediately southwest of the site is located within a special flood hazard zone that could be inundated by a 100-year flood. The area proposed for expansion is above the flood plain area and that portion of the site that includes Bell Mountain Wash is not proposed to be disturbed. It would remain as a buffer area.

The area surrounding the landfill is largely vacant, with the exception of some light industrial development located approximately 1,500 feet south of the facility boundary, near the intersection of the unnamed road and Stoddard Wells Road. The project area is zoned for Regional Industrial (IR), along with the immediate surrounding area. Surrounding land use zoning include General Commercial (GC) east of the landfill along the I-15 freeway, and Resource Conservation (RC) to the north and west of the landfill. The city limits for the City of



Source: Federal Emergency Management Agency, 1996.

Flood Insurance Rate Map

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Victorville Sanitary Landfill
San Bernardino County, California

Figure 4.7-1

Victorville exist south of the project area, and the landfill is within the City's Sphere of Influence.

Landfill Contents

Solid Waste Contents
The landfill contains non-hazardous residential, commercial, demolition, and agricultural waste. Residential waste normally includes household refuse, plant clippings, scrap wood and metal, newspapers, and furniture. Commercial waste typically includes paper, gravel, wooden pallets, and scrap construction material. Demolition waste normally includes mixtures of concrete, asphalt, wood, and metal. Agricultural wastes typically include citrus fruit and pulp, manure, and plant clippings. In addition to these wastes, dried septic sludge from the surface impoundments was also disposed of in the landfill prior to 1996.

Surface Impoundments
Class II surface impoundments were previously operational in the northwest portion of the existing landfill area. During their operation, the surface of these impoundments measured approximately 550 feet in length (north to south), 175 feet (east to west) at its north edge, and 275 feet wide (east to west) at its south edge. The impoundment area was a maximum depth of approximately 15 feet during their operation.

During October 1996, SWMD ended the disposal of liquid septic waste at these impoundments at the request of the RWQCB, Lahontan Region. Following closure of the impoundments, the RWQCB allowed the County to build new clay-lined impoundments in the area where the old ponds were located. The new impoundments were improved by installing a single-liner system. The liner consisted of a three foot layer of soil material (barrier layer) that was placed on top of a one-foot layer of native or fill subgrade soil (foundation layer). The barrier layer and foundation layer were both compacted to 90 percent relative compaction or greater. The barrier layer was then covered with a one-foot protective cover of native soil, also compacted to 90 percent relative compaction or better. To ensure proper compaction, soil in the foundation layer, barrier layer, and protective cover was placed in lifts not exceeding eight inches. These new impoundments were used to hold liquid septic waste until November 1998. In December 1998, SWMD stopped accepting liquid septic waste and initiated in-place bio-remediation of the existing septic waste within the landfill impoundments.

Surface Water

No perennial surface water or springs were found within a one-mile radius of the site. Surface-water runoff occurring during and immediately after storm events is diverted from the active landfill area by an engineered system of berms and drainage ditches. The system has been designed to minimize the possibility of runoff water contamination and to accommodate a 100-year return-frequency storm event.

Natural drainage near the landfill flows south and southeast toward Bell Mountain Wash, approximately 500 feet southeast of the proposed refuse footprint area on the site. Bell Mountain Wash drains southwest to the Mojave River. The existing surface water in and around the landfill

is ephemeral and occurs in intermittent drainages during and immediately following precipitation events.

Bell Mountain Wash is located within the 100-year floodplain of the Mojave River. According to the project design plans, the proposed landfilling refuse footprint would not encompass any of this existing floodplain area, located approximately 500 feet to the southeast. No flooding hazards are therefore anticipated within the landfill's refuse footprint area.

APPLICABLE POLICIES, PLANS, AND REGULATIONS

The federal Clean Water Act gives the United States Army Corps of Engineers (Corps) jurisdiction over dredging or filling "Waters of the United States." "Waters of the United States" can be any water deemed to have an interstate impact on hydrologic or economic matters, including the interstate migration of animal species. This jurisdiction can be extended to water tributaries to designated "Waters of the United States." No "Waters of the United States" are identified on the existing landfill or within the proposed expansion area.

The CDFG requires that a government agency consult with CDFG under Section 1601 of the California Fish and Game Code prior to disturbing a defined streambed. Three unnamed drainages on the site fit the CDFG definition of a streambed, therefore the County must consult with CDFG and enter into a Streambed Alteration Agreement prior to grading within the landfill expansion areas where no previous disturbance has occurred (Section 4.3-Biological Resources also addresses impacts to natural drainage basins).

The State Water Resources Control Board (SWRCB) has adopted a statewide General Permit for stormwater discharges that applies to all stormwater discharges associated with construction activities. These permits are administered by the SWRCB through the Lahontan RWQCB. The General Permit requires all dischargers where construction activity disturbs one acre or more to:

- Develop and implement a Storm Water Pollution Prevention Plan (SWPPP) which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting storm water and with the intent of keeping all products of erosion from moving off-site into receiving waters.

- Eliminate or reduce nonstorm water discharges to storm drains and other waters of the nation.

- Perform inspections of all BMPs.

Victorville Landfill Existing NPDES Permit Requirements

Specifically, NPDES permit requirements within the SWPPP and the Monitoring Program and Reporting Requirements (MPRR) for the existing permitted Victorville Landfill include, but are not limited to, the following activities:

Quarterly Inspections – Inspections are conducted in July-September, October-December, January-March, and April-June. These quarterly inspections are conducted to determine the presence of stains, sludges, odors, erosion, daylight refuse, and other abnormal conditions.

Wet Season Inspection – These inspections are conducted during the first hour of stormwater runoff to observe for the discharge of floating or suspended material, oil and grease, discoloration, turbidity, and odor. The inspections are only conducted if the storm event occurs during the daylight hours while the landfill is operational.

Prior to sampling activities at the landfill, local weather patterns are tracked to evaluate appropriate collection times.

Annual Comprehensive Site Compliance Evaluation - This procedure includes a comprehensive visual observation and analysis of records and samples, visual inspection of potential pollutant sources, review existing BMP's for adequacy, and completion of the annual evaluation for the landfill.

Annual Reports – Annual reports are completed by the operator and submitted to SWMD and RWQCB. These reports include copies of all additional studies/reports that are deemed appropriate, weather reports, and certified analytical reports from analysis of runoff samples.

Additional requirements and compliance measures regarding the landfill are included in the Landfill's NPDES requirements.

Prior to commencement of construction of a project, dischargers must submit a Notice of Intent (NOI) to obtain coverage under the General Permit. Construction activities subject to this General Permit includes clearing, grading, disturbances to the ground such as stockpiling, or excavation that results in soil disturbance of at least one acre of total land.

4.7.3 Project Impacts And Mitigation Measures

Thresholds of Significance

A project would have a significant impact on surface hydrology, water quality and/or groundwater if it resulted in the following:

- Contamination of a public water supply;
- Substantial degradation of water quality;
- Substantial interference with groundwater recharge;
- Substantial flooding, erosion, or siltation; or
- Grading or construction activities that substantially change existing flowpaths, substantially redirect storm runoff, or realign any flood control channel.

Impact Analysis and Mitigation Measures

Groundwater in this area is a source for public water systems and therefore groundwater contamination must be considered prior to project approval. The expansion project would not interfere substantially with groundwater recharge because the expansion area is not considered a groundwater recharge zone. The existing 80-acre landfill is currently operational, and the proposed expansion would be constructed as part of the County regional landfill conveyance project. The project expansion would include installation of a composite liner system within the new lateral expansion footprint areas. Currently 19 groundwater monitoring wells exist throughout the site and surrounding area to monitor groundwater impacts caused by the landfill. The following section includes impacts and mitigation measures to both surface water and groundwater from development of the project.

Impact HW-1

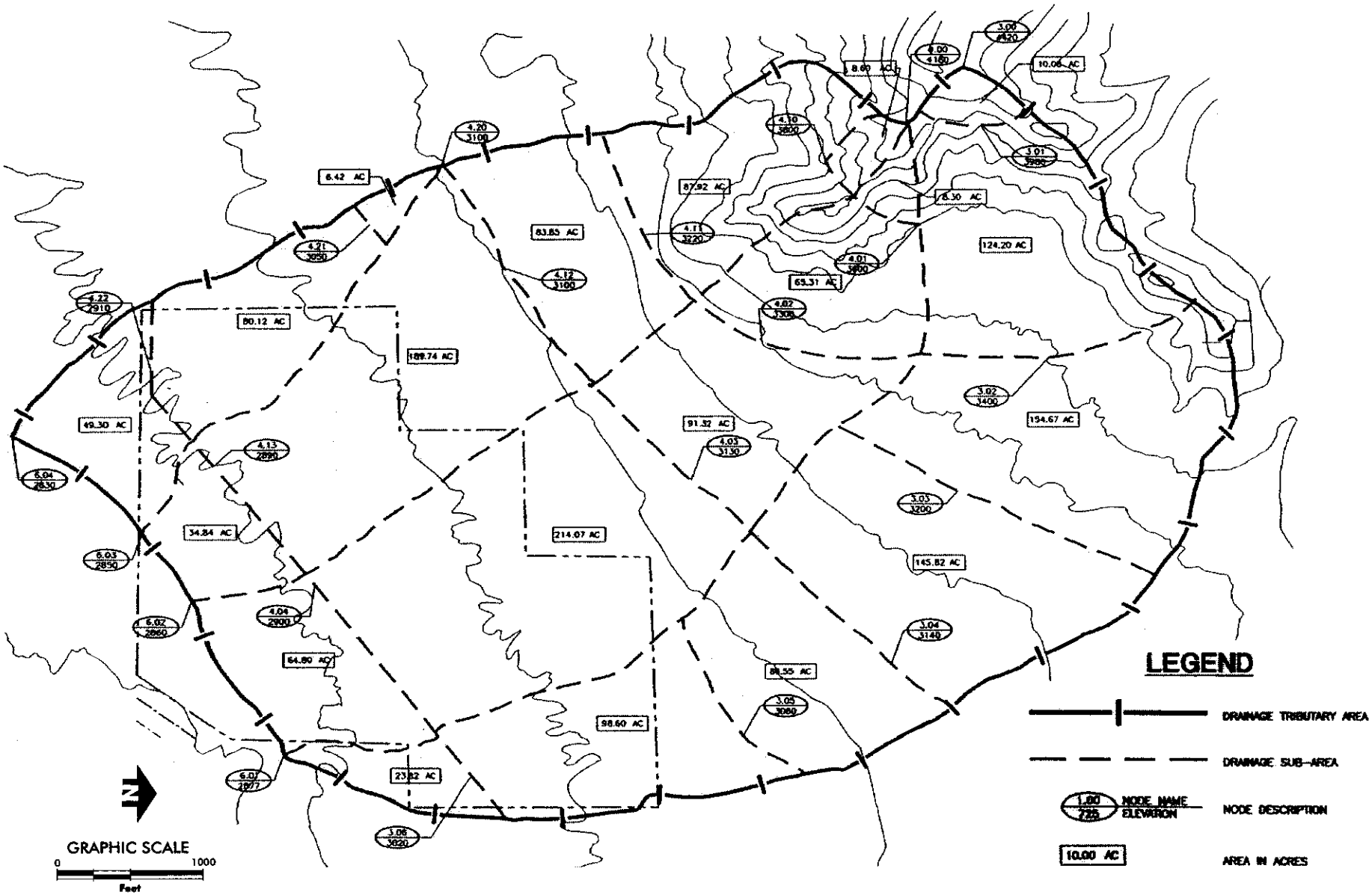
Construction of the Victorville Sanitary Landfill Expansion Project will alter the drainage pattern of the site, and concentrate flows on the site to minimize storm water drainage through the landfilling footprint area. The drainage system would concentrate flows toward the southeast portion to a proposed detention basin/de-siltation area, and then discharge into the areas natural drainage basin. These drainage facilities must be designed to adequately handle intense storm events and prevent flooding within the landfill footprint. This is a potentially significant impact.

The proposed landfill expansion area was evaluated on a regional basis for storm water discharge impacts. The surface water drainage control facilities on-site are currently designed to accommodate 100-year, 24-hour storm event runoff volumes. Figure 4.7-~~1~~2 shows a map of the watershed and hydrological conditions as they exist today. Figure 4.7-~~2~~3 shows future conditions at buildout of the facility.

The drainage tributaries within the proposed expansion area would significantly be altered by expansion of the landfill. Drainage would typically traverse towards the southeast leading into Bell Mountain Wash. Multiple drainage sub-areas pass through the site, and would be altered within the landfill expansion area. Onsite drainage would generally involve diverting flow around the refuse footprint southeast and back into the areas natural drainage basin. Flows within the refuse footprint would pass through a detention basin and de-siltation area prior to being released into the natural drainage basins which flow into Bell Mountain Wash. The detention basin would be located at the base of Phase 3 in the buffer area.

The drainage system would include construction of engineered drainage channels, ditches, basins, and down drains to quickly remove any storm water from the landfilling area and into the channel traversing along the perimeter of the footprint.

Erosion control mats, mulching, coir logs, straw/hay bales, and seeding with native plants would be utilized to prevent erosion within the graded areas. The landfill would include a separate drainage system for the disturbed areas within the refuse footprint, and another system for the areas outside of the footprint. The de-silting basin would only treat flows from the disturbed



Source: BAS & Assoc., 09/02.

Existing Conditions - Hydrology

Victorville Sanitary Landfill
San Bernardino County, California

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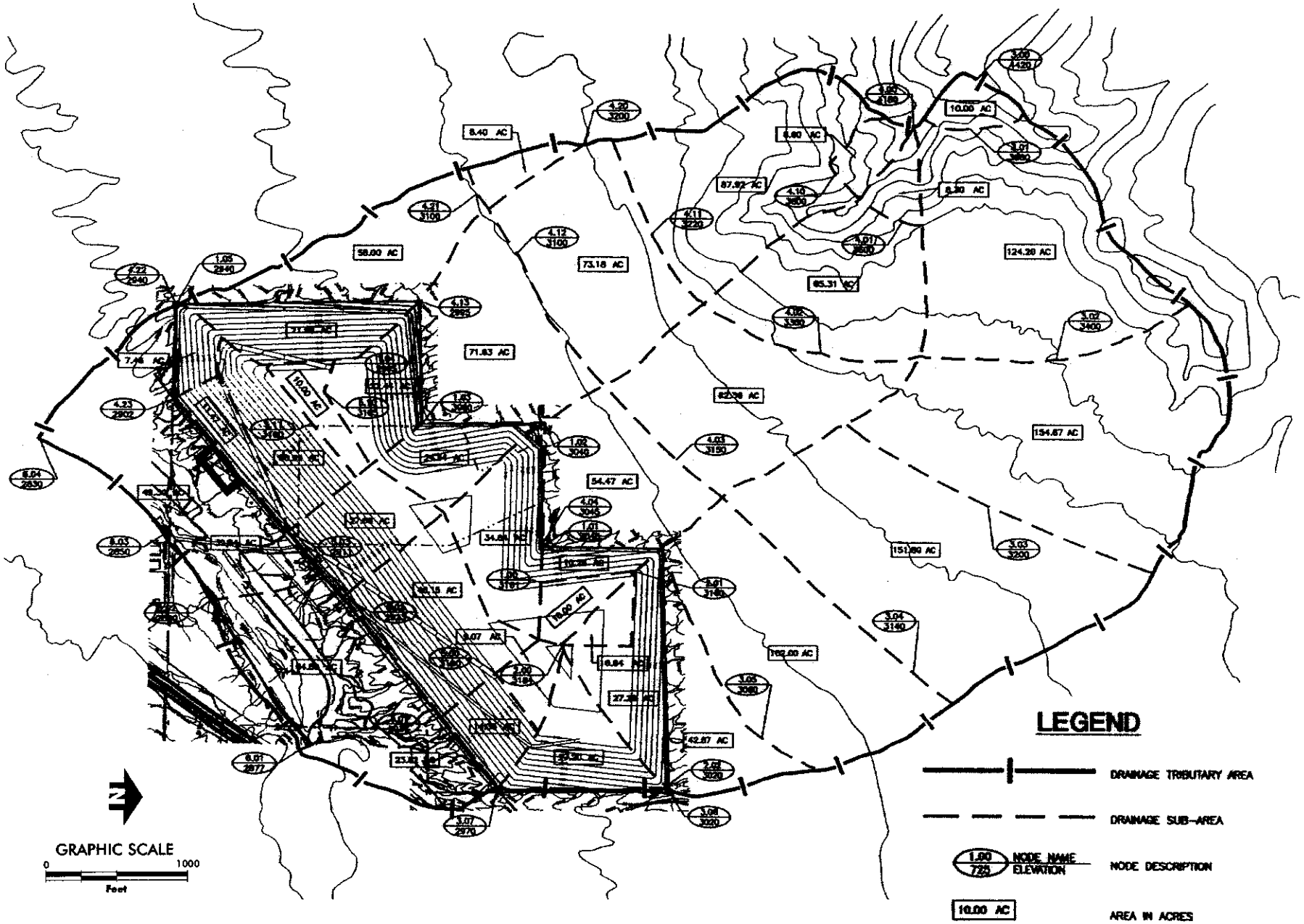
Figure 4.7-2



Source: BAS & Assoc., 09/02.

Conditions at Landfill Buildout

Victorville Sanitary Landfill
San Bernardino County, California

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Figure 4.7-3

areas within the landfill footprint. The de-silting basin would act as a secondary Best Management Practice (BMP) to further protect storm water flows from impacting the areas natural basins. The de-silting basin would collect and store sediment before it can be transported offsite. The basins are a passive system that relies on settling soil particles out of water in a finite time period, and is therefore not completely efficient. Therefore the BMP's designed to control sediment transport at the sources would serve as the primary method of erosion control at the landfill. Storm water outside the footprint would be re-directed away from the refuse areas and discharged offsite near the southeast portion of the landfill, without passing through the detention basin or de-silting area. Before each rainy season, after each major storm, and on a monthly basis during the rainy season, all drainage facilities would be inspected and any required maintenance performed to ensure that the drainage channels and de-silting basins function properly. Any silt collected within the basins would be used as daily cover material for the landfill. Any of the flows from adjacent properties would be contained in the perimeter drainage channel and diverted around the basin.

Surface water drainage information for the landfill expansion area is included on Figure 4.7-~~2~~3 Conditions at Landfill Buildout. Surface water drainage control facilities are designed to accommodate 100-year, 24-hour storm event run-off volumes, and help minimize erosion on the site. Surface water runoff is designed to sheet-flow to the perimeter drainage channels, which then feed toward the southeast and subsequently into the natural drainage course and ultimately into Bell Mountain Wash. The perimeter channels are also designed to divert natural drainage away from the landfill footprint. The proposed landfill expansion would alter surface water run-on and run-off patterns for approximately an additional 250 acres. No perennial surface waters or flows associated with riparian/wetland areas are currently present or would be affected by the project. Development of the landfills drainage control system would structurally include perimeter drainage channels, v-ditch drains, down-drains, splash walls, and a de-silting basin.

Total runoff for the landfill expansion area for the 100-year, 24-hour storm event equals 623.64 cubic feet per second. The landfill drainage system would be designed to handle storm water flows resulting from a storm of this intensity. In addition, the de-silting basin would act as a secondary BMP to further protect storm water flows from impacting the areas natural basins. The de-silting basin would collect and store sediment before it can be transported offsite. The basins are a passive system that relies on settling soil particles out of water in a finite time period, and is therefore not completely efficient. Therefore the BMP's designed to control sediment transport at the sources will serve as the primary method of erosion control at the landfill.

Mitigation Measure HW-1

The County shall complete a final drainage plan based on the final site and engineering design plans completed for the Victorville Landfill Expansion Project. The plan will include design drawings of the proposed drainage facilities that would be used to convey storm water around and/or through the site. The plan shall be in conformance with and meet the minimum criteria established by the County of San Bernardino Department of Public Work and RWQCB Lahontan Region for discharge rates, quantities and locations of facilities.

Mitigation Measure HW-2

Before each rainy season, after each major storm, and on a monthly basis during the rainy season, all drainage facilities shall be inspected and any required maintenance performed to ensure that the drainage channels and de-silting basins function properly. Any silt collected within the basins would be used as daily cover material for the landfill. Any of the flows from adjacent properties would be contained in the perimeter drainage channel and diverted around the basin.

Level of Significance After Mitigation

Implementing Mitigation Measures will reduce impacts associated with alteration of existing drainage patterns to less than significant levels.

Impact HW-2

Mass grading of Victorville Sanitary Landfill Expansion Project will change the topography of the site and alter the existing flow-paths and natural drainage basins in these areas. This is a potentially significant impact.

Development of the proposed landfill expansion project would alter the existing drainages on the site. Currently three blue-line, un-named drainages pass through the proposed expansion area, in addition to multiple less-defined drainages that pass through the expansion area. Flows through these drainages would be diverted away from the refuse footprint to avoid exposure to the waste and discharged into Bell Mountain Wash. These drainages fall under the jurisdiction of the California Department of Fish and Game. Disturbance of the drainages will require that the County enter into a Streambed Alteration Agreement with CDFG (Section 1601).

Mitigation Measure HW-3

Prior to disturbance of any blue-line stream, the County shall consult with CDFG per Section 1601 of the State Fish and Game Code. The project will require the implementation of a Streambed Alteration Agreement.

Level of Significance After Mitigation

Implementing Mitigation Measure HW-3 will ensure impacts to the drainages will be less than significant.

Impact HW-3

During storm events, construction activities on the Victorville Sanitary Landfill expansion area, particularly vegetation removal and grading, may affect the amount of sediment and suspended solids entering the local storm drain system. This is a potentially significant impact.

The amount of sediment in storm runoff from a site under construction is determined by the amount of time since the last rainfall, the intensity and duration of the storm, and the existing land uses in the drainage area. The proposed project requires vegetation removal and grading that could expose the soil to the erosive forces of wind and rain. Rainfall could carry more sediment off the denuded site than it could from undisturbed land, and this increased sedimentation may adversely affect water quality downstream from the project site.

The General Construction permit required by the SWRCB defines any construction project over one acre as an industrial activity, and subject to a NPDES permit. General Construction permits are administered by the nine Regional Water Quality Control Boards. This project is in the Lahontan Regional Water Quality Control Board's (RWQCB, Lahontan Region) jurisdiction.

Construction activities covered under the General Construction permit include removal of vegetation, grading, excavating, or any other activity that causes the disturbance of one acre or more. The General Construction permit requires recipients to reduce or eliminate non-storm water discharges into storm water systems, and to develop and implement a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must be developed and approved by the State Water Resources Control Board (SWRCB) before grading begins on the site.

Mitigation Measure HW-4

Prior to issuance of grading permits, the applicant must file a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) with the State Water Resources Control Board. The SWPPP must comply with the National Pollutant Discharge Elimination System (NPDES) permit for storm water discharge, including a full description of the discharge and a demonstration of compliance with EPA-specified effluent limits.

Mitigation Measure HW-5

The following mitigation measures must be included as notes on the grading plan and monitored during grading and construction:

- *All disturbed areas must be stabilized by approved methods to ensure minimal erosion.*
- *All work performed between October 1 and April 1 shall be done in a manner enabling project stabilization, covering, or otherwise protected from heavy rains or high winds. An erosion control plan must be submitted to the City Engineer for review and approval.*
- *During construction, temporary berms such as sandbags or gravel dikes must be used to prevent discharge of debris or sediment from the site when there is rainfall or other runoff.*

Level of Significance After Mitigation

After implementation of the above mitigation measures, impacts on water quality from construction activity will be reduced to a level of less than significant.

Impact HW-4

Leachate from the landfill could potentially migrate into the groundwater aquifer. The existing landfill is currently unlined, with the exception of the surface impoundment area (approximately six acres which has been clean-closed). Additional leachate from the proposed expansion could potentially contaminate the underlying groundwater aquifer creating a significant impact to water quality.

No leachate collection and removal system is currently installed at the facility. Prior to 1996, unlined surface impoundments were present within the northwest portion of the 80-acre permitted landfill (future Phase 1A). The County ceased disposing of liquid septic waste at these impoundments at the request of the RWQCB, Lahontan Region in October 1996. Following this closure of the impoundments, the RWQCB allowed the County to build new clay-lined impoundments in the area where the old ponds were located. These new impoundments were used to hold liquid septic waste until November 1998. In December 1998, the County stopped accepting liquid septic waste and initiated in-place bio-remediation of the existing septic waste within the impoundments.

An Evaluation Monitoring Program Phase II Report for the Victorville Sanitary Landfill (IT Corporation, June 2001) evaluated the impacts the existing landfill was creating to the groundwater in the area in RWQCB letter dated March 10, 1997, received by the County of San Bernardino Solid Waste Management Division (SWMD). The Phase II Evaluation Monitoring Program (EMP) provided an additional assessment on groundwater impacts and landfill gas migration at the landfill. According to the Phase II EMP, soils in the vicinity of the surface impoundments and groundwater beneath and down-gradient from the landfill have been impacted by the landfill. Impacts to groundwater have been attributed to landfill gas and migration of liquids from the surface impoundments.

The greatest soil-pore gas impacts were found along the southern landfill boundary at probes VSLG-3, VSLG-5, and monitoring well VSL-5 (see Figure 3-16 for these locations). The majority of the detected Volitile Organic Compounds (VOC's) in the samples collected in the study were measured at the maximum concentrations from the same area. Figure 3-16 in Chapter 3.0 includes the locations of the landfill's onsite groundwater monitoring wells and the soil-pore gas monitoring wells.

Groundwater elevations southeast of the existing landfill footprint and the proposed expansion area indicate the presence of a trough. The Phase II EMP indicated that due to the trough, the extent of the impacted groundwater down-gradient from the landfill (VSL-6 and VSL-8) has not fully been defined and could require additional investigation (see Figure 3-17).

According to the County of San Bernardino Water Quality Monitoring Report – Fourth Quarter Fall 2001 (Geologic Associates, January 2002), groundwater levels at VSL-5, VSL-7, and VSL-9 have steadily declined, and VSL-7 was dry throughout the last year. Generally chemistry and VOC constituent concentrations measured in groundwater samples collected during this monitoring period were consistent with the historical intrawell data. Five new historical intrawell maximum concentrations were measured during the quarter, but the difference in comparison to

historic maximums is very small. Trend analysis of groundwater data suggests that most inorganic and VOC concentrations measured in samples during the 2001 were relatively consistent with historical intrawell data or are decreasing. A notable exception is that inorganic and some VOC concentrations in samples from compliance well VSL-9 are increasing, and 1,2-dichoroethane concentrations have increased significantly during the last several quarters. Historical data at wells VSL-5 and VSL-6 had previously shown increasing trends in VOC concentrations, and concentrations in samples taken during the previous year of the report suggested that VOC concentrations have either stopped increasing or have decreased. Soil-pore gas chemistry was generally consistent with the historic intrawell values. Four compounds were measured at new historical intrawell maximum concentrations, and most of these increases over the past maximum concentrations were generally small. The report concluded that groundwater beneath the landfill has been impacted by inorganic and organic constituents. Although impacts are still apparent from the contamination, analytical results suggested that the groundwater quality degradation has generally improved during the previous year of the report.

The RWQCB, Lahontan Region has not yet formulated a response to the Phase II EMP completed for the landfill contamination. The County's SWMD would be required to comply to any future mitigation required by the RWQCB with regards to the groundwater contamination.

The proposed waste contamination system for the lateral expansion areas of the landfill includes installation of an engineered composite liner system (two layer-low permeability system) and a leachate collection and removal system (LCRS), which would be constructed over the entire lateral expansion areas (Figure 3-15 in the Project Description). The lower component would consist of at least a two-foot layer of compacted soil with a hydraulic conductivity of no more than 1 x 10-7 cm/sec. In accordance with design criteria specified in Code of Federal Regulations 40 (40 CFR) Part 258.40, the upper component of the liner system would consist of a 60-mil high-density polyethylene (HDPE) geomembrane. Liner construction would be monitored under extensive Construction Quality Assurance guidelines and Best Management Practices (BMP's) would be followed. Details of the composite liner system are presented in the Project Description, Figure 3-6.

The LCRS will be installed over the liner to collect and convey any leachate that may be generated within the refuse prism. The system would consist of a one-foot thick gravel layer and HDPE pipe over the entire bottom area. The LCRS has been designed to prevent clogging of gravel and the pipe layer. A similar LCRS design configuration would also be installed over the liner of the interior benches as the landfill is developed and rises vertically. The LCRS is designed and would be constructed to meet or exceed minimum state and federal regulations. The bottom area the LCRS would be composed of a continuous gravel blanket and integrated dendritic drainage pipe collection network made up of lateral collectors and a mainline pipe. LCRS drainage material would not be constructed for the sloped areas of the landfill. Leachate buildup on the slope liner would be minimal since the slope gradient would result in rapid conveyance of liquids to an intermediate bench where the LCRS, consisting of a pipe-and-gravel collection system, would be connected to the overall site LCRS pipe network. The LCRS bench and lateral collection piping would discharge into a mainline pipe to be placed in the center of the refuse area. The LCRS pipes would include a stainless steel cable located in the pipe to allow for the clean out of any blockages.

A protective cover (or operations layer) consisting of a minimum two-foot thick soil layer would be placed over the entire liner and LCRS components. The cover material would be mechanically screened to remove larger material, which would damage the liner material. A geotextile fabric layer would be placed over the LCRS gravel on the bottom area and interior benches prior to placement of the operations layer.

Mitigation Measure HW-6

The proposed landfill liner system and drainage facilities shall be designed and constructed in conformance with the Regional Water Quality Control Board, Lahontan Region (RWQCB), California Integrated Waste Management Board (CIWMB), and County of San Bernardino, Department of Health Services, Local Enforcement Agency (LEA). These systems must be designed and constructed to ensure minimal risks to groundwater contamination would occur with expansion of the landfill.

Level of Significance After Mitigation

After implementation of the above mitigation measure, potential landfill contamination to the areas groundwater would be reduced to less than significant impacts.

4.8 TRAFFIC AND CIRCULATION

4.8.1 Introduction

This section of the EIR summarizes an analysis of the impacts on the traffic and circulation system that would result from development of the proposed landfill expansion project. This section is based on the findings of a study entitled *Traffic Impact Study for the Victorville Landfill, County of San Bernardino, California*, prepared by Hernandez Kroone and Associates, September 2002 and included in the EIR as Appendix F.

Because the proposed expansion does not include a request to increase daily tonnage accepted at the facility or an increase in the number of vehicles that can enter the landfill on a daily basis, the Traffic Impact Study focused on the impacts associated with extending the life of the landfill past its permitted closure date of 2005, and having landfill traffic continue to utilize the roadway network. The analysis of this report was further defined through meetings held with the San Bernardino Associated Governments (SANBAG), the Town of Apple Valley and the County of San Bernardino Transportation/Flood Control Department.

4.8.2 Environmental Setting

Regional Location

The Victorville Landfill is located northwesterly of the I-15 Freeway, the major route between southern California and Las Vegas. The area around the landfill is predominantly federal land administered by the BLM. Private parcels adjacent to the site are either vacant or developed with some industrial uses. There is a private airstrip located southeast of the site.

The site is adjacent to the corporate boundary of the City of Victorville, but the area is not developed as shown in Figure 3-4 in Chapter 3.0 – Project Description.

The I-15 Freeway is a heavily traveled route that is currently being widened in the vicinity to accommodate future traffic conditions.

Primary access to the landfill is provided from a private road entering the site from Stoddard Wells Road. Stoddard Wells Road provides access to the I-15 Freeway located directly east of the proposed landfill expansion site. The majority of vehicles traveling to the site would approach via the I-15 Freeway with a smaller volume of vehicles using the surface roads to reach the facility.

4.8.3 Project Impacts and Mitigation Measures

Standards of Significance

The proposed project would result in a significant impact to transportation/circulation if it would:

- Increase vehicle trips and thus add to traffic congestion;

- Create hazards to safety from design features or incompatible land uses;
- Result in inadequate emergency access or access to nearby uses;
- Result in insufficient parking capacity on-site or off-site;
- Create hazards or barriers to pedestrians or bicycles;
- Conflict with adopted policies supporting alternative transportation; or
- Create rail, waterborne or air traffic impacts.

The proposed project would involve making improvements to the existing intersection at Stoddard Wells Road to accommodate vehicles traveling to/from the landfill. Access to the landfill would continue to be the private road that intersects with Stoddard Wells Road south of the landfill. With the exception of some industrial development located directly southeast of the landfill near Stoddard Wells Road, the area surrounding the landfill remains undeveloped. Expansion of the landfill would not result in additional dangerous safety design impacts or incompatible land uses to the surrounding area.

Emergency access to different portions of the landfill would be provided along the perimeter road traversing around the landfill footprint and expansion site. The location of this access road would be modified with expansion of the refuse footprint, but would continue to traverse around the outside of the footprint and the general outer perimeter of the site.

Parking at the facility is currently provided at the entrance near the scale house and entry gates. Adequate parking is provided onsite for employees. A limited amount of visitor parking is also present near the entry gate, but normally visitors are required to stay within their vehicles due to the hazards that exist at the landfill such as large moving vehicles. These facilities would not change with expansion of the landfill since the volume of vehicles permitted to enter the landfill daily will remain the same as will the daily operational size of the landfill.

The landfill is located north of the City of Victorville within the unincorporated portion of the County. The entire perimeter of the landfill site would be fenced to ensure no unauthorized persons enter the site. Traffic along the existing routes used by vehicles traveling to/from the landfill would generally become more congested with a general cumulative increased use of these roads. Vehicles traveling to the landfill must travel along Stoddard Wells Road, which is not used highly for recreational purposes in the landfill vicinity.

No impacts regarding alternative transportation are anticipated with expansion of the landfill since no additional vehicles would be permitted to use the landfill and landfill's entrance would remain unchanged.

The Victorville Landfill expansion project is located within a five-mile radius of the Southern California International Airport (former George Air Force Base) and the Apple Valley Airport. The landfill is not located within the Airport Safety Overlay District, as indicated by the County of San Bernardino Hazard Overlay Maps. See Section 4.6 – Hazards for a discussion of hazards associated with landfill proximity to an airport.

Impact TC-1

Development of the proposed landfill expansion would contribute to cumulative traffic impacts at intersections used by vehicles traveling to/from the landfill. Vehicles entering the landfill would use Stoddard Wells Road as the primary route to access the landfill. This may be a potentially significant impact.

The vehicles associated with the project most likely to use I-15 as the primary route to the landfill include large transfer vehicles traveling from various transfer station in the area, in addition to vehicles providing service beyond a two and three-mile service area of the facility. Vehicles which service the immediate area of the facility are more likely to use Stoddard Wells Road as their primary source of access to the site. Traffic volumes were calculated for the project based on both the Victorville Landfill vehicle entry logs and the average daily trips (ADT) and peak hour turning movements collected from a Traffic Impact Study completed in 2002 for a large distribution warehouse facility east of the I-15 Freeway at Dale Evans Parkway and Johnson Road in the Town of Apple Valley. These peak hour turning movements were used to simulate the existing traffic patterns because of the existing detour for roadway improvements being completed along this portion of I-15.

Freeway Access

Freeway access for both northbound and southbound vehicles on I-15 is provided from Stoddard Wells Road. Vehicles entering onto Stoddard Wells Road from the south exit the freeway on the east side coming to a four-way intersection, upon turning onto Stoddard Wells Road, they proceed southwest approximately 0.3 miles and reach the entry road leading to the landfill. Vehicles entering Stoddard Wells Road from the northbound exit on the west side of the freeway coming to a three-way intersection, upon turning onto Stoddard Wells Road, vehicles proceed slightly less than 0.3 miles and reach the entry road leading to the landfill. The intersections are currently controlled by stop signs on the exit ramps from I-15.

Vehicles from Stoddard Wells Road proceed along the same route in the reverse direction to enter I-15 from the landfill. Vehicles pass through the same intersections and enter the freeway on the same side as the vehicles existing the landfill. Both northbound and southbound vehicles pass through two intersections between the landfill and the freeway.

Local Circulation System

Solid waste haulers and employees traveling to the landfill via the local surface street system also enter the landfill from Stoddard Wells Road. Stoddard Wells Road is currently a one-lane street in either direction and aligns in a northeast/southwest direction through the area, passing underneath 1-15 and continuing into the Town of Apple Valley. The road passes the landfill then continues south into the City of Victorville. The road passes under I-15 once again south of the landfill within Victorville and currently terminates at its intersection with Hwy 18 – Happy Trail Highway. Due to the majority of traffic expected to arrive at the landfill from the I-15, the Traffic Impact Study concentrated on traffic impacts for commuters from the freeway route.

Study Area and Methodology

The study area intersections analyzed in the Traffic Impact Study included:

- Stoddard Wells Road/I-15 northbound intersection
- Stoddard Wells Road/I-15 southbound intersection
- Stoddard Wells Road/Victorville Landfill private road intersection

The traffic impact study evaluated the following scenarios:

- Existing conditions (AM)
- Existing conditions (PM)
- Future conditions (2025) without the project (AM)
- Future conditions (2025) without the project (PM)
- Future conditions (2025) with the project (AM)
- Future conditions (2025) with the project (PM)

The landfill is currently permitted to accept a total of 600 vehicles per day which represents round trips. For the purposes of evaluating traffic impacts, 1,200 trips per day were used (each vehicle entering and leaving). Traffic impacts resulting from the project with this volume were previously analyzed in a 1997 traffic study to the year 2005. The Traffic Impact Study for proposed expansion evaluated traffic impacts associated with vehicles entering the site through the year 2025. Although it is understood that the landfill is projected to operate through the year 2081, for transportation planning purposes, the year 2025 is used by SANBAG as the horizon year.

Level of Service (LOS) Criteria

The primary purpose of any city or county circulation system is to provide convenient access within the community and to major regional destinations, as well as to minimize the disruption of through traffic. The criterion used to evaluate LOS conditions varies based on the type of roadway and whether the traffic flow is considered interrupted or uninterrupted. Roadway capacity is defined as the maximum number of vehicles that can pass over a given roadway during a given time period under prevailing roadway and traffic conditions. By comparison, LOS is a measure of ease of vehicular movement with values ranging from LOS A (free flow, highly efficient) to LOS F (forced flow, low efficiency and congested). Table 4.8-1 describes levels of service at signalized and unsignalized intersections and their related traffic delays. The levels of service reflect a number of factors such as speed and travel time, traffic interruptions, vehicle delay, freedom to maneuver, driver comfort and convenience, safety and vehicle operating costs. The County of San Bernardino has established that a level of service of LOS C is the lowest acceptable LOS rating. Caltrans, which currently has jurisdiction over the I-15 freeway ramps, has established that an LOS D remains the lowest acceptable level within their jurisdiction.

The LOS levels for the study intersections were calculated using the Highway Capacity Software (HCS) for un-signalized intersections. The LOS analysis procedures include mathematically applied adjustment factors as part of the process in calculating the final LOS rating for the intersection. The input traffic volume is calculated as the hourly volume being studied. Several adjustment factors, such as the peak hour factor (ratio of total hourly volume to the peak rate of

flow within an hour) are used for each LOS analysis. In situations where the peak hour factor is substantially different between approaches (substantial variations in the different hours measurements were taken), a default peak hour factor value was used. For the 2025 scenarios, a peak hour factor of 95 percent was used in the calculations.

Table 4.8-1 provides a brief explanation of the levels of service (A through F) at the un-signalized intersections analyzed in the study. Detailed LOS reports for the project are included in Appendix F. Table 4.8-2 provides a summary of the LOS results at AM and PM peak hours. As the table illustrates, the existing scenario has LOS B or better for all intersections during the AM peak hours, and all but one intersection during the PM peak hours. All the intersections meet the County of San Bernardino and Caltrans standards except for one intersection during the peak PM hour.

Table 4.8-1
Level of Service (LOS) Descriptions at Signalized and Unsignalized Intersections

LOS	Description	Avg. Stopped Delay Per Vehicle (seconds) Signalized	Avg. Total Delay Per Vehicle (seconds) Unsignalized
A	Minimal delay	0-5.00	0-5.00
B	More vehicles stop causing higher levels of average delay	5.01-15.00	5.01-10.00
C	Number of vehicles stopping is significant due to high delays or longer signal cycle lengths	15.01-25.00	10.01-20.00
D	Congestion begins to appear as high volume to intersection (V/C) capacity occurs	25.01-40.00	20.01-30.00
E	Often the limit of acceptable delay, poor progression through intersection, long cycle lengths, high V/C ratio	40.01-60.00	30.01-45.00
F	Unacceptable delays of over 60 seconds, poor progression; arrival flow rates exceed capacity of the intersection	60.01 and up	45.01 and up

Source: Hernandez Kroone & Associates (HKA), 2002.

Table 4.8-2
AM Peak Hour Level of Service (LOS)

Intersection	Existing		2025 w/o Project Trips		2025 w/ Project Trips	
	Delay	LOS	Delay	LOS	Delay	LOS
Stoddard Wells Road/I-15 Northbound	9.5	A	10.2	B	10.3	B
Stoddard Wells Road/I-15 Southbound	9.4	A	9.7	A	10.5	B
Stoddard Wells Road/ Landfill's Private Road	9.0	A	9.0	A	9.5	A
PM Peak Hour Level of Service (LOS)						
Intersection	**Existing**		**2025 w/o Project Trips**		**2025 w/ Project Trips**	
	Delay	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**
Stoddard Wells Road/I-15 Northbound	9.1	A	109.2	F	111.0	F
Stoddard Wells Road/I-15 Southbound	8.7	A	11.7	B	13.3	B
Stoddard Wells Road/ Landfill's Private Road	9.2	A	11.4	B	12.4	B

Source: Hernandez Kroone & Associates (HKA), 2002.

The tables indicate traffic conditions at all intersections would operate at acceptable levels with the exception of Stoddard Wells Road/I-15 Northbound during the peak PM hour in 2025. This intersection does not meet the required LOS criteria in 2025 without the proposed project with the expected increase in growth to the surrounding area. Modifications would be required at this intersection to ensure level of service does not exceed the established acceptable Caltrans level (LOS D).

Mitigation Measure TC-1

All intersections used by vehicles traveling to/from the landfill would meet the Acceptable LOS criteria for the year 2025 with the exception of the Stoddard Wells Road/I-15 northbound intersection. This intersection will be mitigated by adding one through lane to the east and west approaches and a left-turn pocket for the northbound exit ramp. These improvements would be placed for operation in the year 2025. The County must pay the fair share contribution ($6,657) of the total cost of these improvements ($62,800) as calculated in the Traffic Impact Study.

Level of Significance After Mitigation

The addition of a through lane to the east and westbound approaches and a left-turn pocket for the northbound exit ramp at the Stoddard Wells Road/I-15 Northbound intersection would mitigate traffic conditions to acceptable levels as listed in Table 4.8-3. This mitigation is recommended for the year 2025. All additional intersections would continue to operate at acceptable LOS levels according to the County of San Bernardino and Caltrans standards.

Table 4.8-3
Stoddard Wells Road/I-15 Northbound Intersection Mitigation

Intersection	2025 w/o Project Trips		2025 w/ Project Trips		Mitigated 2025 w/o Project Trips		Mitigated 2025 w/ Project Trips	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Stoddard Wells Road/I-15 Northbound	109.5	F	111.1	F	38.9	E	33.6	D

Source: Hernandez Kroone & Associates (HKA), 2002.

The Traffic Impact Study indicated that the addition of the proposed improvements would cost a total of $62,800. Based on the anticipated amount of new traffic for the area, the project would contribute approximately eleven percent of the total new traffic to this intersection in the year 2025. Accordingly, the project fair share contribution would be $6,657 of the total cost for the proposed intersection improvements. Refer to the Traffic Impact Study included in Appendix F for further information regarding the LOS results, intersection improvements, and associated costs.

4.9 UTILITY SYSTEMS

4.9.1 Introduction

The evaluation of utility systems herein includes the potential impacts associated with the expansion and operation of the Victorville Landfill on the public water utility system. The landfill has no demand and therefore does not impact utilities for sewer collection, wastewater treatment, electricity, or natural gas. The local water purveyor that currently provides for the water demands of the landfill is the Victor Valley Water District. The purpose of this section of the EIR is to project any additional infrastructure needs or alternative sources of water required to serve the expansion of the landfill.

4.9.2 Environmental Setting

The local water supplier for the city of Victorville is the Victor Valley Water District (VVWD). The VVWD was formed as a County Water District and continues to serve the community following incorporation of the City of Victorville in 1963. The VVWD's service area is essentially bounded by Bear Valley Road on the south; the west section lines of Sections 1, 19, 15, 22, and 27, T5N, R5W to the west; the north line of Sections 26 – 29, T6N, R4W to the north and the common boundary of the Apple Valley Water District and County Service Area (CSA) 64 to the east.

The VVWD's current service area population is estimated at 57,915, an increase of 13,668 over the 1990 estimated population of 44,247. The average household size for Victorville is estimated at 3.17 and the VVWDs total service connections (including residential, commercial, industrial, and public) were 18,850 in mid-2003 (data provided by Steve Ashton, VVWD, July 22, 2003).

Groundwater is the sole source of supply for the Victor Valley Water District, and will likely remain so for the immediate future. Continuous and high growth rates in the Mojave River Basin during the 1950's and 1960's, and again in the 1980's caused water demands to exceed local water supplies. The resulting imbalance in supply and demand led to an overdraft of the groundwater basin. The lowering of the groundwater table led to an adjudication process. The purpose of the resulting stipulated judgment is to: 1) create incentives to conserve local water, 2) guarantee that downstream producers will not be adversely affected by upstream producers, and 3) assess producers to obtain funding for the purchase of imported water.

The judgment does not place any pumping restrictions on producers. Instead, it relies on the conservation of local water, purchase of imported water, and transfers among producers to eliminate over time, the groundwater overdraft. The parties to the judgment include all groundwater producers in the Mojave Basin producing over ten acre-feet per year, and thus VVWD is included.

With the adjudication of the basin, the use of groundwater supplies will continue. The County (and all other parties) were issued a "Free Production Allowance" as a part of the judgment. This FPA is the amount of water that may be produced from a subarea of the basin without obligation to pay the costs of replacement water. The FPA was established based on historic water use and

each water producer agreed to a "ramp down" (decrease) of their FPA over the first four years of the adjudication. There may be further ramp downs in future years to bring the FPA in line with the safe yield of the basin.

Replacement water is provided either by intra-basin transfers of water rights, administered by the Mojave Water Agency (The Watermaster), or additional water may be purchased from the State Water Project by the Agency with funds provided by producers exceeding their FPA. Such "importation" by water producers constitutes their make-up obligation under the terms of the adjudication. The basic concept of the adjudication therefore, is to provide a means of purchasing imported State Water Project water - to which the Agency has entitlement - needed to replace local consumption that exceeds the safe yield of the Mojave Basin. Therefore, CSA 70J has additional imported water supply available through the Mojave Water Agency as replacement water.

Water levels in the groundwater basin underlying VVWD have continued to decrease since 1990, averaging about 1 to 1.4 feet per year. VVWD's water system includes 29 producing wells with a combined production capacity of 32.97 MGD, or 36,931 acre-feet per year. The system's maximum day demand in 2002 was 26.66 million gallons; therefore sufficient capacity exists to meet additional water demands (data provided by Steve Ashton, VVWD, July 22, 2003). The VVWD has indicated in its 2001 Urban Water Management Plan, the need for storage capacity improvements and additional water conservation efforts in order to continue to serve a higher number of additional customers.

Total water production was 15,033 acre-feet in 1995, 17,084 acre-feet in 2000, and 17,687 acre-feet in 2002. The District's FPA for pumped groundwater was originally established in the base production year at 17,061 acre-feet. The base production for the 2001-02 Water Year was 18,318 acre-feet. The VVWD has carry-over FPA from prior years and has transferred water rights; the FPA is currently 21,079 acre-feet (Norm Caouette, Mojave Water Agency, telephone conversation July 9, 2003).

The VVWD's UWMP includes projections for future water demands and supplies through the year 2020. The projected demands are calculated for two scenarios – one being at 500 new connections per year, the other at 750 new connections per year. These result in a demand ranging from 14.36 MGD to 16.10 MGD in the year 2010 and 17.84 MGD to 21.31 MGD in the year 2020. The averages of these demands are 17,060 acre-feet in 2010 and 21,297 acre-feet in 2020. The VVWD plans to meet these demands through continued purchase of additional water rights and payment to the Watermaster for production over their FPA. The District has also considered the construction of a water filtration treatment plant in order to take direct delivery of State Project Water (January 2001 VVWD preliminary Draft Urban Water Management Plan (UWMP).

4.9.3 Project Impacts and Mitigation Measures

Standards of Significance

The thresholds of significance for determining the level of impact to public utilities are:

- demand for services that is highly uncertain or involves unique or unknown risks;
- extensive institutional responses that would be necessary and a commitment to major or unusual planning or reprogramming;
- the worsening of a preexisting deteriorated environmental condition or overloading an already inadequate facility;
- insufficient water supplies available to serve the project from existing entitlements and resources;
- a determination by the water supplier that it has inadequate capacity to serve the project in addition to the provider's existing commitments;
- the project impacts are individually unimportant but cumulatively important impacts.

The objective of the proposed landfill expansion is to provide additional on-site capacity to serve the regional needs of the High Desert. Expansion will allow the County to continue utilizing the facility as a regional landfill by expanding the footprint, increasing the height and extending the closure date to 2081. The current closure date, based on remaining capacity and permits is 2005.

The contractor for operation of the Victorville landfill purchases water from the District for daily on-site dust control. Water is applied by water truck for dust control on the unpaved haul roads and soil stockpiles at regular intervals throughout the day. Water is purchased via a portable meter connection to one of two fire hydrants located one to three miles from the landfill. The operator estimates that ten 4,000-gallon water trucks are used daily, 358 days per year. The total annual water use is therefore an estimated 14.32 million gallons (43.95 acre-feet). Water use varies dependent upon weather conditions – in cooler months, less water is used for dust control than during warmer months.

The proposed expansion would allow the County to continue to operate the landfill for an additional 76 years and would require the continued use of water for dust control as well as establishing vegetation for soil erosion prevention on areas not intended to be disturbed for 180 days or more, or areas that are at final grade. Vegetation would consist of hydroseeding a mix of native grasses to reduce the potential for erosion of the intermediate and final landfill slopes. The expansion will occur in four phases, over approximately 76 years as shown below:

Phase	Beginning Year
Existing Phase	On-going
Phase 1A	2010
Phase 1B	2013
Phase 2 (four construction sub-phases)	2040
Phase 3	2065

Impact US-1

The additional demand for water supplies beginning in Phase 2 may have a potentially significant impact on the local sources of water supply and ability of the Victor Valley Water District to serve the landfill's needs.

The estimated need for water trucks in Phases 1A, 1B, and the early stages of Phase 2 would be similar to the existing operational conditions. Operation of the landfill has a current annual water use of approximately 43.95 acre-feet. This represents 0.01 percent of the VVWD current production capacity of 39,931 acre-feet and 0.02 percent of the 2002 total water production of 17,687 acre-feet.

The VVWD, as with most water agencies, prepares planning documents limited to a 20-year period. The State requires that agencies update their Urban Water Management Plans every five years, in years ending in 0 and 5. The VVWD's current plan is for the period 2000 to 2020 and would be subject to an update in 2005. The VVWD's current FPA is nearly sufficient to meet its projected service area demands in the year 2020. It is anticipated that additional water conservation efforts and the potential for using State Water Project water (direct deliveries) would allow the District to meet projected demands until 2020. This time period would be within the early stages of Phase 2 of the landfill expansion and therefore, no impact to water supply or the District's water system would occur.

During Phase 2 and later construction periods, the landfill's demands for water supply may reach nearly 90 acre-feet per year (doubling water truck use every day of operation). This would represent 0.24 percent of the VVWD's current production capacity. This would be expected to be a less than significant impact, however projections for water supply do not exist beyond the year 2020. Alternative sources of water supply to meet demands beyond the year 2020 are therefore considered herein. These alternatives should be considered as a part of each review of the landfill's permit to avoid any significant impacts to the local water supply.

The landfill operator has previously evaluated three alternative water supply scenarios: 1) drilling a well and constructing a storage reservoir, 2) purchasing water from another location within the VVWD's service system, and 3) purchasing water from a private well-owner. Purchasing water directly from a well source was not viable because the well's production capacity was not sufficient to meet daily needs. To pursue this alternative further, SWMD would have to construct a storage reservoir of at least 40,000 gallons.

Drilling a well and constructing a reservoir would be the most costly alternative and would require that SWMD be reliant on a groundwater system that has shown continuously dropping water levels. This alternative would likely require a backup source since dust control operations need to occur daily.

Any alternative water supply source whether via a well or a water distribution system would have the same regional effects as the landfill's current supply of water. The groundwater basin is adjudicated and groundwater levels have continued to decline. Therefore, alternatives other than recycled/reclaimed water all exhibit the same level of impact to the local water supply.

The only known source of reclaimed water is the Victor Valley Water Reclamation Authority's (VVWRA) regional plant that discharges treated wastewater to the Mojave River. Various factors impact the VVWRA's ability to make substantial changes to its point of discharge (e.g. reduce water that has historically been discharged to the river) including changes to biological habitats and downstream users that rely on the flows. Most recently, however, the VVWRA received a permit and an agreement was reached with the California Department of Fish and Game (CDFG) to provide reclaimed water directly to the Southern California Logistics Airport (SCLA). The water will be sold directly to the City of Victorville for use as irrigation water on the SCLA's golf course. The pipeline project to provide the water is expected to be completed in mid-2004 (communication with Dan Gallagher, VVWRA, July 24, 2003).

The VVWRA has indicated that reclaimed water could be made available to the landfill. The following permit requirements would have to be fulfilled before such a project could proceed:

- Receive Waste Discharge Requirements (WDRs) from the Regional Water Quality Control Board, Lahontan Region
- Amend agreement with CDFG to provide additional water as direct delivery
- Army Corps of Engineers permit for constructing a pipeline across the Mojave River

Mitigation Measures

Mitigation Measure US-1

As part of the five-year SWFP review process undertaken jointly by SWMD and the Local Enforcement Agency (LEA), SWMD shall evaluate the feasibility of extending reclaimed water pipelines to the Victorville Landfill site for use in dust control efforts. Additionally, SWMD shall request a revision to its Waste Discharge Requirements (WDR) to allow the use of reclaimed water for dust control purposes during the next WDR revision cycle. SWMD shall also work with VVWRA in amending its agreement with DCFG to allow reclaimed water to be utilized for dust control purposes.

Level of Significance After Mitigation

The VVWD's UWMP includes projections for future water demands and supplies through the year 2020. According to VVWD, additional water conservation efforts and the potential for using State Water Project water (direct deliveries) would allow the District to meet projected demands until 2020, including dust control practices at the landfill. This time period would be within the early stages of Phase 2 of the landfill expansion and therefore, no impact to water supply or the District's water system would occur during the first 20 years of the landfill expansion project. After this point, alternative water supplies may be required. By using recycled water from the VVWRA at the earliest opportunity, SWMD may ensure a water supply for dust control beyond the horizon year identified by VVWD in its UWMP. Therefore, impacts to the regional water supply would be less than significant.

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5.0 CUMULATIVE IMPACTS

5.1 INTRODUCTION

This analysis discusses the potential cumulative impacts to the environment that may result from the development of the proposed landfill expansion project on the existing site. CEQA Guidelines, Section 15130(a)(b), provides guidance concerning the format and content of the cumulative impacts analysis as follows:

(a) (1) ... 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.

(2) When the combined cumulative impact associated with the project's incremental effect and the effect of other projects is not significant, the EIR shall briefly indicate why the cumulative impact is not significant and is not discussed in further detail in the EIR.

When discussing cumulative impacts, the discussion shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great of detail as is provided for the effects attributable to the project alone. The discussion should be guided by the standards of practicality and reasonableness.

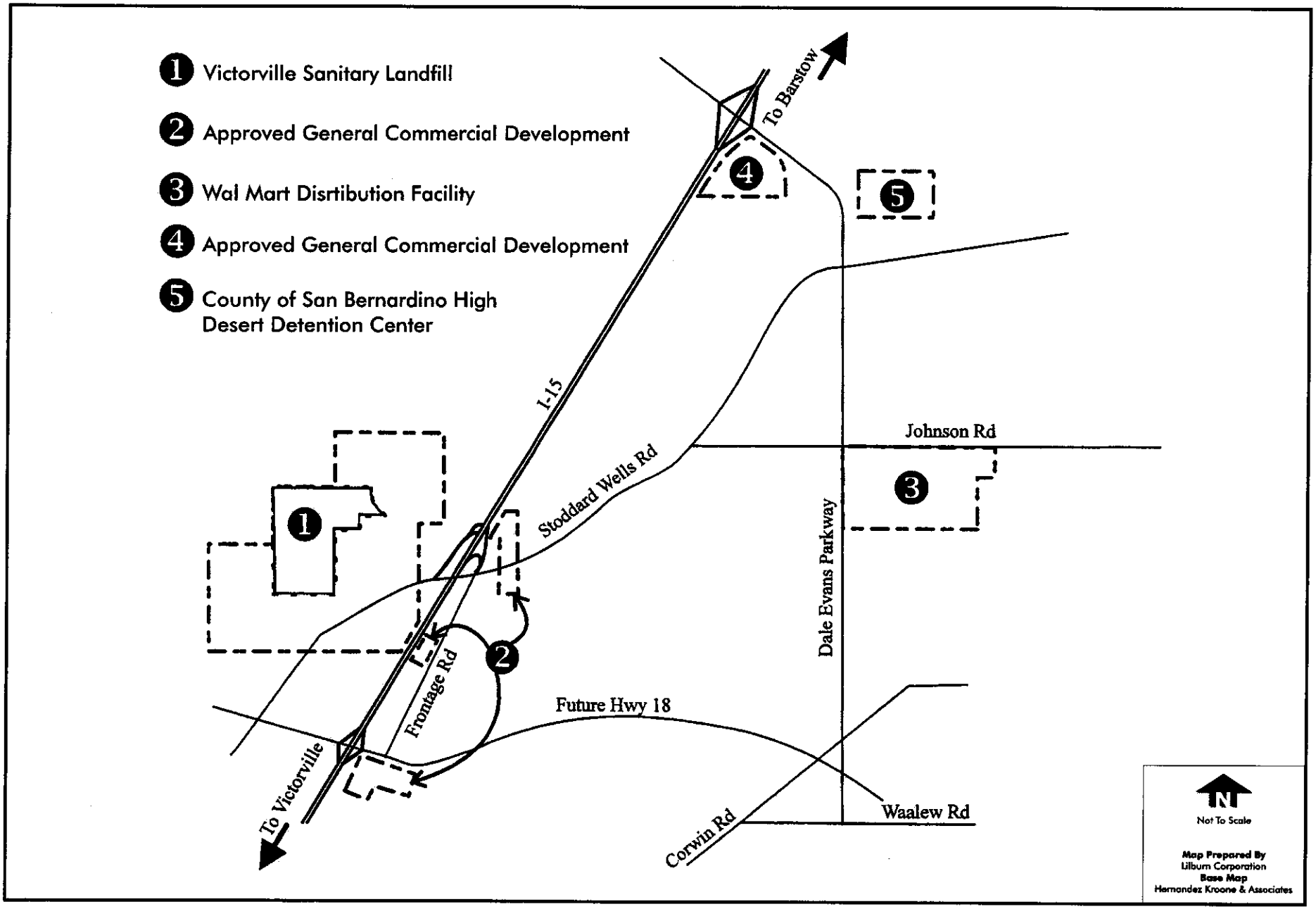
5.2 IDENTIFIED PAST, PRESENT OR REASONABLY FORESEEABLE PROJECTS

CEQA Guidelines states that an EIR shall discuss cumulative impacts when the project's incremental effect is cumulatively considerable. A project can have impacts mitigated to less than significant levels but incremental effects may be cumulatively significant when viewed in conjunction with other projects. Cumulative projects identified in the vicinity of the project are summarized below. Table 5-1 lists the pertinent data about the cumulative projects. Figure 5-1 shows the general location of these sites.

Table 5-1
Cumulative Projects

Site Location	Proposed Land Use	Total Acres	Project Size in 2020
West of Stoddard Wells Road/I-15 Intersection (north)	Regional Municipal Solid Waste Landfill	491	90 acres (total approx. disturbed area in 2020)
Dale Evans Parkway and Johnson Road – Project Site	Distribution Warehouse	300	1.34 million square feet
Dale Evans Parkway/ I-15 Freeway	Regional Commercial	75	245,000 square feet*
Dale Evans Parkway/ Moro Road	High Desert Detention Center	120	544, 000 square feet
Stoddard Wells Road and Future Hwy 18	Regional Commercial	432	1.4 million square feet*
Total		**1,418 acres**	**7.46 million square feet**

* Estimated based on 30 percent building coverage over the project site.



Cumulative Projects Site Location

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Victorville Sanitary Landfill
San Bernardino County, California

Figure 5-1

- Pluto Development Inc. (Walmart Distribution Facility) proposes to develop the site into a distribution/warehouse facility (including supporting buildings/infrastructure) for the distribution of consumer products throughout the southwestern United States. Development of the site will initially include 1.34 million square feet (sq. ft.) of building floor area. The facility will include an additional 43 acres of paved areas for driveways, tractor and trailer parking, and employee parking. The site is located southeast of Johnson Road and Dale Evans Parkway, within the Town of Apple Valley. Construction of this facility is underway.

- The first phase of the County's High Desert Detention Center (HDDC) is expected to open in 2004 and will be fully operational by the year 2020. The HDDC project consists of a 544,000 square foot detention facility that will ultimately accommodate 1,200 beds. It also includes a Sheriff's Station and Adult Probation Office. The first phase includes a 200 bed juvenile detention facility. The site is 120 acres located at the southeast corner of Morro Road and Dale Evans Parkway, approximately two miles north of the project site.

- A General Plan Amendment and Zone Change (Schaffer Real Estate Investment Company) from residential to commercial on 75 acres east of I-15 and south of Dale Evans Parkway directly west of the proposed HDDC site. This project will most likely be developed with regional commercial uses. Only approximately 25 percent of this project is expected to be developed by the year 2020.

- A General Plan Amendment and Zone Change (Katz Hollis) from residential to commercial on three parcels consisting of approximately 432 acres east of I-15, between Stoddard Wells Road and the future Highway 18. Like the General Plan Amendment described above, it is assumed that 25 percent of this project would be developed by 2020.

5.3 AREAS WHERE NO CUMULATIVE IMPACTS WOULD OCCUR

Cultural Resources. A records search of a one-mile radius around the site was completed at the Archaeological Information Center at the San Bernardino County Museum. The search included a review of all previously recorded prehistoric and historic archaeological sites situated on or within a one-mile radius of the project area. Additionally, the National Register of Historic Places, California Historic Landmarks, and California Points of Historical Interest were reviewed for the purpose of identifying any historic properties. This search found five additional historical sites within one mile of the site, and one existing historic resource (PSBr-38H – a 115Kv transmission line used to supply electricity to the Hover Dam project in 1931) on the landfill site. None of these cultural resources would be impacted by development of the landfill expansion project.

Public Utilities and Infrastructure. Development of the proposed landfill expansion project would result in additional storm facilities constructed onsite to handle excess water resulting from the project. Onsite drainage would ultimately discharge surface water into Bell Mountain Wash located to the southeast. No additional projects are currently proposed within the drainage tributary area or any subarea of the landfill expansion site and therefore cumulative impacts with regards to public utilities and infrastructure were not addressed.

Geology and Soils. The proposed project is located in the seismically active southern California region. The region would likely experience moderate to strong seismic shaking at some time during the life of the proposed landfill expansion. Seismic shaking in the area would be generated by events on known active and potentially active faults in the region.

5.4 CUMULATIVE IMPACTS CONSIDERED

The following discussion summarizes the areas of concern evaluated in Chapter 4.0 Environmental Impact Evaluation where potentially significant impacts could occur.

Biological Resources. Impacts to general biological resources include the permanent loss of up to 410 acres of undeveloped desert shrubland and any associated wildlife habitat. Development of the landfill expansion includes loss of desert tortoise and loggerhead shrike habitat, both considered sensitive species. Several additional sensitive wildlife species are known to exist in the area that would be impacted. Although no sensitive species were found on the site during the site survey by Lilburn Corp in April 1997, the California Desert Native Plant Act regulates the taking of plant species protected under the Act from the site. The project would remove all species protected by the Act that are found suitable for transplanting by a qualified botanist/horticulturist. These plants would be used as landscaping onsite or will be maintained for future revegetation efforts. Section 4.3.3-Biological Resources, Impacts and Mitigation Measures includes all vegetation and wildlife mitigation to offset the project related impacts.

The majority of the landfill expansion area is vegetated with Mojave Creosote Bush Scrub and Joshua Tree Woodland element. The County has agreed to compensate desert tortoise suitable habitat at a ratio of 1:1 to the BLM for loss of this habitat resulting from development of the project. Cumulative impacts to biological resources are therefore not significant with implementation of the mitigation measures included in Section 4.3 – Biological Resources and the land transfer agreement between the County and BLM.

Paleontological Resources. San Bernardino County Museum records show the area has a high potential to contain numerous resources of paleontological value. A mitigation program, consistent with the Society of Vertebrate Paleontology, County of San Bernardino and the provisions in CEQA, would be implemented to mitigate any potential impacts. Specific requirements and information regarding this program are included in Section 4.4.3 of the Cultural Resources section.

Additional large scale projects occurring in the area would also be required to abide to a mitigation program to ensure no significant impacts occur to paleontological resources in the area. Implementation of the mitigation programs for each of the Cumulative Projects considered in this section would ensure no significant impacts to paleontological resources result on a cumulative basis.

Public Health and Safety. The landfill is located within a five-mile radius of the Southern California Logistics Airport and the Apple Valley Airport. Prior to expansion of the existing landfill, the owner/operator of the landfill will contact the affected airports and the FAA to notify them of the proposed landfill expansion.

The proposed increase in permitted height will not significantly impact aircraft operations. The proposed landfill expansion will result in additional capacity and increased life of the landfill, but should not increase the daily volume of operations. Solid waste disposed in the landfill will continue to be covered daily to prevent any debris from being scattered by wind and to eliminate foraging of the waste by birds and other wildlife. As the daily operations will essentially remain much unchanged from the current conditions, no additional impacts from potential bird strikes are anticipated with project development.

Additional cumulative developments in the area would not create any impacts to the areas surrounding airports and are also required to comply with FAA regulations and notify any affected airports of the proposed developments.

Hydrology and Water Quality. Development of projects on previously undeveloped sites generally increases stormwater flows by altering the existing natural drainage channels and also creating new impermeable surfaces. Development of the proposed landfill expansion would generally increase runoff by concentrating flows within the refuse footprint into the onsite drainage system passing through a de-siltation area and detention basin before being released into the areas natural drainage basin. Any drainage outside the footprint area will be re-directed around the refuse and discharged offsite. A leachate collection and removal system would also be installed on the landfill. During grading and construction, exposed soils could be washed off larger sites during storm events. The project would be required to create a SWPPP to ensure stormwater impacts from development of the project are offset.

Projects over one-acre are subject to regulations administered by the Regional Water Quality Control Board (RWQCB). Implementation of these performance standards and adherence to RWQCB regulations would ensure that no cumulative impacts to hydrology and drainage occur.

Implementation of the mitigation measures for the site-specific issues, as noted in Section 4.7.3, will offset the project-related impacts.

5.5 CUMULATIVE IMPACTS THAT CAN BE MITIGATED TO LESS THAN SIGNIFICANT LEVELS

Traffic/Circulation. The proposed landfill expansion project would not increase the daily amount of refuge accepted at the landfill nor should it generally increase the volume of vehicles traveling to the landfill. However, since the facility is currently scheduled to close in 2005, future traffic associated with keeping the facility open could be adverse. The Traffic Impact Study for the Victorville Sanitary Landfill (HKA, September 2002) included traffic information with regards to the additional large scale project evaluated for cumulative impacts. The High Desert Detention Center is expected to be opened in 2004, Pluto Development in 2003, and the two additional cumulative commercial development are expected to be 25 percent completed in 2025.

All or part of these cumulative project were considered in the traffic volumes calculated for the intersections which would be impacted. The landfill is currently permitted to receive 600 vehicles per day, allowing a maximum number to 1200 trips entering/leaving the landfill on a daily basis. Future permitted volumes would remain unchanged from the permitted

600 vehicles per day and this volume was used for analysis for the impacts in 2025. Primary access to the landfill will remain the private road entering the site from Stoddard Wells Road. Stoddard Wells Road provides access to the I-15 freeway located directly to the east and provides the main route for vehicles traveling to the landfill. A smaller volume of vehicles would also use surface roads to reach the facility. Larger vehicles traveling from various transfer stations in the areas are likely to reach the landfill via the Interstate, while smaller more local vehicles would likely use surface roads.

The Traffic Impact Study indicates the main intersections considered in the study included Stoddard Wells Road/I-15 Northbound and Southbound, and Stoddard Wells Road intersection with the private access road to the landfill. All intersections will meet the County's Level of Service criteria for the year 2025 except the Stoddard Wells Road/I-15 Northbound intersection. To mitigate for traffic impacts at this intersection, one through lane to the east and westbound approaches and a left-turn pocket for the northbound exist ramp would be added. This mitigation was recommended for the year 2025. Upon implementation of this measure, all intersections would operate at an acceptable Level of Service. Cumulative impacts to future traffic would therefore be mitigated to less than significant levels with implementation of the mitigation measures.

5.6 CUMULATIVE IMPACTS THAT CAN NOT BE MITIGATED TO LESS THAN SIGNIFICANT LEVELS

Air Quality. The operations planned onsite for the proposed project are not expected to exceed significant levels. The landfill expansion would not increase the daily volume of traffic traveling to the landfill, and would therefore not create additional air quality impacts from vehicle use at the landfill. However, the Mojave Desert Air Basin is in non-attainment status for PM_{10} and ozone. The project would therefore create cumulative impact even without increasing vehicle trips or site activity with continued operations at the landfill.

Aesthetics. Impacts to aesthetics and scenic resources would be adverse because the proposed project will be out of character, size and scale with the existing landscape. The landfill site is located in a relatively undeveloped area of the desert in an area known as the Sidewinder Valley. The site is adjacent to public lands administered by the BLM associated with the Quartzite Mountains to the northeast. The I-15 Freeway is designated as a Scenic Route in the County's General Plan, with views across the valley floor toward the Quartzite Mountains to the north and east and Bell Mountain to the southeast. The landfill refuse footprint site is over 2,000 feet from the closest point on the I-15 and is not within the scenic corridor. Expansion of the landfill will not place the disturbed areas of the site within the scenic corridor, but the existing facility is clearly visible in the public views of the surrounding desert and mountains in the background. Figure 4.1-1 shows the landfill site and surrounding area. Numbers on the figure represent viewpoints where photographs were taken.

When considered in conjunction with other cumulative projects summarized in Table 5-1, the impact would be cumulatively significant by creating an urban environment in the view corridor and viewshed of the I-15 Freeway and along Stoddard Wells Road. When cumulative projects are developed, views of the natural desert landscape and mountains would be interrupted and

blocked at some angles. In conjunction with other projects in the area, impacts to aesthetics and scenic resources would be cumulatively significant.

Expansion of the landfill would result in an increase of approximately five times the existing permitted landfill refuse area, in addition to a 50-ft increase in the permitted height. No residential developments currently exist adjacent to the site. The surrounding area is relatively undeveloped with a few commercial and industrial uses located near the Stoddard Wells Road interchange with the landfill's access road, approximately 1,500 feet from the site. Visual impacts will mainly occur to travelers along I-15, Stoddard Wells Road, and additional surface roads in the area. Aesthetical impacts to residences are therefore not addressed.

6.0 ALTERNATIVES

6.1 INTRODUCTION

This Chapter of the EIR contains an evaluation of alternatives to the expansion of the Victorville Sanitary Landfill as proposed. CEQA Guidelines Section 15126.6 describes the consideration and discussion of alternatives to a proposed project. The Guidelines state that an EIR shall describe a range of reasonable alternatives to the project, or the location of the project, which would feasibly obtain most of the basic objectives of the project, but avoid or substantially lessen any of the significant effects of the project and evaluate the comparative merits of the alternatives.

6.1.1 Project Description

The proposed revisions to the 1998 SWFP include: 1) the horizontal expansion of the landfill from a permitted 67-acre footprint to an approximately 341-acre footprint on the approximately 491-acre site; 2) an increase of 52 feet in the maximum permitted elevation from the currently permitted 3,130 feet above mean sea level (msl) to 3,182 feet above msl; and 3) an extension of the landfill projected closure date from its current date of 2005 to 2081, a period of 76 years.

Approximately 117 acres of the site are already disturbed by landfilling and excavation of adjacent borrow areas to provide cover material, leaving 374 acres of relatively undisturbed area. Of these 374 acres, 150 acres would not be used for landfilling because they are encumbered by numerous easements or the Bell Mountain Wash and would be used as a buffer area along the southeast portion of the landfill footprint and for the landfill perimeter road drainage system. At buildout of the facility, the landfill would cover a total of 341 acres. Within the buffer area, the County intends to develop an approximately six-acre detention basin to hold stormwater runoff from the landfill. In addition, the access road to the landfill currently traverses this area and the Southern California Gas Company has a natural gas transmission line in the proposed buffer area.

The expansion of the Victorville Sanitary Landfill would be conducted in three phases to accommodate the soil excavation, stockpiling and installation of the groundwater protection system (i.e., liner and LCRS) needed for the ongoing operation of the landfill.

6.1.2 Project Objectives

In order to evaluate alternatives to the proposed expansion project, they must be compared to the project and the County's objectives for proposing the expansion project. The County's objectives in proposing the expansion of the Victorville Sanitary Landfill at this time are to:

- Design and operate a state-of-the-art, environmentally safe landfill facility which meets or exceeds local, state and federal standards;
- Develop an expansion plan compatible with local long-range planning goals and to minimize impacts on the local and regional infrastructure;

- Provide solid waste disposal capacity consistent with the goals and policies of the San Bernardino County General Plan, the Integrated Waste Management Plan, and the Solid Waste Partnership Strategy Implementation Plan (PSIP); and

- Provide additional on-site landfill capacity to serve the regional needs of the High Desert area of San Bernardino County.

6.2 ALTERNATIVES CONSIDERED AND REJECTED

6.2.1 Alternative Sites Considered and Rejected

The PSIP was adopted to facilitate the reduction of the number of County operated landfills by setting up a system of regional landfills with a network of transfer stations and community collection centers. In the Victor Valley area, the County operated landfills in Apple Valley, Victorville, Phelan, and Hesperia. Figure 6-1 shows the location of the alternative landfill sites. Each of these landfills was considered for expansion to determine the most suitable location for implementation of the PSIP in the Victor Valley.

6.2.2 Criteria Used for Evaluating Alternative Sites

Criteria were established to provide a common framework for the evaluation of each potential site. Criteria helped the assessment and design of how each landfill would be situated to achieve maximum volumes. The criteria used are as follows:

- Topography and landfill footprints from 1995 were used;

- Any landfill liners were assumed to be constructed to state-approved Subtitle D standards;

- Final landfill cover material was assumed to be the prescriptive standard four feet thick;

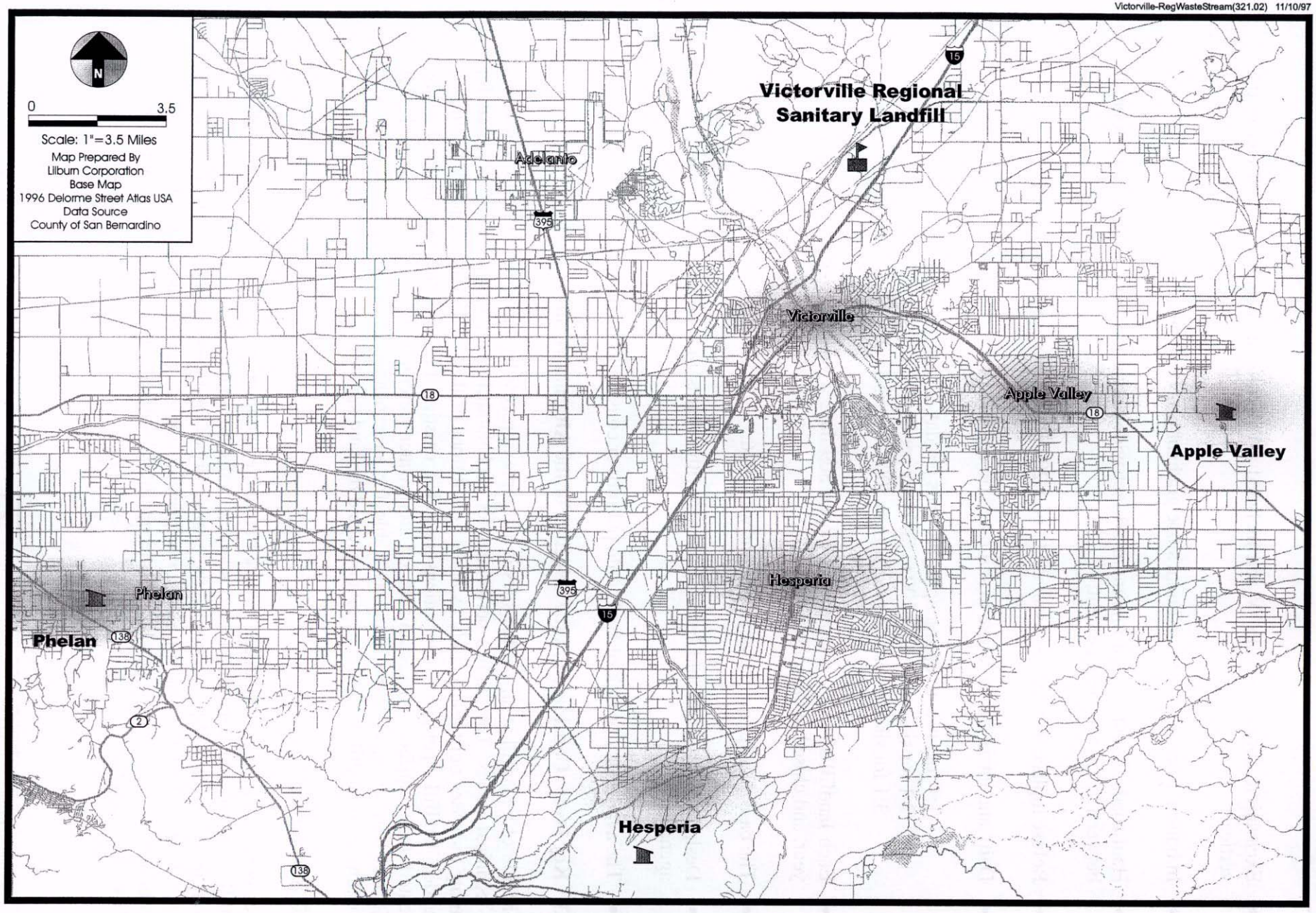
- Potential sites did not have to balance excavated soils with the need for cover material; although major soil surpluses and shortfalls were identified;

- Landfill final elevations were only constrained by the amount of space available and special features of the area;

- Final grade of the landfill deck was a minimum of three percent, fill grades in lined landfill areas;

- Lined landfill areas had maximum side slopes of 3H:1V (horizontal to vertical) between benches and benches were 20 feet wide every 40 feet in the vertical;

- Fill grades in unlined landfill areas had maximum side slopes of 2H:1V between benches and benches were 20 feet wide every 40 feet in the vertical;



Alternative Landfill Sites in the Victor Valley

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Victorville Sanitary Landfill
San Bernardino County, California

Figure 6-1

- Excavation slopes were 2H:1V and included a 15-foot wide bench every 50 feet in the vertical;

- In bottom liner areas the maximum slope gradient was three percent;

- Haul roads would be at a minimum 30 feet wide and could have a maximum slope of between seven and eight percent;

- Refuse inplace density was assumed to be 1,200 pounds per cubic yard;

- Daily and intermediate refuse to soil ratios (in cubic yards):

  - 1:1 for sites accepting up to 100 tons per day
  - 2:1 for sites accepting 100 to 500 tons per day
  - 3:1 for sites accepting greater than 500 tons per day;

- Each landfill site was assumed to be open 309 days a year (6 days a week, 52 weeks a year, and closed on holidays);

- The base year for quantity calculations was 1996;

- Design constraints could be encountered with regards to municipalities and regulatory agencies; and

- The availability or lack of land could put further constraints on design.

6.2.3 Key Issues Considered in the Selection of the Alternative Sites

Expansion of a landfill at any of the sites is a complex process having a variety of technical and non-technical issues. The studies performed for each landfill were basic studies designed for planning purposes only. Each study evaluated conditions of the site and its adequacy to support expanded landfill operations. Operations included existing facilities that would need to be relocated (e.g., surface impoundments or stormwater detention basins), land available for additional borrow material, and land available for an expanded footprint. Two key issues in evaluating each landfill were land availability and the land suitability.

Land Availability

Issues concerning land availability revolved around evaluating the conditions of the land within landfill property and determining the adequacy of the land to support expanded landfilling operations. Possible problems included the availability of land for borrow areas and the ability to acquire land around the landfill site for expansion. Other restrictions included locations of detention basins or septage ponds and the additional lands that might have been needed to replace these facilities.

Land Suitability

Issues related to land suitability were 1) if land were available would it be suitable or compatible for expanded landfill operations; 2) proximity of landfill site to geologic features that could limit the design of the landfill expansion; 3) incompatible surrounding land uses; and 4) other engineering problems such as soil types or other hazards. For issues dealing with seismic zones, unstable areas, fault zones, wetlands, floodplains, or airports, the Resource Conservation and Recovery Act (RCRA) Subtitle D – landfill location criteria helped to determine whether an area was suitable for expansion of the landfill.

6.2.4 Apple Valley Landfill Site

The Apple Valley Landfill is located five miles east of the Town of Apple Valley, three miles north of Yucca Loma Road in an unincorporated area of San Bernardino County. The landfill which began operation in 1964 on property owned by the County is bounded on the north, south, east, and west by vacant lands owned by private parties as well as federal land administered by the BLM adjacent to the northeast of the site. The site occupies approximately 120 acres with a disposal area footprint of 80 acres (of which 39 acres have been disturbed by landfilling activities). The remaining 41-acre area was used as a borrow area for daily and intermediate cover and will be used for final cover when the landfill will be closed.

If the Apple Valley Landfill had been selected to be the regional facility it would have been developed on 160 acres. In this alternative, the County would purchase the adjacent 40-acre area northeast of the landfill site from the BLM. This alternative would include both a vertical expansion to a maximum elevation of 180 feet above existing grade (3,140 feet to 3,320 feet above msl) and a horizontal expansion to create an 81-acre landfill footprint. This alternative included excavation of future fill areas to depths of up to 50 feet below grade. Excavated material could be used for cover material. This would leave approximately 40 acres for borrow, perimeter road, detention basins, etc.

Reasons for rejecting this landfill as a regional facility were:

- The granitic nature of the hills around the facility could limit excavation of cover material so on-site soil for daily and intermediate cover would need to be imported from off-site sources;
- Expansion of the Apple Valley Landfill would result in a regional landfill with a site life of 20 years until approximately 2018 (from 1998, the year SWMD ceased accepting solid waste at the landfill);
- The site is located in a remote area, three miles east of State Highway 18 and 10 miles east of the I-15 freeway; and
- Landfill traffic would use State Highway 18 to access the landfill which would require traveling through the Town of Apple Valley.

6.2.5 Hesperia Landfill Site

The Hesperia Landfill is located east of Interstate 15, seven miles south of the City of Hesperia corporate boundary, south of the rural community of Oak Hills. Operations began at the Hesperia Landfill in 1964 on lands leased from the BLM. The site is located in an isolated area, in the foothills of the north side of the San Bernardino Mountains. Access to the site is via an unnamed road from Summit Valley Road. The site is not easily accessible because the area is relatively undeveloped and the BNSF tracks are a barrier. Access to the landfill for most of the Victor Valley would be through the City of Hesperia via Main Street to Avenue C which connects to Ranchero Road and ultimately to Summit Valley Road.

The site is on 80 acres of land, with a 38-acre landfill footprint. The landfill lies in hilly terrain and a dry riverbed lies both to the north and to the west. Land use zoning surrounding the site is RL-10 (residential-one house per 10 acres), and RL-1 (residential- one house per acre). The adjacent property to the west has an approved residential project (Summit Valley Ranch) and the approved Rancho Las Flores master planned community is within one-mile to the northeast. The site is also located 2.5 miles southwest of the Hesperia Airport.

The Hesperia Landfill is located in a seismic impact zone, lying eight miles north of the San Andreas Fault zone, and 6.5 miles west of the North Frontal fault zone of the San Bernardino Mountains, with the Landers/Lenwood fault to the northeast. Other faults in the vicinity are the Cleghorn fault, Silverwood Lake fault, and the Grass Valley fault. The closest Alquist-Priolo seismic study zone is the San Andreas Fault to the southwest.

There were several alternative scenarios discussed in the PSIP for the regionalization and expansion of the Hesperia Landfill ranging from a vertical expansion of the existing footprint (38 acres) to raise the maximum elevation of the landfill from 70 feet above grade to 120 feet above grade, to a vertical and horizontal expansion that would increase the size of the facility from 80 acres to 825 acres and raise the overall height from 70 feet above grade to 120 feet above grade. Under the worst case scenario for the Hesperia landfill, the County would purchase 745 acres from the BLM. Expansion of this facility would have given the County landfill capacity in the Victor Valley of approximately 265 years.

Reasons for rejecting this landfill as a regional facility were:

- The site is located in a remote area, with limited access and would require packer trucks and transfer trucks to use City streets to access the site;
- The site is located in a seismically active area, eight miles northeast of the San Andreas fault, and less than three miles north of the Cleghorn fault;
- The site is located near the Hesperia Airport;
- The site is located adjacent to the approved Summit Valley Ranch residential project and one-mile southwest of the approved Rancho Las Flores community project (Note: to date, no construction on either approved project has occurred).

6.2.6 Phelan Landfill Site

The Phelan Landfill is located ½ mile north of Phelan Road, two miles northwest of the community of Phelan in San Bernardino County. The site is accessed via Phelan Road and is approximately 12 miles west of the I-15 freeway. The site occupies 80 acres, 30 acres have been land filled, 22 acres are used for borrow areas and two acres are closed surface impoundments. The landfill is surrounded by private properties zoned Industrial Commercial or Rural Living by the County of San Bernardino; there are several scattered residences in the vicinity.

The site is located between two desert drainages associated with the Sheep Creek alluvial fan that emanates from the north side of the San Gabriel Mountains. The eastern boundary of the property along the fence line is raised by a berm in order to keep runoff out of the borrow pits and closed surface impoundments. The western side of the site is traversed by a prominent drainage. The site is located in a flood area associated with the Sheep Creek drainage system.

The expansion of the Phelan Landfill would be limited to the existing 80-acre site due to its location along the Sheep Creek alluvial fan and between two prominent drainage features. A vertical and horizontal expansion of the facility would result in an increase in the height of the landfill an additional 30 feet above its current approved height of 100 feet above grade. The horizontal expansion could be done on an additional 39 acres for a total landfill footprint of 69 acres.

Expanding the Phelan Landfill includes excavating the horizontal expansion area down approximately 40 feet to meet depths of the existing borrow pits. Thos would provide some cover material that would be stockpiled on the existing mound. Additional cover material would have to be imported toward the end of the landfill life and for final cover material.

Reasons for rejecting this landfill as a regional facility were:

- The site is located in an areas designated Rural Living by the County and there are scattered residences nearby;
- The site is located approximately 12 miles west of the I-15 freeway;
- The site is located on the Sheep Creek alluvial fan between two prominent drainages and is in a flood area so it cannot be expanded beyond its current 80 acres;
- Expansion of the Phelan Landfill would result in a regional landfill with a site life of 10 years until approximately 2008 (from 1998, the year SWMD ceased accepting solid waste at the landfill).

6.3 ALTERNATIVES CONSIDERED FOR EVALUATION

The alternatives considered for evaluation include the following:

- No Project – No Development - landfill remains open through 2005, the SWFP date;

- Alternative Design 1 - vertical expansion of the existing footprint plus expansion into existing disturbed areas – surface impoundments and borrow areas. 117-acre landfill footprint to a maximum elevation of 3,182 feet above msl;
- Alternative Design 2 - vertical expansion of the existing footprint plus expansion into Phases 1A, 1B and 2, for a 253-acre landfill footprint;
- Alternative Design 3 – vertical expansion of the existing footprint plus expansion into Phases 1A, 1B and 3, for a 227-acre landfill footprint; and
- Alternative Design 4 – horizontal expansion of the landfill with no vertical expansion (as requested by the Integrated Waste Management Board)

Under the proposed project, there were several issues that were found to be less than significant or could be mitigated to less than significant with mitigation. Impacts that were found to be less than significant were related to Cultural Resources, Hazards associated with bird strikes, and Public Utilities and Infrastructure related to water supply. Impacts that can be mitigated to less than significant levels are related to Biological Resources, Paleontologic Resources, Geology and Soils, Hydrology and Water Quality, and Traffic and Circulation.

Impacts that cannot be reduced to less than significant levels with mitigation are Aesthetics and Visual Quality, and Air Quality related to generation of particulate matter (PM_{10}) and carbon monoxide (CO) associated with emissions from the landfill gas flare. Alternatives to the proposed project are evaluated for their ability to reduce or eliminate these significant impacts.

6.3.1 No Project – No Development Alternative

Under the No Project – No Development Alternative, SWMD would not expand the facility and the Victorville Sanitary Landfill would close in the projected date of 2005. With the use of alternative daily cover instead of soil, SWMD has estimated that the Landfill could remain open through 2010 to serve the region, without any expansion. This would still require revisions to the SWFP.

The No Project – No Development Alternative would not meet the County's objectives to provide solid waste disposal capacity for the Victor Valley region in the future. Without expanding another landfill in the region, solid waste would be hauled out of the area. The nearest County landfill with current capacity to serve the region is the Mid-Valley Sanitary Landfill in the City of Rialto, approximately 30 miles southeast of Victorville.

The transfer to Mid-Valley would be a short-term solution until such time as SWMD expands one of the two other High Desert regional landfills, Barstow or Landers. Both these facilities were identified in the County's Partnership Implementation Strategy Plan (PSIP) for expansion to serve the future need for solid waste disposal in the High Desert. SWMD intends to begin expanding the Barstow facility in the near future, however, it is uncertain at this point whether the Barstow facility would be permitted prior to the close of the Victorville Landfill under this alternative.

Upon reaching capacity, the Victorville facility would close and be replaced with a transfer station to serve the community. This transfer station would be similar to the existing transfer at the Phelan Landfill to accommodate commercial haul trucks. At a maximum of 400 tons per day, approximately 20 transfer trucks would travel between the Victor Valley and the Mid-Valley Landfill each day. 400 tons per day is the current inflow to the Victorville Landfill with all transfer vehicles plus local commercial hauls and self haulers using this facility. Based on the Mid-Valley service area, SWMD determined in 1998 that this facility had a site life of 35 years or until 2033. Expanding the service area of the Mid-Valley Sanitary Landfill would shorten the life of this landfill by a minimum of six years, causing SMWD to expand another of the San Bernardino Valley landfills to accommodate the Valley service area. The Mid-Valley Landfill is limited by adjacent land uses and a height restriction due to proximity to the Rialto Airport. The other regional landfill in the Valley is San Timoteo with a closure date of 2016.

Comparison of the No Project – No Development Alternative to the Proposed Project

Aesthetics and Visual Quality. The landfill is a visible feature on the landscape under existing conditions because 1) it rises up from the valley floor and 2) soil excavated from the site and used to cover the landfill is lighter in color then the surrounding desert landscape. Vertical and horizontal expansion of the landfill would create a more prominent physical feature on the landscape and bring the mass closer to the freeway (a County designated scenic highway). No expansion of the facility would not increase this impact beyond existing conditions.

Air Quality. Air Quality impacts associated with the continued operation through the year 2010 would remain less than significant with the continued implementation of the standard operating procedures in place at the landfill. These include watering haul roads and stockpiles daily, using dust palliatives in exposed areas that would not be disturbed for more than 96 hours, and seeding areas that are not actively being landfilled for 180 days or more. These measures would continue to be implemented through the life of the proposed project. However, air emissions associated with the landfill expansion (horizontal or vertical) include increased fugitive dust due to the large landfill mass and increase carbon monoxide (CO) emissions associated with the landfill gas flare. (Note: the landfill gas flare is being installed at the facility with or without the expansion as required under federal regulation)

Under the no development alternative, after approximately 2010, the landfill would be replaced by a transfer station. Under this alternative solid waste would continue to be delivered to transfer stations or community collection centers and be transported via transfer trucks down the hill to the Mid-Valley Sanitary Landfill in the City of Rialto. Solid waste currently being delivered to the Victorville Landfill by commercial haulers would continue to be delivered to the nearest transfer station but an additional 20 transfer trucks would be added to haul solid waste from the transfer station to the Mid-Valley Sanitary Landfill for final disposal. This would result in an increase in vehicle trips and vehicle miles traveled between transfer stations in the Victor Valley and the Mid-Valley Sanitary Landfill. The increase in vehicle miles traveled resulting from transfer trucks traveling longer distances is an impact not associated with the proposed project. Approximately 20 transfer vehicles would make the 60-mile round trip each day. This would add incrementally to air emissions in the Mojave Desert and South Coast Air Basin that would not otherwise occur with the proposed project.

Traffic and Circulation. Under the proposed project, the level of service in the vicinity of the site would fall below an acceptable level at one intersection in 2025. Under the no development alternative the landfill would close in 2010. Refuse collection traffic would continue to contribute to the degradation of the level of service in the region. In addition adding 20 additional transfer trucks would increase the number of large trucks using the I-15 and would have an adverse impact on traffic as this freeway is already heavily traveled by commuters living in the Victor Valley and working in the Inland Empire, vacationers driving to Las Vegas or to the national parks, and interstate truck to and from southern California. Under this alternative, impacts to regional traffic conditions would be greater.

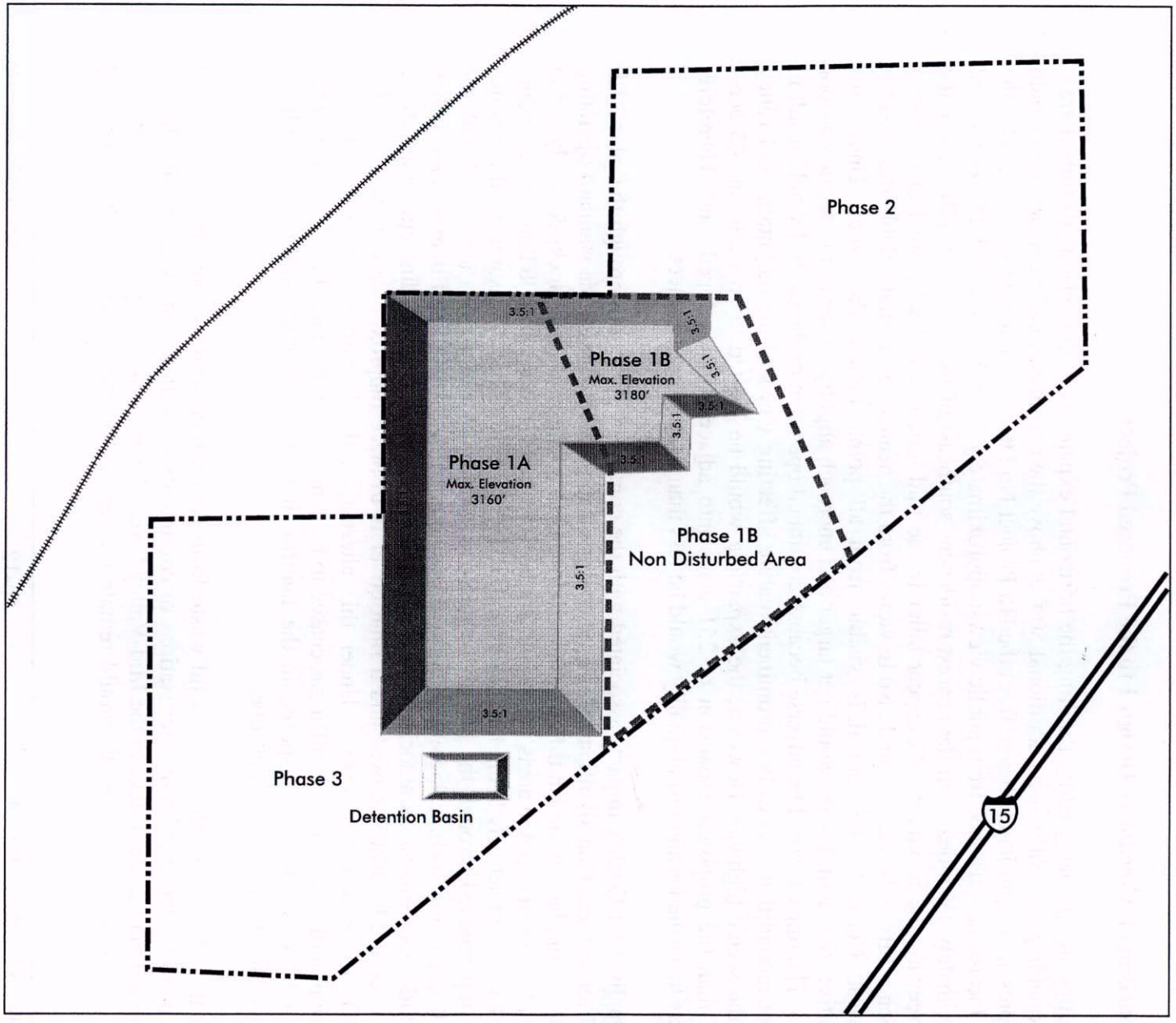
Summary of the Comparison of the No Project – No Development Alternative to the Proposed Project

The No Project – No Development Alternative is considered to be an Environmentally Superior Alternative at a local level because it would have less impacts on the local environment than the proposed expansion of the facility for aesthetics/visual quality and air quality related to fugitive dust generation. However, this alternative would not meet the County's objectives to expand the regional landfill to accommodate solid waste needs in the Victor Valley Region. In addition, it would likely shorten the life of the Mid-Valley Landfill by increasing the amount of solid waste that enters that facility, causing SWMD to plan the expansion of another Valley facility that would likely have significant impacts. Finally, this alternative would likely add incrementally to regional air quality and traffic impacts.

6.3.2 Alternative Design 1 – Vertical and Horizontal Expansion Within Existing Disturbed Areas

Under Alternative Design 1, SWMD would expand vertically from the currently permitted maximum elevation of 3,130 feet above msl to 3,182 feet above msl, and horizontally into the surface impoundment area (Phase 1A) and the original borrow area (Phase 1B) within the 80-acre site, plus the 37-acre Free Permit Area (Phase 1B) currently used for cover material. This would result in a landfill footprint of approximately 117 acres including the perimeter road and drainage system. Figure 6.2 shows Alternative Design 1. The proposed six-acre detention basin that would be developed in the buffer areas immediately adjacent to the southerly boundary of Phase 3 would be developed along the southerly boundary of the existing footprint. Under this alternative, the total area of disturbance would be approximately 123 acres and a buffer area of 368 acres.

Under this alternative, the landfill would close in approximately 26 years or 2029. Upon reaching capacity, the Victorville facility would close and would be replaced with a transfer station to serve the community similar to the transfer station at the Phelan Landfill. At this point all transfer trucks would be rerouted from the various transfer stations around the Victor Valley to another regional landfill, either Mid-Valley Landfill in the San Bernardino Valley or one of the two other proposed regional landfills in the desert (if they have been permitted for expansion). Under the PSIP, SWMD intends to provide solid waste disposal to the desert region by developing three regional facilities, Victorville, Barstow and Landers (see Chapter 3.0 for a discussion of the PSIP). The Barstow Landfill is the regional facility that currently serves the



Summary:
Vertical expansion of the existing footprint plus into existing disturbed areas - surface impoundments and borrow areas.
117-acre landfill footprint. This includes perimeter roads and drainage system.

Legend

- Property Line
- Phase Expansion Areas
- Rail Road Tracks

N

GRAPHIC SCALE
300 150 0 300 600
(IN FEET)

Alternative 1

Victorville Sanitary Landfill
San Bernardino County, California

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Figure 6-2

northern High Desert area and is scheduled to close under its existing SWFP in 2007. The Landers Landfill is the regional facility that serves the eastern High Desert area and is scheduled to close under its current SWFP in 2007. Under the PSIP, each of the three facilities would be expanded to provide future solid waste disposal needs for the High Desert Region. The Victorville Landfill is the first of the three to move forward with an expansion plan.

Since currently the only landfills in the County system with permitted capacity beyond the next five years is the Mid-Valley Sanitary Landfill and the San Timoteo Sanitary Landfill, this alternative analysis assumes that solid waste would be diverted to one of these two facilities once the Victorville Landfill is closed.

Comparison of Alternative Design 1 to the Proposed Project

Aesthetics and Visual Quality. Limiting the horizontal expansion to the existing disturbed areas and expanding vertically by an additional 50 feet above the permitted maximum elevation would not represent a significant change from the No-Project No Development Alternative because the site is located at a distance from public views; approximately 3/8 mile from the I-15 freeway and approximately 1¾ miles from the nearest residences southeast of the existing landfill. From the I-15 freeway, the mound would appear taller in the mid-ground and background of the views experienced from the freeway and also in views from the nearest residential neighborhood to the southwest. Currently the landfill is visible from all points around the valley. Under this alternative, the landfill mass would get larger and encroach slightly closer to the scenic corridor of I-15. The impact would be adverse because continued operation of the landfill would result in a larger mound that is already a prominent feature affecting views of the mountains and valley from the scenic highway. However, the expansion would be limited to an additional 43 acres rather than the proposed expansion of 251 acres into adjacent undeveloped land. Therefore, impacts to aesthetics and visual quality would be less than the proposed project.

Air Quality. Air Quality impacts associated with the continued operation through the year 2029 would remain less than significant with the continued implementation of the standard operating procedures in place at the landfill. These include watering haul roads and stockpiles daily, using dust palliatives in exposed areas that would not be disturbed for more than 96 hours, and seeding areas that are not actively being landfilled for 180 days or more. These measures would continue to be implemented through the life of the proposed project. Air emissions associated with the landfill expansion include increased fugitive dust due to the larger landfill mass and carbon monoxide (CO) emissions associated with the landfill gas flare. Fugitive dust emissions would cease once the landfill is closed and a final cover is in place (approximately three years after SWMD ceases accepting waste). Under this alternative, the landfill gas flare would be in operation until such time as landfill gas ceased to be generated at the landfill. With a shorter life span and less solid waste disposed in the landfill, it is assumed that landfill gas would be generated for a shorter period of time.

Under this alternative, after 2029 solid waste from commercial haulers and self-haulers would continue to be delivered to transfer stations or community collection centers and would then be transported via transfer trucks to the Mid-Valley Landfill, until that facility reaches capacity and closes. Also because Victorville would remain the regional facility under this alternative, self

haulers and commercial vehicles would continue to use the Victorville Landfill transfer station. Traffic to the landfill would incrementally increase with an increase in the regional population similar to under the proposed project, but traffic would increase with the introduction of up to 20 transfer trucks hauling solid waste from the Victorville Landfill transfer station to another regional landfill. By this time, one of the other High Desert landfills would have its proposed expansion approved and would become the ultimate disposal site for the Victor Valley. The distance between the Victor Valley area and the Barstow Landfill is similar to the distance to the Mid-Valley Landfill. A minimum 60-mile round trip would result in an increase in vehicle trips and vehicle miles traveled between transfer stations in the Victor Valley and another regional landfill resulting in an incremental increase in air emissions in the region.

Finally, because the site would not expand into previously undisturbed areas, cover material for daily, intermediate and final cover would have to be imported by haul truck, generating emissions that would not be generated under the proposed project. Therefore, air quality impacts associated with increased vehicle trips and vehicle miles traveled would be greater than under the proposed project.

Under this alternative, operational impacts on air quality would decrease but vehicle emissions would increase.

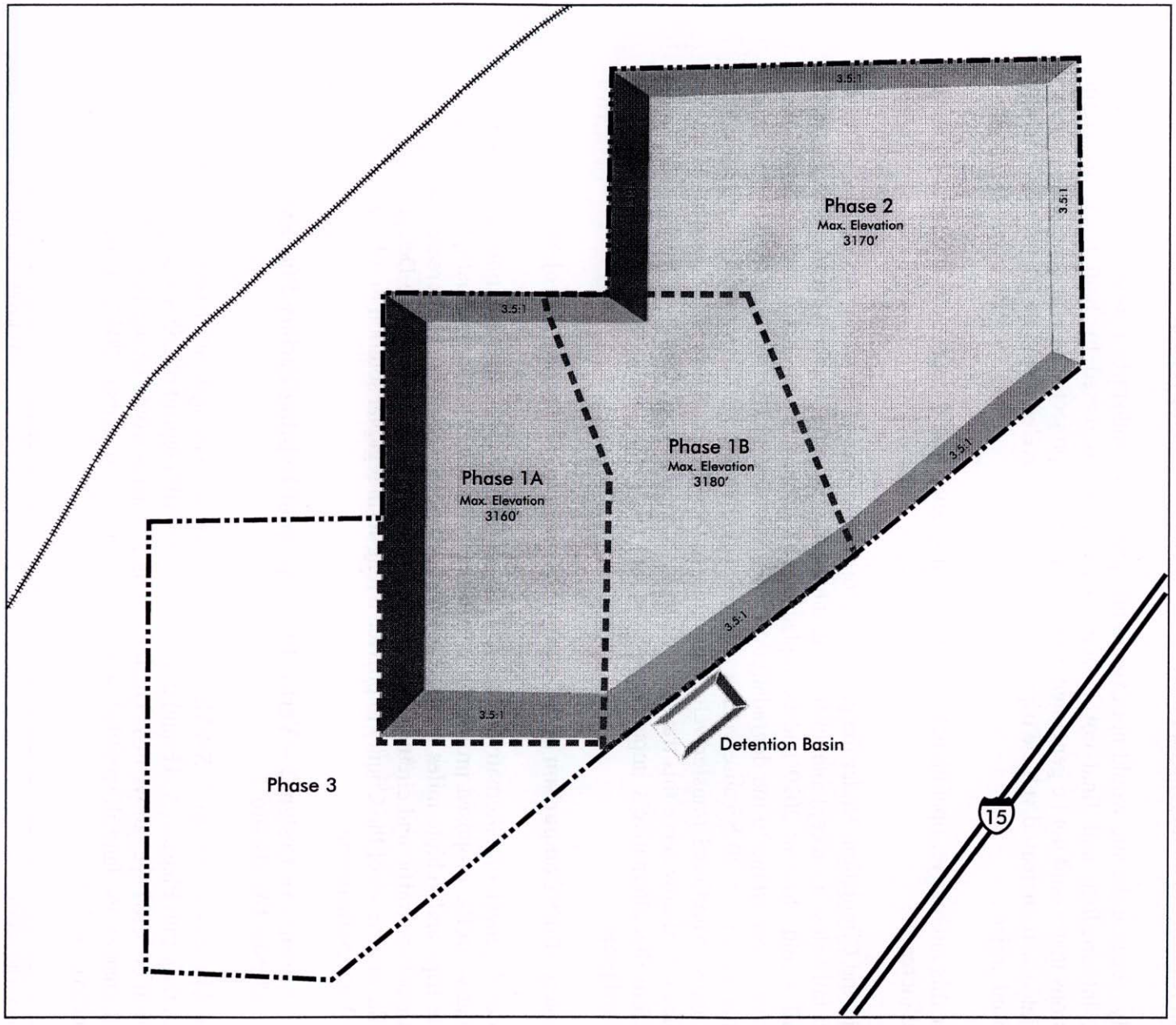
Traffic and Circulation. Under the proposed project, the level of service in the vicinity of the site would fall below an acceptable level at one intersection in 2025. Under Alternative Design 1, the landfill would close in 2029 and be replaced with a transfer station so landfill traffic would continue to contribute to the degradation of the level of service in the area. This impact would continue beyond 2029 because vehicles would still enter the landfill's transfer station to dump their loads. Additional transfer vehicles would further impact the level of service, as transfer vehicles would now serve this transfer station as well as the other transfer stations in the region. Therefore this alternative's impacts to traffic and circulation would be greater than under the proposed project.

Summary of the Comparison of Alternative 1 Design to the Proposed Project

The development of Alternative Design 1 is considered to be an Environmentally Superior Alternative to the proposed project only with regard to aesthetics and visual quality. Increased vehicle trips and vehicle miles traveled to another landfill would cause increased air emissions and impacts to traffic and circulation over the proposed project. Alternative Design 1 would not meet the objectives of the County to provide a long-term regional solution to solid waste disposal in the Victorville region.

6.3.3 Alternative Design 2 – Vertical Expansion of Existing Facility Plus Expansion into Phases 1A, 1B and 2

Under Alternative Design 2, SWMD would expand the existing landfill vertically, and expand horizontally into Phases 1A, 1B and 2, for a total landfill footprint of 253 acres up to a maximum elevation of 3,182 feet above msl. The remaining 238 acres would be used as buffer area. Under this alternative, the landfill would close in approximately 56 years or 2059. Figure 6-3 shows this Alternative Design.



Summary:
Vertical expansion of the existing footprint plus Phases 1A, 1B and 2. 253-acre landfill footprint. This includes perimeter roads and drainage system.

Legend

- Property Line
- Phase Expansion Areas
- Rail Road Tracks

N

GRAPHIC SCALE
300 150 0 300 600
(IN FEET)

Alternative 2

Victorville Sanitary Landfill
San Bernardino County, California

LILBURN CORPORATION

Figure 6-3

Completion of final closure would take an additional three years through 2062. With the use of alternative daily cover instead of soil, the landfill could remain open slightly longer than 2062 to serve the region, without the horizontal expansion into Phase 3. Excavated soil from expansion areas would be used for daily, intermediate and final cover material so it is not likely that additional soil would be hauled in.

Comparison of Alternative Design 2 to the Proposed Project

Aesthetics and Visual Quality. The landfill is a visible feature on the landscape under existing conditions because 1) it rises up from the valley floor and 2) soil excavated from the site and used to cover the landfill is lighter in color then the surrounding desert landscape. Vertical and horizontal expansion of the landfill would create a more prominent physical feature on the landscape and bring the mass closer to the freeway (a County designated scenic highway). Therefore, impacts to Aesthetics and Visual Quality would be similar to the proposed project but the landfill's mass would be slightly smaller by eliminating Phase 3.

Air Quality. Air quality impacts of this alternative would be similar to the proposed project because the rate of activity would be similar until 2059. At landfill closure, air quality impacts would be similar to those identified under Alternative Design 1 because of the increase in traffic associated with the addition of up to 20 transfer vehicles to the existing vehicle trips.

Traffic and Circulation. As with Alternative Design 1, closing this facility and rerouting all commercial haul trucks and transfer trucks to the regional facility in the City of Barstow would increase vehicle trips and vehicle miles traveled (additional 60-mile round trip) on the freeway and surface streets to that facility. The Mid-Valley Sanitary Landfill is scheduled to close in 2033, therefore an alternative site would have to be identified and permitted to accept the Victor Valley waste stream. The most likely alternatives would appear to be Barstow Sanitary Landfill or Landers Sanitary Landfill, however, no definitive site can be determined at this time. Therefore the exact impacts on traffic cannot be quantified with great precision, however it is assumed there will be additional transfer trucks routed to a new site increasing traffic impacts.

Summary of the Comparison of Alternative 2 Design to the Proposed Project

The development of Alternative Design 2 is not considered to be an Environmentally Superior Alternative even though SWMD would not develop the Phase 3 area. Impacts to aesthetics/visual quality would be slightly less because 90 acres of the site would not be developed. Other impacts associated with the project would be similar and impacts to traffic and air quality related to vehicle trips and vehicle miles traveled would be greater.

Alternative Design 2 would meet the County's objectives to provide solid waste disposal capacity for the Victor Valley region in the long-term as the region continues to grow, but only until approximately 2059. After that point, SWMD would either consider expanding into Phase 3 or closing the landfill and rerouting the region's solid waste. Because this time frame is so far in the future, other technologies for solid waste disposal may become available to lengthen the life of the landfill without expanding into Phase 3.

6.3.4 Alternative Design 3 – Vertical Expansion of Existing Facility Plus Expansion into Phases 1A, 1B and 3

Under Alternative Design 3, SWMD would expand the existing landfill vertically, and expand horizontally into Phases 1A, 1B and 3, for a total landfill footprint of 227 acres up to a maximum elevation of 3,182 feet above msl. The remaining 264 acres would be used as buffer area. Under this alternative, the landfill would close in approximately 50 years or 2053. Figure 6-4 shows this Alternative Design.

Completion of final closure would take an additional three years through 2055. Excavated soil from expansion areas would be used for daily, intermediate and final cover material so it is not likely that additional soil would be hauled in.

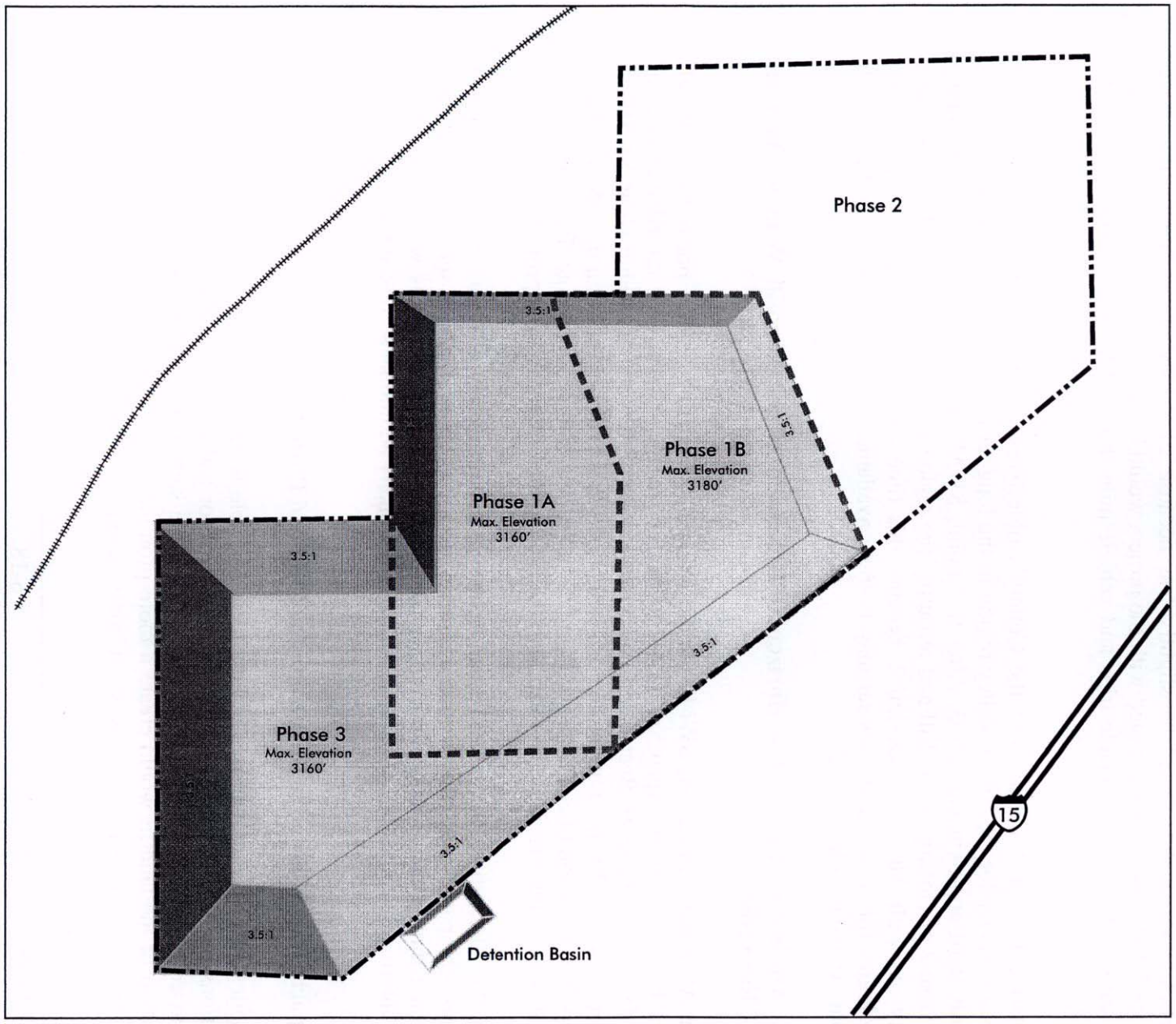
Comparison of Alternative Design 3 to the Proposed Project

Aesthetics and Visual Quality. The landfill is a visible feature on the landscape under existing conditions because 1) it rises up from the valley floor and 2) soil excavated from the site and used to cover the landfill is lighter in color then the surrounding desert landscape. Vertical and horizontal expansion of the landfill into Phase 3 would create a more prominent physical feature on the landscape and bring the mass closer to the freeway (a County designated scenic highway). Therefore, impacts to Aesthetics and Visual Quality would be similar to the proposed project but the landfill's mass would be smaller by eliminating Phase 2.

Air Quality. Air Quality impacts associated with the continued operation through the year 2053 would remain less than significant until sometime after 2050 when the rate of solid waste entering the landfill reaches its maximum under the existing 1,600 tons per day permit. This is approximately the time when the landfill would be at capacity and close. With the continued implementation of the standard operating procedures in place at the landfill, including watering haul roads and stockpiles daily, using dust palliatives in exposed areas that would not be disturbed for more than 96 hours, and seeding areas that are not actively being landfilled for 180 days or more, these impacts would continue to be addressed but not to less than significant levels. These measures would continue to be implemented through the life of the proposed project or any of the alternatives. Air emissions associated with the landfill expansion including increased fugitive dust due to the large landfill mass and carbon monoxide (CO) emissions associated with the landfill gas flare would be similar to the proposed project through the life of the landfill under this alternative.

Similar to the other alternative designs, under this alternative, after approximately 2053, SWMD would be required to reroute all transfer trucks to a different facility. This will result in an increase in vehicle trips and vehicle miles traveled which would increase air emissions in the region over the proposed project.

Traffic and Circulation. Under the proposed project, the level of service in the vicinity of the site would fall below an acceptable level at one intersection in 2025. Under Alternative Design 3, the



Summary:
Vertical expansion of the existing footprint plus Phases 1A, 1B, and 3. 227 acres. This includes perimeter roads and drainage system.

Legend

- Property Line
- Phase Expansion Areas
- Rail Road Tracks

N

GRAPHIC SCALE
300 150 0 300 600
(IN FEET)

Alternative 3

Victorville Sanitary Landfill
San Bernardino County, California

LILBURN CORPORATION

Figure 6-4

landfill would close in 2053 so landfill traffic would contribute to the degradation of the level of service similar to the proposed project. As with the other alternative designs, closing this facility and rerouting transfer trucks to another facility which would increase vehicle trips and vehicle miles traveled on the freeway and surface streets to that facility. This alternative could have an adverse impact on traffic and circulation as previously described in Alternative Design 2.

Summary of the Comparison of Alternative 3 Design to the Proposed Project

The development of Alternative Design 3 is not considered to be an Environmentally Superior Alternative even though SWMD would not develop the Phase 2 area (117 acres). Impacts to aesthetics/visual quality would be slightly less because 117 acres of the site would not be developed. Other impacts associated with the project would be similar and impacts to traffic and air quality related to new vehicle trips and vehicle miles traveled by transfer trucks would be greater.

Alternative Design 3 would meet the County's objectives to provide long-term solid waste disposal capacity for the Victor Valley region in the long-term as the region continues to grow, but only until approximately 2053. After that point, SWMD would either consider expanding into Phase 2 or closing the landfill and rerouting the region's solid waste to another solid waste facility. As with Alternative Design 2, because this time frame is so far in the future, other technologies for solid waste disposal may become available to lengthen the life of the landfill without expanding into Phase 2.

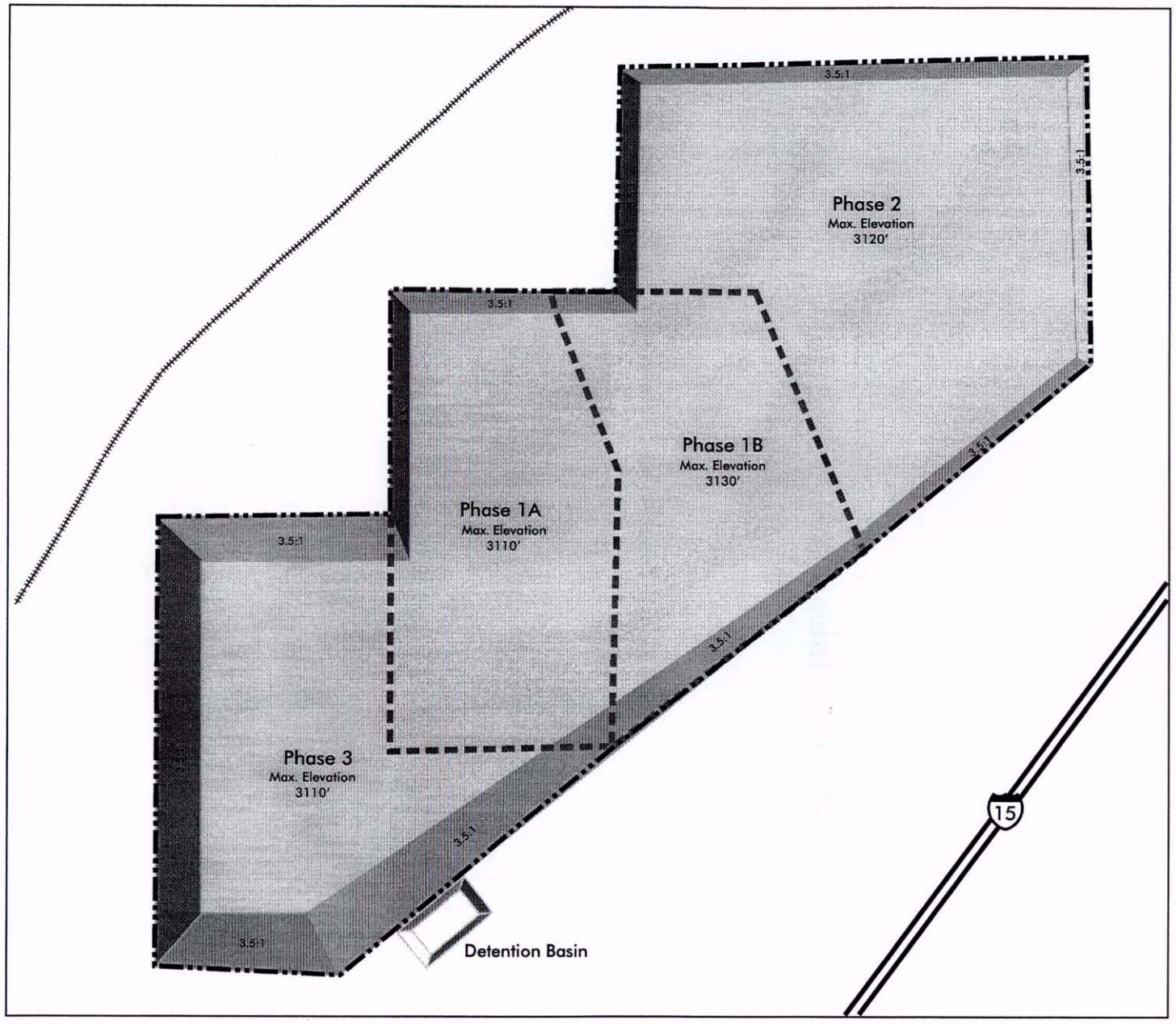
6.3.5 Alternative Design 4 – Horizontal Expansion of the Landfill With no Vertical Expansion

Under Alternative Design 4, SWMD would expand the existing landfill horizontally into all phases but no vertical expansion would occur above the currently permitted elevation of 3,130 feet above sea level. Because of the existing slope of the site, this would allow SWMD to develop a landfill that has a maximum fill height of 170 feet above the natural grade to achieve the top deck elevation of 3,130 feet. Figure 6-5 shows this Alternative Design. Figure 6-6 shows a simulation of this alternative in relation to the final grade of the proposed project.

Under this alternative, the landfill would close in approximately 60 years or 2063 a loss of 18 years compared with the proposed project. Completion of final closure would take an additional three years through 2065. Excavated soil from expansion areas would be used for daily, intermediate and final cover material so it is unlikely additional soil would be hauled to the site.

Comparison of Alternative Design 4 to the Proposed Project

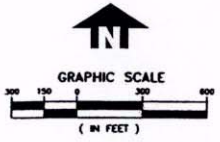
Aesthetics and Visual Quality. The landfill is a visible feature on the landscape under existing conditions because 1) it rises up from the valley floor and 2) soil excavated from the site and used to cover the landfill is lighter in color then the surrounding desert landscape. Horizontal expansion of the landfill would create a more prominent physical feature on the landscape and bring the mass closer to the freeway (a County designated scenic highway). However, moving



Summary:
No Vertical expansion. Horizontal expansion of the landfill footprint of 274 acres to a height not to exceed 3,130 feet above msl.

Legend

- Property Line
- Phase Expansion Areas
- Rail Road Tracks



Alternative 4

Victorville Sanitary Landfill
San Bernardino County, California

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Figure 6-5

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Proposed Condition: View of future Phases 1A, 1B, 2 and 3 fill at final grade.

Alternative 4: View of future Phases 1A, 1B, 2 and 3 fill at final grade.

Phased Simulation

Victorville Sanitary Landfill
San Bernardino County, California

the landfill mass closer to the scenic corridor and developing the mass to a height of up to 170 feet above existing grade would have a significant effect on the viewshed by developing a larger mass. Therefore, impacts to Aesthetic and Visual Quality would be significant with or without the vertical expansion.

Air Quality. Air Quality impacts associated with the continued operation through the year 2060 would remain less than significant until sometime after 2050 when the rate of solid waste entering the landfill reaches its maximum under the existing 1,600 tons per day permit. With the continued implementation of the standard operating procedures in place at the landfill, including watering haul roads and stockpiles daily, using dust palliatives in exposed areas that would not be disturbed for more than 96 hours, and seeding areas that are not actively being landfilled for 180 days or more, these impacts would continue to be mitigated but not to less than significant levels Air emissions associated with the landfill expansion including increased fugitive dust due to the large landfill mass and carbon monoxide (CO) emissions associated with the landfill gas flare would be similar to the proposed project through the life of the landfill under this alternative.

Similar to the other alternative designs, under this alternative, after approximately 2060, SWMD would be adding up to 80 transfer trucks to the vehicle mix now utilizing the Victorville Landfill. These transfer trucks would be routed to another solid waste facility. This would result in an increase in vehicle trips and vehicle miles traveled which would increase air emissions in the region over the proposed project.

Traffic and Circulation. Under the proposed project, the level of service in the vicinity of the site would fall below an acceptable level at one intersection in 2025. Under Alternative Design 4, the landfill would close in 2060 so landfill traffic would contribute to the degradation of the level of service similar to the proposed project. As with the other alternative designs, closing this facility will add up to 80 transfer trucks to the region's streets and highways and would increase vehicle trips and vehicle miles traveled (additional 60-mile round trip) on the freeway and surface streets to the Barstow Landfill. Finally, because these truck trips would be routed through the City of Barstow, impacts on city streets would likely be significant.

Summary of the Comparison of Alternative 4 Design to the Proposed Project

The development of Alternative Design 4 is not considered to be an Environmentally Superior Alternative even though SWMD would not increase the maximum elevation of the landfill beyond 3,130 feet above msl. Impacts to aesthetics/visual quality would be slightly less because the landfill would be 50 feet shorter (see Figure 6-6) than under the proposed project but other impacts associated with the project would be similar and impacts to traffic and air quality related to vehicle trips and vehicle miles traveled would be greater.

Alternative Design 4 would meet the County's objectives to provide solid waste disposal capacity for the Victor Valley region in the long-term as the region continues to grow, until approximately 2060. After that point, SWMD would either consider expanding vertically or closing the landfill and rerouting the region's solid waste to another solid waste facility.

7.0 OTHER CEQA REQUIRED ANALYSIS

This Section includes consideration and discussion of other project-related impacts that must be evaluated in the Draft EIR as described in CEQA Guidelines Section 15126. These include the following:

- Growth Inducing Impacts must be discussed with regard to the way in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding area.
- Significant Irreversible Environmental Changes Which Would be Involved if the Proposed Project Is Implemented must be discussed when the project includes future commitments to non-renewable resources either during construction or operation. Irretrievable commitments of non-renewable resources must be evaluated to assure that consumption can be justified. Irreversible changes may also result from environmental accidents associated with project operations.

7.1 GROWTH INDUCING IMPACTS

CEQA Guidelines Section 15126.2(d) requires an evaluation of growth inducing impacts that may result from a proposed project. Growth inducing impacts can occur when a proposed project places additional stress on a community by directly inducing economic or population growth that would lead to construction of new development projects in the same area as the project. A project would also be considered growth inducing if it removed obstacles to growth such as building a road to an undeveloped area, constructing a wastewater treatment plant or extending a sewer line that would provide additional capacity and thus allow new development in the area.

The proposed landfill expansion project would occur on an additional 250-acres mainly northeast and southwest of the existing permitted 80-acre site. The expansion would extend operations at the landfill by an additional 76 years, with a projected closure date of 2081. The landfill expansion project would not increase the daily volume disposed at the landfill, and is part of the Countywide Integrated Waste Management Plan (CIWMP) which regionalized the landfill and waste disposal system within the County into five regional landfills with a series of transfer stations and community collection centers.

Several utility systems servicing the surrounding area pass through the landfill expansion site and would remain un-affected by the project. High-voltage power lines and a Southern California Gas Company pipeline passes through the southeast portion of the site which is proposed for the buffer area. No refuse or landfilling would occur within this area. Existing utility use at the landfill includes the use of electricity at the entrance facility for the scales and lighting fixtures. No water is currently supplied to the landfill, and employees use portable water at the facility. Sanitary facilities include portable chemical toilets, and no sewer systems would service the facility. Telephone service is also provided to the scalehouse at the entrance to the landfill, and will also exist at the landfill flare station. Expansion would not require a significant change in the utility services since the landfill entrance facilities would remain in their existing locations.

There are currently no permanent structures located on the site and the existing facilities are portable.

The proposed landfill expansion project is not anticipated to induce any population growth in the area since development of the landfill would not significantly increase the number of people living in the area nor would it significantly increase employment in the area. Although the capacity of the landfill would be extended to an anticipated closure date of 2081, the daily volume and operational size of the landfill would remain unchanged from what is currently permitted. The area surrounding the landfill is mainly undeveloped in all directions except to the southeast, where two industrial developments are present near Stoddard Wells Road. The surrounding area is either privately owned or is federal land administered by the BLM. Properties are designated by the County as Resource Conservation, Regional Industrial, and General Industrial with a Sign Control Overlay area (see Figure 3-4 in Chapter 3.0). The proposed expansion of the landfill will allow the County to continue disposing waste at the landfill in compliance with the CIWMP. As additional developments occurs, the County would continue to ensure proper landfilling facilities are available to service the growing population. Expansion of the landfill would therefore not create significant growth inducing impacts.

7.2 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES WHICH WOULD BE CAUSED BY THE PROPOSED PROJECT SHOULD IT BE IMPLEMENTED

CEQA Guidelines Section 15126.2(c) states that significant irreversible environmental changes must be discussed when the project includes future commitments to non-renewable resources either during construction and operation. Irretrievable commitments of non-renewable resources must be evaluated to assure that consumption of the resource(s) can be justified. Irreversible changes may also result from environmental accidents associated with project operations.

Development of the landfill would cause an irretrievable commitment to the area's undisturbed land. Additionally, energy resources would be used for construction of the landfill monitoring and maintenance systems, deliveries of supplies and materials during construction of these systems, and daily equipment operations at the landfill. Non-renewable resources would be committed primarily in the form of fossil fuels including gasoline, natural gas and the manufacturing of geotextiles, and diesel fuels used by construction equipment and vehicles operating on and traveling to the site. Expansion of the landfill would not involve the development of any new structures onsite that would be occupied by people.

Development of the landfill expansion would not require significant increases in the consumption of natural resources to be used during operations at the landfill. The site and surrounding area are not designated for residential land uses within the County or the City of Victorville located south of the site.

8.0 REFERENCES

8.1 LIST OF PREPARERS

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8.3 BIBLIOGRAPHY

Archaeological Associates, June 1997, *An Archaeological Assessment of the 430-acre Victorville Sanitary Landfill Project, Victorville, San Bernardino County, California.*

Bryan A. Stirrat & Associates, *Basis of Design Report for the Gas Extraction System and Flare Station,* 2002.

Bryan A. Stirrat & Associates, July 2002. *Victorville Sanitary Landfill Expansion Project Description.*

California Air Resources Board, *Attainment Status of the Mojave Desert Air Basin,* 2002.

California Air Resources Board, *Victorville Air Monitoring Data, 1998 – 2002.*

California Department of Fish and Game (CDFG), 1998. Special Animals. A list of special-status animal species compiled by CDFG, Natural Heritage Division, Natural Diversity Data Base.

Catching, R.D., B.F. Cox, M.R. Goldman, G. Gandhok, M.J. Donmgler, P. Martin, A. Christensen, and D. Horta, 2000, *Subsurface Structure and Seismic Velocities as Determined from High-Resolution Seismic Imaging in the Victorville, California Area: Implications for Water Resources and Earthquake Hazards, U.S. Geological Survey Open-File Report 00-123.*

Circle Mountain Biological Consultants (CMBC), June 1996, *Biological Assessment for the Proposed San Bernardino County Landfill conveyance Project.*

EBA Wastetechnologies, November 1996, *Periodic Site Review, Victorville Sanitary Landfill.*

Federal Emergency Management Agency, Map Number 06071C5810 F, March 18, 1996, *Flood Insurance Rate Map, San Bernardino County, California and Incorporation Areas, Panel 5810 of 9400.*

Geologic Associates (GLA) May 2001, *Geotechnical Investigation, Lateral Expansion, Victorville Sanitary Landfill, San Bernardino, California.*

Golder Associates, Janurary 2003. *Engineering Review of Proposed Victorville Sanitary Landfill Expansion* (Golder Associates, January 2003).

IT Corporation, November 1997, *Technical Memorandum, Review of Published and Unpublished Reports, Aerial Reconnaissance Overflights, and Interpretation of Aerial Photographs at the Victorville Sanitary Landfill.*

IT Corporation, June 1999, *Final 2-D Seismic Reflective Survey Report, Victorville Sanitary Landfill, County of San Bernardino, California.*

IT Corporation, April 2001, *Geologic Hazards Investigation Report of the Victorville Sanitary Landfill Expansion Area.*

IT Corporation, June 2001a, *Hydrogeologic Assessment Report for Victorville Sanitary Landfill and Proposed Expansion Area, County of San Bernardino.*

IT Corporation, June 2001b, *Evaluation Monitoring Program Phase II Report for Victorville Sanitary Landfill, County of San Bernardino.*

Hichman, James C., ed., *The Jepson Manual Higher Plants of California.*

Lilburn Corporation, August 1990, *A Biological Survey of the Sanitary Landfill at Victorville.*

Lilburn Corporation, April 1992, *A Biological Survey of the Victorville Disposal Site Proposed Expansion Area, San Bernardino County.*

Lilburn Corporation, November 1997, *Visual Resources Assessment for the Victorville Sanitary Landfill Solid Waste Facility Permit Revision.*

Lilburn Corporation, June 1998, *Mitigated Negative Declaration for the Victorville Sanitary Landfill Solid Waste Facility Permit Revision.*

Lilburn Corporation, July 1998, *Baseline Biological Survey of the Victorville Sanitary Landfill, San Bernardino County, California.*

Lilburn Corporation, June 2001, *Report of Mitigation Activities at Various Sanitary Landfill Locations in San Bernardino County, California.*
Mojave Desert Air Quality Management District, *Authority To Construct Permit No. C008239,* 2002.

Mojave Desert Air Quality Management District, *CEQA and Federal Conformity Guidelines,* 2002.

Mojave Desert Air Quality Management District, *Emissions Inventory Guidance for Mineral Handling and Processing Industries,* 2000.

Mojave Desert Air Quality Management District, *Rules and Regulations,* 2003.

Munz, P, 1974, *A Flora of Southern California.*

National Climatic Center, *Wind Observations for George AFB, Victorville, California, 1942 – 1972.*

Norris, Robert M., and Webb, Robert P., 1990, *Geology of California.*

San Bernardino County Museum, June 1997, *Paleontological Assessment, Victorville Sanitary Landfill, City of Victorville, San Bernardino County, California.*

San Bernardino County, Solid Waste Management Department (SWMD), 1997, *Mitigated Negative Declaration for the Apple Valley Sanitary Landfill Final Closure Postclosure Maintenance Plan.*

San Bernardino County, Solid Waste Management Department (SWMD), 1997, *Mitigated Negative Declaration for the Phelan Sanitary Landfill Final Closure Postclosure Maintenance Plan.*

San Bernardino County, Solid Waste Management Department, (SWMD), 1998, *Mitigated Negative Declaration for the Hesperia Sanitary Landfill Final Closure Postclosure Maintenance Plan.*

South Coast Air Quality Management District, *CEQA Air Quality Handbook,* 1993.

Tetra Tech, Inc., January 1998, *Preliminary Closure Plan/Post-Closure Maintenance Plan, Vertical Expansion, Victorville Sanitary Landfill, Victorville California.*

USDA, Bureau of Land Management (BLM) and California Department of Fish and Game (CDFG), 1992. *California Statewide Desert Tortoise Management Policy.* Unpublished report prepared by BLM California Desert District and Region 4 and 5 of the California Department of Fish and Game, and approved by State Directors of both agencies.

USDA Bureau of Land Management (BLM), October 1997, *Environmental Assessment for the Proposed Conveyance of Federally Managed Public Lands to the County of San Bernardino For Uses Related to Solid Waste Management.*

U.S. Department of Interior Bureau of Land Management, October 1997. *Environmental Assessment for the Proposed Conveyance of Federally-Managed Public Lands to the County of San Bernardino for Uses Related to Solid Waste Management.*

U. S. Environmental Protection Agency, *AP-42 Compilation of Air Pollutant Emission Factors,* Updated via Internet, 2003.

9.0 MITIGATION MONITORING AND REPORTING PROGRAM

9.1 INTRODUCTION

The mitigation monitoring and reporting program (MMRP) has been prepared to implement the mitigation measures identified in the Program EIR for the Victorville Sanitary Landfill Expansion Project. CEQA Section 21081.6 requires adoption of a monitoring program when mitigation measures have been identified that would reduce or avoid significant environmental effects.

CEQA requires adoption of a monitoring program for those measures or conditions placed on a project to mitigate or avoid adverse effects on the environment. The law states that the monitoring program shall be designed to ensure compliance during expansion and long-term operation of the landfill.

This MMRP includes mitigation measures identified in the Program EIR and will be implemented in conjunction with the conditions of the Solid Waste Facility Permit (SWFP # 36-AA-0045) as revised to reflect changes in site life and increased size of the facility.

The MMRP has been prepared as a matrix containing the following elements: 1) the identified mitigation measure, regulatory requirement, or condition of the SWFP by environmental topic; 2) Department or Agency responsible for monitoring; and 3) the implementation/verification procedure.

Table 9-1
Victorville Sanitary Landfill Mitigation Monitoring and Compliance Program

Mitigation Measure From EIR	Responsible for Implementation	Implementation/Verification	Date Completed
AESTHETICS			
AE-1: A revegetation/landscape plan shall be prepared for the Victorville Sanitary Landfill by a qualified landscape architect or botanist with experience in revegetation of disturbed sites using native vegetation. This plan shall be completed within one year after approval of the project and shall be designed for implementation of a comprehensive landscape plan that will provide an effective vegetative cover over the long-term where slopes are at final stages of development. The Plan shall include a description of slope maintenance procedures that will be followed to ensure success.	SWMD	Within one year of issuance of a revised SWFP by LEA. The Plan shall be maintained as part of the facility's operating record maintained at SWMD and shall be available for public review upon request.	
AIR QUALITY			
AQ-1: If feasible, a co-generation system should be constructed to utilize the LFG and conserve energy resources. The economic feasibility and environmental benefits of the utilization of LFG for the operation of a co-generation system shall be conducted at such time the system is proposed.	SWMD	At such time as sufficient quantities of LFG may be generated to make a co-generation system feasible. The Feasibility Study shall be maintained as part of the facility's operating record maintained at SWMD.	
AQ–2: Unpaved refuse haul roads, service roads and operations areas shall be treated with water at least once per every two hours of active operation, and/or treated with a chemical stabilizer in sufficient quantity and frequency to maintain a stabilized surface.	SWMD	Record of compliance shall be placed in the facility's operating record maintained at the SWMD offices and shall be available for public review upon request.	
AQ-3: Truck and mobile equipment speeds on interior haul roads shall not exceed 15 miles per hour. Speed limits shall be posted.	SWMD	Posted speed limit.	
AQ-4: Excavation areas shall be treated with water during active extraction phases. As excavation areas are completed, landfill development (liner construction) and landscaping shall be implemented.	SWMD	Record of compliance shall be placed in the facility's operating record maintained at the SWMD offices and shall be available for public review upon request.	

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Table 9-1
Victorville Sanitary Landfill Mitigation Monitoring and Compliance Program

Mitigation Measure From EIR	Responsible for Implementation	Implementation/Verification	Date Completed
AIR QUALITY (Continued)			
AQ-5: Liner construction areas shall be treated with water during active construction grading phases.	Liner Construction Contractor	SWMD to verify during construction inspections.	
AQ-6: Permanent landfill roads from public streets to the scalehouse shall be paved to reduce the use of unpaved roads.	SWMD	When road to scalehouse is rerouted as landfill construction progresses.	
AQ-7: Sweeping of paved roads shall be performed on heavily-used on-site paved roads and within 500 feet of the access roads for the landfill as necessary to control on-site and track-out dust.	SWMD	LEA to verify during monthly inspections – at least monthly. Inspection notes in operating record.	
AQ-8: Prior to excavating Phases 2 and 3, SWMD shall prepare a Dust Control Plan that describes all applicable dust control measures that will be implemented as required under MDAQMD Rule 403.2.	SWMD	Prior to commencement of excavation of Phase 2. Record of compliance shall be placed in the facility's operating record maintained at the SWMD offices and shall be available for public review upon request.	
AQ-9: All internal combustion engine-driven equipment and vehicles shall be kept tuned according to manufacturer's specifications and properly maintained. Maintenance logs shall be available for review through the LEA inspections. Equipment and vehicles shall not be left idling for prolonged periods (> 30 minutes).		During monthly inspections by LEA to verify compliance. Inspection notes placed in operating record. Maintenance logs shall be available for review through the LEA inspections.	
AQ-10: The operator shall comply with all existing and future CARB and MDAQMD regulations related to diesel-fueled trucks and equipment, which may include among others in the future: (1) meeting more stringent emission standards; (2) retrofitting existing engines with particulate traps; (3) use of low or ultra low sulfur diesel fuel; and (4) use of alternative fuels or equipment.	SWMD	Routine inspection/maintenance of equipment, records to be kept in landfill operating record maintained at SWMD offices.	

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Table 9-1
Victorville Sanitary Landfill Mitigation Monitoring and Compliance Program

Mitigation Measure From EIR	Responsible for Implementation	Implementation/Verification	Date Completed
BIOLOGICAL RESOURCES			
BIO-1: Prior to any new ground disturbance in Phase 1B, (first phase that would disturb previously undisturbed area) the County shall enter into consultation with USFWS and CDFG for impacts to the desert tortoise. In the absence of an adopted West Mojave Coordinated Management Plan, the County must prepare a Habitat Conservation Plan to accompany the application for an "incidental take permit" (Section 10). The HCP would ensure that there is adequate minimization and mitigation of the effects of the incidental take. Concurrently the County shall enter into consultation with CDFG for an incidental take permit under Section 2081 of the Fish and Game Code. Compensation for the loss of habitat and the incidental take of individuals would be determined prior to any new disturbance.	SWMD	Prior to any new ground disturbance in Phase 1B, consultation must be completed. This would include issuance of a Biological Opinion by USFWS as well as issuance of incidental take permits. All records of consultation would be maintained at SWMD offices.	
The 1999 USFWS Biological Opinion also identified a number of measures. These would be discussed in consultation under BIO-1. a. A proponent shall designate a field contact representative (FCR) who will be responsible for overseeing compliance with protective stipulations for the desert tortoise and for coordination on compliance with the USFWS/CDFG. The FCR shall have the authority to halt all project activities that are in violation of the stipulations. The FCR may be an agent for the proponent, the site manager, any other project employee, or a contracted biologist/consulting firm.	SWMD	Measures 1a through 1p would be incorporated into the incidental take permit. Implementation would occur prior to any new disturbance and would be documented with copies of reports sent to CDFG and USFWS.	

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Table 9-1
Victorville Sanitary Landfill Mitigation Monitoring and Compliance Program

Mitigation Measure From EIR	Responsible for Implementation	Implementation/Verification	Date Completed
BIOLOGICAL RESOURCES (Continued)			
b. The proposed landfill expansion will include an employee education program. Prior to ground disturbance activities, new site employees shall be required to participate in this education program. The program may consist of a class or video presented by a qualified biologist or a video. Wallet-sized cards with important information for employees to carry are recommended. The proponent would be responsible for ensuring that the education program is presented prior to conducting ground-disturbance activities. New employees shall receive formal, approved training prior to working on-site. The program shall cover the following topics at a minimum: • distribution of the desert tortoise; • general behavior and ecology of the tortoise; • sensitivity to human activities; • legal protection; • penalties for violations of State or Federal laws; • reporting requirements; and • project protective mitigation measures.			
c. Landfill operation designs specified for the proposed landfill expansion shall be configured in a manner designed to minimize impacts to adjacent tortoise habitat/populations to the degree feasible and should take into consideration site topography, placement of facilities, location of animal burrows in buffer and adjacent land areas, public health and safety, deposition of wind-blown litter, and other limiting factors. Work area boundaries shall be delimited with flagging or other marking during initial facility upgrades, in order to minimize surface disturbance associated with vehicle straying. Special habitat features (tortoise and other animal burrows, woody vegetation, unique plant assemblages, etc.) located on the periphery of proposed site expansions, but outside of proposed landfill site fencing, shall be avoided to the extent possible.			

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Table 9-1
Victorville Sanitary Landfill Mitigation Monitoring and Compliance Program

Mitigation Measure From EIR	Responsible for Implementation	Implementation/Verification	Date Completed
BIOLOGICAL RESOURCES (Continued)			
d. Qualified biologists or person(s) trained in desert tortoise detection/monitoring work shall be required on-site during initial project activities (excavation of Phase 2 and Phase 3 areas). Such individuals shall have authority from SWMD to halt any action that might result in harm to a tortoise. The qualified tortoise monitor shall survey any area identified for earth disturbing activities immediately prior to disturbance activities. Should an active desert tortoise burrow be detected within the anticipated disturbance area, project activities shall halt until such time as an authorized tortoise handler (see measure BIO-6 below) has removed the tortoise from danger.			
e. Only biologists authorized by the USFWS, under the auspices of the Biological Opinion issued for the land conveyance and/or ESA Section 10 Permit (if applicable), shall handle desert tortoises. The proponent shall submit the name(s) of the proposed biologist(s) to the USFWS for review and approval at least 15 days prior to the onset of activities. No project activities shall begin until an authorized biologist is approved.			
f. Tortoise excavation/relocation shall be completed under the direction of the authorized biologist. All tortoises found within impact areas shall be marked and removed from the area of potential impact, into suitable habitat close to the original location but outside the perimeter of the landfill site, preferably within Tortoise Critical Habitat Units if feasible and concurred upon by the USFWS.			

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Table 9-1
Victorville Sanitary Landfill Mitigation Monitoring and Compliance Program

Mitigation Measure From EIR	Responsible for Implementation	Implementation/Verification	Date Completed
BIOLOGICAL RESOURCES (Continued)			
g. If the removal of a tortoise is during the season of above-ground activity, the tortoises shall be placed beside a nearby burrow of appropriate size. If the removal is not in the season of above-ground activity, the tortoise shall be moved (dug out of burrow if necessary) on a seasonably warm day and placed at the mouth of a nearby burrow of appropriate size. If the tortoise does not enter the burrow, an artificial burrow may be needed. The authorized biologist shall be allowed some judgment and discretion to ensure that survival of the tortoise is likely. Relocated animals shall be monitored at scheduled intervals for a period of at least six months, to determine relocation success/health status of relocated animals. Use of telemetry equipment on a limited number of relocated tortoises is highly recommended, if feasible and concurred upon by the USFWS.			
h. Tortoises moved during the course of project activities shall be marked for future identification. An identification number using the acrylic paint/epoxy covering technique shall be placed on the fourth left costal scute (USFWS 1990). Thirty-five mm slide photographs of the carapace, plastron, and the fourth costal scute shall be taken. No notching is authorized.			
i. Desert tortoises may be handled only by the authorized biologist and only when necessary. New latex gloves shall be used when handling each tortoise to avoid the transfer of infectious diseases between animals. Aside from the initial site clearance, any tortoise moved shall be placed in the shade of a shrub in the direction in which it was facing when found or at the entrance to an unoccupied burrow. In general, tortoises should be moved the minimum distance possible to ensure their safety. In handling desert tortoises, the authorized biologist shall follow the General Handling Protocol sections of the "Protocols for Handling Live Tortoises" prepared by the Arizona Game and Fish Department and others in 1990. Replacement of lost fluids with a syringe is not authorized.			

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Table 9-1
Victorville Sanitary Landfill Mitigation Monitoring and Compliance Program

Mitigation Measure From EIR	Responsible for Implementation	Implementation/Verification	Date Completed
BIOLOGICAL RESOURCES (Continued)			
j. The authorized biologist shall maintain a record of all desert tortoises encountered during project activities. This information shall include for each tortoise: • the locations (narrative and maps) and dates of observations; • general condition and health, including injuries and state of healing and whether animals voided their bladders; • location moved from and location moved to; • diagnostic markings (i.e., identification numbers or marked lateral scutes).			
k. Prior to any earth-moving activities within each phase or subphase portion of the expansion area, tortoise-proof fencing shall be installed around the perimeter of that phase or subphase area ensuring tortoises outside the expansion area do not enter the active site. The fence shall be inspected at regular intervals to ensure no potential areas that could be breached by wildlife exist. Note: Fencing for all phases 1A, 1B, 2 and 3 have been completed.			
l. An effort should be made to enclose as much of the landfill access roads as possible within this fence. The fence shall be constructed under the direction of a qualified biologist or approved tortoise fence technician. The fence shall be located to avoid all tortoise burrows; to the extent possible, burrows shall be placed on the outside of the exclosure. The fence shall be a standard 4-5 strand barbed wire or chain link fence, with the lower portion consisting of a ¼-inch mesh hardware cloth panel. This panel shall extend 18 inches above ground and 12 inches below ground. Where burial of the fence is not possible, the lower 12 inches shall be folded outward against the ground and fastened to the ground so as to prevent tortoise entry. The fence shall be supported sufficiently to maintain its integrity. The gate at the facility entrance shall be tortoise-proof. This gate shall remain closed except during hours open to the public. The fence and access road shall be checked at least monthly and maintained when necessary by the proponent to ensure its integrity.			

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Table 9-1
Victorville Sanitary Landfill Mitigation Monitoring and Compliance Program

Mitigation Measure From EIR	Responsible for Implementation	Implementation/Verification	Date Completed
BIOLOGICAL RESOURCES (Continued)			
m. Prior to the completion of the proposed land conveyance and following fence installation, an authorized biologist shall conduct a thorough survey for tortoises and tortoise burrows within the proposed fenced facility. All tortoise burrows shall be excavated, tortoises removed and burrows destroyed prior to additional earth disturbance. All tortoises found shall be marked and removed from the exclosure and place according to measure BIO-9. If the removal is during the season of above-ground activity, the tortoises shall be placed beside a nearby burrow of appropriate size. If the removal is not in the season of above-ground activity, the tortoise shall be moved (dug out of burrow if necessary) on a seasonably warm day and placed at the mouth of a burrow of appropriate size. If the tortoise does not enter the burrow, an artificial burrow may be needed. The authorized biologist shall be allowed some judgment and discretion to ensure that survival of the tortoise is likely.			
n. No later than 90 days after completion of facility fencing/tortoise relocation activities, the FCR and authorized biologist shall prepare a report for the resource agencies. The report shall document the effectiveness and practicality of the mitigation measures, the number of tortoises excavated from burrows, the number of tortoises moved from the site, the number of tortoises killed or injured, and the specific information for each tortoise as described in BIO-11. The report shall make recommendations for modifying the stipulations to enhance tortoise protection.			

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Table 9-1
Victorville Sanitary Landfill Mitigation Monitoring and Compliance Program

Mitigation Measure From EIR	Responsible for Implementation	Implementation/Verification	Date Completed
BIOLOGICAL RESOURCES (Continued)			
o. Upon locating a dead or injured tortoise, the proponent is to notify the USFWS/CDFG. The information provided must include the date and time of the finding or incident (if known), location of the carcass, a photograph, cause of death, if known, and other pertinent information. USFWS/CDFG will advise the project proponent regarding the handling of the carcass. Injured animals shall be transported to a qualified veterinarian for treatment at the expense of the project proponent. If an injured animal recovers, the USFWS should be contacted for final disposition of the animal. p. A landfill operations program addressing wind-blown litter arising from site operation, as well as ~~other potential~~ the development of a raven (*Corvus corax*) ~~provisioning impacts arising from landfill operations~~ management plan, shall be implemented that will facilitate the most effective refuse control practices, while minimizing potential provisioning of desert tortoise predators. The raven management plan developed shall be approved by CDFG.			
BIO-2: SWMD shall enter into consultation with CDFG for a 2081 (Incidental Take Permit) for the Mohave ground squirrel, threatened under CESA. To determine compensations CDFG may require SWMD to complete Cumulative Human Impact Evaluation Forms (CHIEF). Compensation in the form of acquisition and permanent preservation of Habitat Management Lands is the usual mitigation. Transfer of the lands to CDFG or an approved non-profit corporation would complete the mitigation requirements. Copies of documentation of the transfer of lands shall be provided to County Land Use Services Department.	SWMD	Concurrent with consultation with resource agencies on desert tortoise.	

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Table 9-1
Victorville Sanitary Landfill Mitigation Monitoring and Compliance Program

Mitigation Measure From EIR	Responsible for Implementation	Implementation/Verification	Date Completed
BIOLOGICAL RESOURCES (Continued)			
BIO-3: Prior to disturbance of previously undisturbed land, SWMD shall conduct clearance surveys in areas scheduled for disturbance. Biologists shall comply with mitigation measures BIO-1a through BIO-1p for desert tortoise. Results of the clearance surveys shall be documented and a report of findings submitted to the resource agencies.	SWMD	Prior to land disturbance.	
BIO-4: The operator/construction contractor shall relocate all species protected by the California Native Plants Act and the County of San Bernardino Code deemed suitable for transplanting by a qualified botanist/horticulturist. These plants will be used as landscaping onsite, be maintained in an onsite nursery area for future revegetation efforts or transported for use at another County facility.	SWMD	Relocation Plan shall be implemented prior to new land disturbance. The Plan would include criteria for ensuing success and identify measures for replacement of plants that do not survive relocation. Success rate shall be documented annually for a period of three years.	
BIO-5: Prior to disturbance of previously undisturbed land in Phases 2 and 3, SWMD shall survey areas to be disturbed and adjacent areas for burrowing owls in accordance with Department of Fish and Game protocol. Results of the survey shall be documented and a reported to CDFG for review.	SWMD	Prior to land disturbance.	
CULTURAL RESOURCES			
CR-1: A qualified vertebrate paleontologist must develop a program to mitigate impacts to nonrenewable paleontologic resources. This mitigation program should be consistent with the provisions of the California Environmental Quality Act, as well as with regulations currently implemented by the County of San Bernardino and the proposed guidelines of the Society of Vertebrate Paleontology. This program should include, but not be limited to: 1. Pre-excavation sampling of the observed Neotoma middens, to better determine their potential antiquity;	SWMD	Within one year of issuance of a revised SWFP by LEA.	

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Table 9-1
Victorville Sanitary Landfill Mitigation Monitoring and Compliance Program

Mitigation Measure From EIR	Responsible for Implementation	Implementation/Verification	Date Completed
CULTURAL RESOURCES (Continued)			
2. Intermittent (1 day/month) monitoring of excavation in areas identified as likely to contain paleontologic resources by a qualified paleontologic monitor. The monitor should be equipped to salvage fossils as they are unearthed to avoid construction delays and to remove samples of sediments which are likely to contain the remains of small fossil invertebrates and vertebrates. The monitor must be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens. 3. Preparation of recovered specimens to a point of identification and permanent preservation, including washing of sediments to recover small invertebrates and vertebrates.4. Identification and curation of specimens into a museum repository with permanent retrievable storage. 5. Preparation of a report of findings with an appended itemized inventory of specimens. The report and inventory, when submitted to the San Bernardino County Museum, will signify completion of the program to mitigate impacts to paleontologic resources.			
GEOLOGY AND SOILS			
GEO-1: Planned cut slopes shall be developed at gradients of 2H:1V between benches for a overall slope gradient of 2.5H:1V. Fill slopes shall be developed at gradients of 3H:1V between benches with an overall slope gradient of 3.5H:1V. In developing the final fill slope configurations, the minimum run-out ratio of 3.85 times the height of the slope shall be maintained at all times.	SWMD	Record of compliance shall be placed in the facility's operating record maintained at the SWMD offices and shall be available for public review upon request.	

SWMD – Solid Waste Management Department
LEA – Local Enforcement Agency
SWFP – Solid Waste Facilities Permit
RWQCB – Regional Water Quality Board
DPW – Department of Public Works

Table 9-1
Victorville Sanitary Landfill Mitigation Monitoring and Compliance Program

Mitigation Measure From EIR	Responsible for Implementation	Implementation/Verification	Date Completed
GEOLOGY AND SOILS (Continued)			
GEO-2: The County shall update its Dust Control Plan for the landfill site to include the additional landfill areas. In areas under excavation, water shall be applied at regular intervals throughout the day (determined by daily wind conditions) or dust palliatives should be applied on areas that are not intended to be disturbed over a longer period of time. Excavated areas that are not ready to be lined and filled that would be exposed for periods greater than 180 days shall be seeded with a grass mixture to reduce wind erosion until liner construction begins.	SWMD	SWMD to update Dust Control Plan, submit to MDAQMD for review. Record of compliance shall be placed in the facility's operating record maintained at the SWMD offices and shall be available for public review upon request.	
HAZARDS			
HA-1: In accordance with 40 CFR Section 258.10(b), the owner/operator will notify the affected airports and the Federal Aviation Administration (FAA) of the proposed landfill expansion project.	SWMD	Notification when LEA issues revised SWFP.	
HYDROLOGY AND WATER QUALITY			
HW-1a: Prior to commencement of site grading, the County shall complete a final drainage plan based on the final site and engineering design plans completed for the Victorville Landfill Expansion Project. The plan will include design drawings of the proposed drainage facilities that would be used to convey storm water around and/or through the site. The plan shall be in conformance with and meet the minimum criteria established by the County of San Bernardino Department of Public Work and RWQCB Lahonton Region for discharge rates, quantities and locations of facilities.	SWMD RWQCB County DPW	Review and approval prior to commencement of land filling in new phases. Record of compliance shall be placed in the facility's operating record maintained at the SWMD offices and shall be available for public review upon request.	

SWMD – Solid Waste Management Department
LEA – Local Enforcement Agency
SWFP – Solid Waste Facilities Permit
RWQCB – Regional Water Quality Board
DPW – Department of Public Works

Table 9-1
Victorville Sanitary Landfill Mitigation Monitoring and Compliance Program

Mitigation Measure From EIR	Responsible for Implementation	Implementation/Verification	Date Completed
HYDROLOGY AND WATER QUALITY (Continued)			
HW-1b: Before each rainy season, after each major storm, and on a monthly basis during the rainy season, all drainage facilities would be inspected and any required maintenance performed to ensure that the drainage channels and de-silting basins function properly. Any silt collected within the basins would be used as daily cover material for the landfill. Any of the flows from adjacent properties would be contained in the perimeter drainage channel and diverted around the basin.	SWMD LEA	Before each rainy season, after each major storm, and on a monthly basis during the rainy season, inspection reports to be filled in operations file. Record of compliance shall be placed in the facility's operating record maintained at the SWMD offices and shall be available for public review upon request.	
HW-3: Prior to disturbance of any blue-line stream, the County shall consult with CDFG per Section 1601 of the State Fish and Game Code. The project will require the implementation of a Streambed Alteration Agreement.	SWMD CDFG	Prior to disturbance of any blue-line stream, completion of a Streambed Alteration Agreement. Record of compliance shall be placed in the facility's operating record maintained at the SWMD offices and shall be available for public review upon request.	
HW-4: The SWPPP must be revised to reflect the expansion areas and must comply with the National Pollutant Discharge Elimination System (NPDES) permit for storm water discharge, including a full description of the discharge and a demonstration of compliance with EPA-specified effluent limits.	SWMD	Prior to development of new phases. Record of compliance shall be placed in the facility's operating record maintained at the SWMD offices and shall be available for public review upon request.	
HW-5: The following mitigation measures must be included as notes on the grading plan and monitored during grading and construction: - All disturbed areas must be stabilized by approved methods to ensure minimal erosion.	SWMD	Notes on grading/construction plans, on-going monitoring by SWMD and LEA during landfill operations.	

SWMD – Solid Waste Management Department
LEA – Local Enforcement Agency
SWFP – Solid Waste Facilities Permit
RWQCB – Regional Water Quality Board
DPW – Department of Public Works

Table 9-1
Victorville Sanitary Landfill Mitigation Monitoring and Compliance Program

Mitigation Measure From EIR	Responsible for Implementation	Implementation/Verification	Date Completed
HYDROLOGY AND WATER QUALITY (Continued)			
- All work performed between October 1 and April 1 shall be done in a manner enabling project stabilization, covering, or otherwise protected from heavy rains or high winds. Erosion control will be presented in the JTD and SWPPP for regulatory agency approval. - During construction, temporary berms such as sandbags or gravel dikes must be used to prevent discharge of debris or sediment from the site when there is rainfall or other runoff.			
HW-6: The proposed landfill liner system and drainage facilities shall be designed and constructed in conformance with 27 CCR and 40 CFR regulations administered by the Regional Water Quality Control Board, Lahontan Region (RWQCB), California Integrated Waste Management Board (CIWMB), and County of San Bernardino, Department of Health Services, Local Enforcement Agency (LEA). These systems must be designed and constructed to ensure minimal risks to groundwater contamination would occur with expansion of the landfill.	SWMD LEA RWQCB	Approval of plans and monitoring during construction. Inspection reports placed in operation's file.	
TRAFFIC AND CIRCULATION			
TC-1: All intersections used by vehicles traveling to/from the landfill would meet the Acceptable LOS criteria for the year 2025 with the exception of the Stoddard Wells Road/I-15 northbound intersection. This intersection will be mitigated by adding one through lane to the east and west approaches and a left-turn pocket for the northbound exit ramp. These improvements would be placed for operation in the year 2025. The County must pay the fair share contribution ($6,657) of the total cost of these improvements ($62,800) as calculated in the Traffic Impact Study.	SWMD	Prior to year 2025.	

SWMD – Solid Waste Management Department
LEA – Local Enforcement Agency
SWFP – Solid Waste Facilities Permit
RWQCB – Regional Water Quality Board
DPW – Department of Public Works

Table 9-1
Victorville Sanitary Landfill Mitigation Monitoring and Compliance Program

Mitigation Measure From EIR	Responsible for Implementation	Implementation/Verification	Date Completed
UTILITY SYSTEMS			
US-1: As part of the five-year SWFP review process undertaken jointly by SWMD and the Local Enforcement Agency (LEA), SWMD shall evaluate the feasibility of extending reclaimed water pipelines to the Victorville Landfill site for use in dust control efforts. Additionally, SWMD shall request a revision to its Waste Discharge Requirements (WDR) to allow the use of reclaimed water for dust control purposes during the next WDR revision cycle. SWMD shall also work with VVWRA in amending its agreement with CDFG to allow reclaimed water to be utilized for dust control purposes.	SWMD LEA	Record of compliance shall be placed in the facility's operating record maintained at the SWMD offices and shall be available for public review upon request.	

SWMD – Solid Waste Management Department
LEA – Local Enforcement Agency
SWFP – Solid Waste Facilities Permit

RWQCB – Regional Water Quality Board
DPW – Department of Public Works

10.0 PUBLIC COMMENTS AND LEAD AGENCY RESPONSES

The public comment period for the Draft EIR began October 3, 2003 and ended November 17, 2003. A total of ten comment letters were received. These are listed in the following table and are identified by a number. Individual comments within each letter are identified with a unique numeric indicator. For example, the California Regional Water Quality Control Board submitted a letter containing eight comments. The letter has been identified as Letter 2 with comments 2-1 through 2-8.

Comment Letters Received on the Draft Environmental Impact Report

Letter	Name	Date
1A	Governor's Office of Planning and Research State Clearinghouse	November 18, 2003
1B	Governor's Office of Planning and Research State Clearinghouse	November 20, 2003
1C	Governor's Office of Planning and Research State Clearinghouse	November 24, 2003
2	California Regional Water Quality Control Board	November 17, 2003
3	California Integrated Waste Management Board	November 21, 2003
4	Department of Toxic Substance Control	October 10, 2003
5	California State Lands Commission	November 17, 2003
6	Southern California Association of Governments	November 12, 2003
7	County of San Bernardino Department of Public Health Environmental Health Services	November 6, 2003
8A	Apple Valley 400	October 21, 2003
8B	Apple Valley 400	October 31, 2003
8C	Apple Valley 400	November 14, 2003
9	California Department of Fish and Game	November 19, 2003
10	Southern California Logistics Airport	December 3, 2003

Letter 1A

STATE OF CALIFORNIA

Governor's Office of Planning and Research

State Clearinghouse

Gray Davis
Governor

Tal Finney
Interim Director

RECEIVED
NOV 21 2003
LAND USE SERVICES DEPT
ADVANCE PLANNING DIVISION

November 18, 2003

Matthew Slowik
San Bernardino County Land Use Services Department
385 N. Arrowhead Ave., 1st Floor
San Bernardino, CA 92415-0182

Subject: Victorville Sanitary Landfill Expansion Project
SCH#: 2002091132

Dear Matthew Slowik:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on November 17, 2003, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

> "A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Terry Roberts

Terry Roberts
Director, State Clearinghouse

Enclosures
cc: Resources Agency

Document Details Report
State Clearinghouse Data Base

SCH# 2002091132
Project Title Victorville Sanitary Landfill Expansion Project
Lead Agency San Bernardino County Land Use Services Department

Type EIR Draft EIR
Description Victorville Sanitary Landfill Expansion Project.

Lead Agency Contact

Name Matthew Slowik
Agency San Bernardino County Land Use Services Department
Phone 909 387-4147 **Fax**
email
Address 385 N. Arrowhead Ave., 1st Floor
City San Bernardino **State** CA **Zip** 92415-0182

Project Location

County San Bernardino
City Victorville
Region
Cross Streets Stoddard Wells Road/Quarry Road
Parcel No. 472-011-34
Township 6N **Range** 4W **Section** 23 **Base** SBBM

Proximity to:

Highways I-15
Airports
Railways Old AT&SF
Waterways
Schools
Land Use Resource Conservation - RC

Project Issues Aesthetic/Visual; Air Quality; Archaeologic-Historic; Drainage/Absorption; Geologic/Seismic; Public Services; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Water Quality; Wildlife; Cumulative Effects

Reviewing Agencies Resources Agency; Department of Fish and Game, Region 6; Department of Parks and Recreation; Department of Water Resources; Air Resources Board, Major Industrial Projects; Integrated Waste Management Board; Regional Water Quality Control Bd., Region 6 (Victorville); Department of Toxic Substances Control; Caltrans, Division of Aeronautics; California Highway Patrol; Caltrans, District 8; Native American Heritage Commission; State Lands Commission

Date Received 10/03/2003 **Start of Review** 10/03/2003 **End of Review** 11/17/2003

Letter No. 1A dated November 18, 2003
Governor's Office of Planning and Research State Clearinghouse

This letter acknowledges the State's receipt of the Draft EIR and distribution to appropriate State agencies for review, and confirmation of the review period closing November 17, 2003, and comments from the responding agencies are enclosed. Correspondence is noted for the record.

Letter 1B

STATE OF CALIFORNIA

Governor's Office of Planning and Research

State Clearinghouse and Planning Unit

Arnold Schwarzenegger
Governor

Jan Boel
Interim Deputy Director

November 20, 2003

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NOV 24 2003
LAND USE SERVICES DEPT.
ADVANCE PLANNING DIVISION

Matthew Slowik
San Bernardino County Land Use Services Department
385 N. Arrowhead Ave., 1st Floor
San Bernardino, CA 92415-0182

Subject: Victorville Sanitary Landfill Expansion Project
SCH#: 2002091132

Dear Matthew Slowik:

The enclosed comment (s) on your Draft EIR was (were) received by the State Clearinghouse after the end of the state review period, which closed on November 17, 2003. We are forwarding these comments to you because they provide information or raise issues that should be addressed in your final environmental document.

The California Environmental Quality Act does not require Lead Agencies to respond to late comments. However, we encourage you to incorporate these additional comments into your final environmental document and to consider them prior to taking final action on the proposed project.

Please contact the State Clearinghouse at (916) 445-0613 if you have any questions concerning the environmental review process. If you have a question regarding the above-named project, please refer to the ten-digit State Clearinghouse number (2002091132) when contacting this office.

Sincerely,

Terry Roberts

Terry Roberts
Senior Planner, State Clearinghouse

Enclosures
cc: Resources Agency

Letter No. 1B dated November 20, 2003
Governor's Office of Planning and Research State Clearinghouse

The letter acknowledges receipt of comment (s) received after the end of the review period. The letter encourages incorporation of the additional comments into the final environmental document. Correspondence is noted for the record.

Letter 1C

STATE OF CALIFORNIA

Governor's Office of Planning and Research

State Clearinghouse and Planning Unit

Arnold Schwarzenegger
Governor

Jan Boel
Interim Deputy Director

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NOV 26 2003
LAND USE SERVICES DEPT.
ADVANCE PLANNING DIVISION

November 24, 2003

Matthew Slowik
San Bernardino County Land Use Services Department
385 N. Arrowhead Ave., 1st Floor
San Bernardino, CA 92415-0182

Subject: Victorville Sanitary Landfill Expansion Project
SCH#: 2002091132

Dear Matthew Slowik:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on November 17, 2003, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

> "A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Terry Roberts

Terry Roberts
Director, State Clearinghouse

Enclosures
cc: Resources Agency

Document Details Report
State Clearinghouse Data Base

SCH# 2002091132
Project Title Victorville Sanitary Landfill Expansion Project
Lead Agency San Bernardino County Land Use Services Department

Type EIR Draft EIR
Description Victorville Sanitary Landfill Expansion Project.

Lead Agency Contact

Name Matthew Slowik
Agency San Bernardino County Land Use Services Department
Phone 909 387-4147 **Fax**
email
Address 385 N. Arrowhead Ave., 1st Floor
City San Bernardino **State** CA **Zip** 92415-0182

Project Location

County San Bernardino
City Victorville
Region
Cross Streets Stoddard Wells Road/Quarry Road
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Proximity to:

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Airports
Railways Old AT&SF
Waterways
Schools
Land Use Resource Conservation - RC

Project Issues Aesthetic/Visual; Air Quality; Archaeologic-Historic; Drainage/Absorption; Geologic/Seismic; Public Services; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Water Quality; Wildlife; Cumulative Effects

Reviewing Agencies Resources Agency; Department of Fish and Game, Region 6; Department of Parks and Recreation; Department of Water Resources; Air Resources Board, Major Industrial Projects; Integrated Waste Management Board; Regional Water Quality Control Bd., Region 6 (Victorville); Department of Toxic Substances Control; Caltrans, Division of Aeronautics; California Highway Patrol; Caltrans, District 8; Native American Heritage Commission; State Lands Commission; Department of Fish and Game, Headquarters

Date Received 10/03/2003 **Start of Review** 10/03/2003 **End of Review** 11/17/2003

Memorandum

Date: November 24, 2003

To: Lead Agency

From: Scott Morgan, Associate Planner

Re: SCH # 2002091132
Victorville Sanitary Landfill Expansion Project

The State Clearinghouse sent out a closing letter for the above referenced project on November 18, 2003. We regret to inform you that we did not enclose a comment letter from the California Integrated Waste Management Board. This comment was received before the close of the review period. We apologize for this error.

Letter No. 1C dated November 24, 2003
Governor's Office of Planning and Research State Clearinghouse

This letter acknowledges compliance with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. A Memorandum to the Lead Agency was attached and states that a comment letter from the California Integrated Waste management Board was not enclosed in the closing letter sent out on November 18, 2003. This letter was received before the close of the review period. Correspondence is noted for the record.

Letter 2

California Regional Water Quality Control Board

Lahontan Region

Winston H. Hickox
Secretary for Environmental Protection

Victorville Office
Internet Address: http://www.swrcb.ca.gov/rwqcb6
15428 Civic Drive, Suite 100, Victorville, California 92392
Phone (760) 241-6583 • FAX (760) 241-7308

Gray Davis
Governor

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clear
11-17-03
late

November 17, 2003

WDID No. 6B360304025

Matthew W. Slowik
Senior Associate Planner
Advance Planning Division
385 North Arrowhead Ave., 1st floor
San Bernardino, CA 92415-0182

RESPONSE: DRAFT ENVIRONMENTAL IMPACT REPORT (DEIR) FOR THE EXPANSION OF THE VICTORVILLE SANITARY LANDFILL, STATE CLEARINGHOUSE NO. 2002091132 VICTORVILLE, SAN BERNARDINO COUNTY,

Regional Water Quality Control Board staff (Board staff) received the cited report on October 6, 2003, (dated September 30, 2003) which was prepared by Lilburn Corporation for the County of San Bernardino. In response, Board staff provides the following comments.

Project Description

The DEIR was prepared to evaluate the environmental effects of the expansion of the Victorville Sanitary Landfill, an existing non-hazardous solid waste landfill located in an unincorporated portion of the San Bernardino County, adjacent to the northerly corporate boundary of the City of Victorville. The Victorville Sanitary Landfill is a Class III, unlined landfill that has been accepting non-hazardous municipal wastes since 1965.

The proposed project consists of the expansion of the existing Victorville Landfill from its currently permitted 67-acre footprint to a 341-acre footprint over a period of approximately 76 years (year 2081). The permitted height will increase by 52 feet from 3,130 feet above mean sea level (msl) to 3,182 feet above msl, and the overall size will increase from 80 acres to 491 acres.

Landfill Construction Sequencing

The DIER describes the excavation, liner construction, and waste filling activities to occur over a period of time as separate construction sequences within three separate phases (correlated to three separate areas) of the Landfill expansion area. (The DEIR does not describe construction sequences for Phase 1A and is therefore presumed that excavation, liner construction will occur as a single event before waste filling activities.) Each phase is described to eventually have its own liner system, which includes a leachate collection and recovery system (LCRS) designed to collect landfill fluids. However, the DIER does not describe how this liner system will operate during the incremental filling of each sequence. Presumably each lined cell will be tied into adjacent cells as construction and waste filling progresses. This is an important detail to the development of this project and is unclear as written in the DEIR. Board staff requests that a brief description of this detail be included in the final draft EIR. 2-1 2-2

Liner System

On page 3-28 the liner system is described. The lowest portion of this liner system is proposed as being a geosynthetic clay liner (GCL) or a two-foot thick compacted clay liner (CCL). In order for Board staff to recommend the use of a GCL as the lower liner component, which would be an alternative to the prescriptive design, it must be demonstrated that the GCL meets the regulatory standards permeability of 10-7 cm/sec. This demonstration would, among others, involve long-term, permeability testing of the GCL to exposure to a fluid with chemistry equivalent to a typical landfill leachate. This demonstration would provide valuable information as to GCL performance under real-life conditions given the fact that the bentonite mineralogy in the GCL can react to certain ions in leachate, which can lead to its degradation. 2-3

Leachate Collection and Recovery System

The descriptive design of the LCRS should be more specific with regard to regulatory requirements than described in the DEIR. The hydraulic conductivity of the gravel component of the LCRS should be designed so that fouling is taken into consideration. This layer must be able to have no more of one foot of hydraulic head on the liner under these potential conditions and must be able to transfer twice the maximum expected flow rate (based on the average rainfall). This must be demonstrated for the longest flow-distance to a pipe-equipped flow channel. 2-4

Slope Stability Analysis

On page 4.5-14 the DEIR cites a geotechnical investigation conducted by GeoLogic Associates (GLA) that included among other items a study of the slope stability analysis of the soil material for use in the construction of this project. The slope stability analysis is cited in the DEIR as being included in a May 2001, draft Geotechnical Investigation report prepared by GLA. Board staff has reviewed a report that was submitted in May 2001 and prepared by IT Corporation entitled *Geologic Hazards Investigation Report of the Victorville Sanitary Landfill Expansion Area*. Prior to that report, Board staff also received a Technical Memorandum for mapping and age assessments of Quaternary Deposits at the Victorville Landfill in the proposed expansion area. While these two reports present a study of active faulting on the expansion area, neither of these reports includes a slope stability analysis. Board staff requests that calculations used to derive the results that are cited in the DEIR be included as well as the full source of these calculations. 2-5

Section 21750, Title 27, CCR require that operators of Class III landfills are required to submit a slope stability report. As described in Section 21750 (f)(5), operators shall provide a review of historical seismicity within a 100 km (62 mile) radius of the facility, including the name of the fault, type of faulting, activity on the fault, design event for the fault (for Class II Units, the fault's Maximum Credible Earthquake [MCE], for Class III Units, the fault's Maximum Probable Earthquake [MPE]), distance from the facility, the expected ground motions (horizontal and vertical) at the facility resulting from the fault's design event, the expected duration of strong motion at the site resulting from the fault's design event, and an estimation of the cumulative duration of strong motion from aftershocks. Furthermore, these analyses shall be prepared by a 2-6

Certified Civil Engineer or a Certified Engineering Geologist. Pertaining to this, Board staff notes that the table on pages 4.5-5 through 4.5-7 in the DEIR include a list of active faults within some distance of the project area with their respective MCE for each fault; however, the slope stability analysis as presented in the DEIR is based on the MPE for the San Andres Fault. Although Title 27, CCR allows for slope stability analyses for Class III landfills to be based on the more stringent MCE, the DEIR uses instead the MPE. If the MPE is to be used, then Board staff requests that slope stability analysis follow the requirements as set forth in Title 27, Section 21750, which lists the components of a slope stability analysis. The geotechnical investigations that have been submitted and reviewed indicate the soils stability will not be a concern, however a more rigorous analysis should be performed. **2-6 continue**

Floodplain Maps

On page 4.7-1, the DEIR states that the area immediately southwest of the expansion site is located within a special flood hazard zone that could be inundated by a 100-year flood and the area proposed for expansion is higher in elevation than the flood plain area. Board staff requests that the maps cited (FEMA, 1996) be included in the Final EIR. Please also note that the full source of this citation is not listed in the Bibliography (see below). **2-7**

Bibliography

The DEIR does not include complete (publication, Title etc) citation information for several references cited in the report and listed on page 8-2: Catchings, 2000; Goler & Associates, 2003; BAS, 2002; BLM, 1997; and FEMA, 1996. **2-8**

Board staff appreciates the opportunity to comment on this DEIR. If you have any questions, please call me at (760) 241-7377, or Mike Plaziak, Senior Engineering Geologist at (760) 241-7404.

Sincerely,

Christy Hunter
Associate Engineering Geologist
Mojave Watershed Unit

cc: Mailing List

CH\rc\U:\VictorvilleLF\Resp_DEIRVVL_expan.doc

MAILING LIST:

State Clearinghouse
Office of Planning and Research
P.O. Box 3044
1400 Tenth Street
Sacramento, CA 95812-3044

Arthur L. Rivera, P.E., Public Works Engineer
Chief of Closure, Expansion & Permitting
Solid Waste Management
County of San Bernardino, DPW
Solid Waste Management Division
222 West Hospitality Lane, 2nd Floor
San Bernardino, CA 92415-0017

Jacquelyn Adams, Supervisor EH Specialists
Water & Waste Management
San Bernardino County, DPH
Division of Environmental Health Services
385 N. Arrowhead Ave, 2nd floor
San Bernardino, CA 92415-0160

Michael Wochnick, Supervisor
California Integrated Waste Management Board
1001 I Street
P.O. Box 4025
Sacramento, CA 95812-4025

Letter No. 2 dated November 19, 2003
California Regional Water Quality Control Board

Comment 2-1: This comment states that the DEIR does not describe construction sequences for Phase 1A and is therefore presumed that excavation, liner construction will occur as a single event before waste filling activities.

Response: Phase 1A is proposed to be carried out in one construction sequence. Section 3.5.3 (page 3-19) paragraph 1 has been revised as follows:

Phase 1A is scheduled to begin in January 2010 and would be completed in one phase ....

Comment 2-2: This comment states that the DEIR does not describe how the liner system will operate during the incremental filling of each sequence. Presumably each lined cell will be tied into adjacent cells as construction and waste filling progresses. However this detail is unclear, and a brief description of this detail should be included in the EIR.

Response: Text has been added to the fourth paragraph on page 3-20 under Phase 1B to state that the liner and LCRS systems for each construction stage will directly tie into the previous adjacent stage until a given phase is completed. This development method is applicable to Phases 1B, 2 and 3.

"Phase 1B would be excavated to establish a 1.5 percent grade along the floor to allow any leachate to drain to the lowest point in the southwest corner and be collected in a sump for disposal. The liner and LCRS system for each construction stage will directly tie into the previous adjacent stage during incremental filling until the individual phase is complete."

Comment 2-3: This comment addresses the liner system as described on page 3-28, which indicates that a geosynthetic clay liner (GCL) or a two-foot think compacted clay liner (CCL) is proposed for the lowest portion of the liner system. The comment indicates that in order for RWQCB to recommend the use of a GCL as a lower liner component, a demonstration that the GCL meets the regulatory standard permeability of 10-7cm/sec must be performed.

Response: A Liner Demonstration evaluating the use of a geosynthetic clay liner in lieu of the two-foot thick compacted clay liner as specified in 40 CFR 258.40 will be completed prior to submittal of the Joint Technical Document (JTD). The Liner demonstration will be included as a appendix to the JTD to be prepared and submitted to the regulatory agencies in support of obtaining updated Waste Discharge Requirements and a revised Solid Waste Facility Permit for the proposed Victorville Sanitary Landfill Expansion. This approach was reviewed

with and agreed to by RWQCB staff on January 26, 2004 (personal communication, Ms. Christie Hunter).

Comment 2-4: This comment states that the descriptive design of the leachate collection and recovery systems (LCRS) should be more specific with regard to regulatory requirements.

Response: Additional text has been added to the second full paragraph, page 3-29 beginning in line 3 as follows:

The system would drain to central locations within the landfill (four locations total), where a submersible pump would be used to extract the collected liquids. The system(s) were designed to handle twice the anticipated leachate production including factors of safety to allow for clogging due to biofouling, settlement, etc., over the active life of the landfill and through post-closure. The liquids would be collected in on-site storage tanks prior to treatment and disposal.

Comment 2-5: This comment refers to page 4.5-14 where a geotechnical investigation conducted by GeoLogic Associates is cited as containing a slope stability analysis of the soil material for use in construction. While the report discusses active faulting on the expansion area, it does not include a slope stability analysis. Calculations used to derive the results that are cited in the DEIR should be included as well as a full source of the calculations.

Response: A Geotechnical Report was prepared by GeoLogic Associates (dated February 2003, revised January 2004) in support of the proposed expansion project design. This Geotechnical Report includes analyses of excavation; liner and both interim and final refuse slope stability. This report including calculations will be included as part of facility SWFP Application and JTD.

Comment 2-6: The table cited in this comment includes a list of active faults affecting the project area with their respective MCE for each fault; however, the slope stability analysis as discussed in the DEIR is based on the MPE for the San Andres Fault. Although Title 27, allows Class III landfills to be based on the more stringent MCE, the DEIR discusses MPE. The slope stability analysis should follow the requirements set forth in Title 27, Section 21750.

Response: See Response to Comment 2-5. The slope stability analysis to be included in the JTD utilized a Maximum Probable Earthquake (MPE) event as required under 27 CCR for a Class III landfill.

Comment 2-7: FEMA maps cited on page 4.7-1 should be included in the Final EIR, and included in the Bibliography.

Response: A new Figure 4.7-1 has been included in the EIR, showing FEMA map information in relation to the proposed project. Existing figures 4.7-1 and 4.7-2 have been renumbered to 4.7-2 and 4.7-3 with appropriate revisions to the text in this section. The source of information was also added to the Bibliography (Section 8.3) as follows.

Federal Emergency Management Agency, Map Number 06071C5810 F, March 18, 1996, *Flood Insurance Rate Map, San Bernardino County, California and Incorporated Areas, Panel 5810 of 9400.*

In addition, reference to this new figure has been included in the third paragraph of Section 4.7-2 on page 4.7-1 beginning in line 4 as follows:

... Floodplain information, as shown in Figure 4.7-1, indicates that the area immediately southwest of the site is located within a special flood hazard zone that could be inundated by a 100-year flood....

Comment 2-8: This comment states that the DEIR does not include complete citations (i.e. publication, title, etc.) within the bibliography.

Response: Section 8.3 has been revised to add the following references:

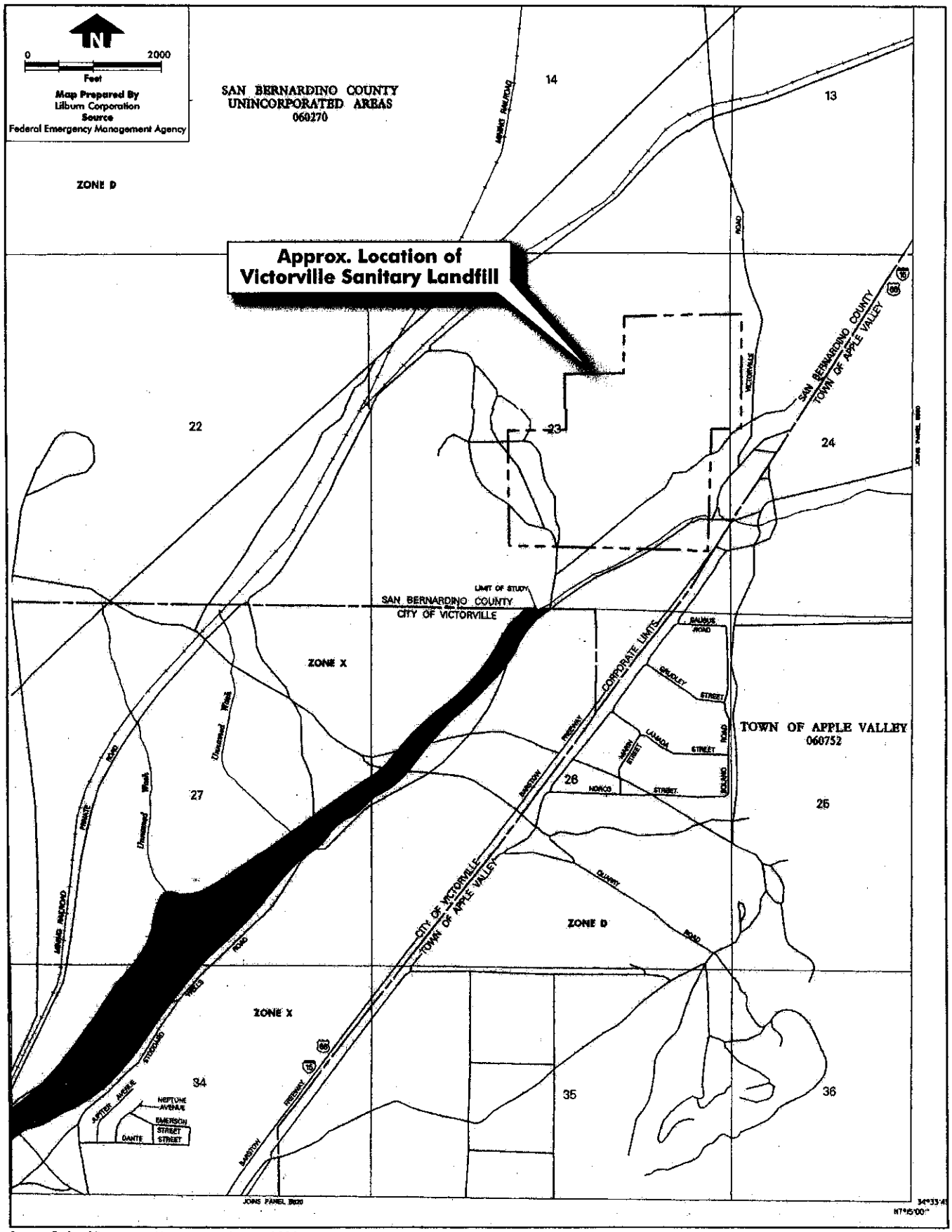
U.S. Department of Interior Bureau of Land Management, October 1997. *Environmental Assessment for the Proposed Conveyance of Federally-Managed Public Lands to the County of San Bernardino for Uses Related to Solid Waste Management.*

Catching, R.D., B.F. Cox, M.R. Goldman, G. Gandhok, M.J. Donmgler, P. Martin. A. Christensen, and D. Horta, 2000, *Subsurface Structure and Seismic Velocities as Determined from High-Resolution Seismic Imaging in the Victorville, California Area: Implications for Water Resources and Earthquake Hazards, U. S. Geological Survey Open-File Report 00-123.*

Golder Associates, January 2003. *Engineering Review of Proposed Victorville Sanitary Landfill Expansion* (Golder Associates, January 2003).

Bryan A Stirrat and Associates, July 2002. *Victorville Sanitary Landfill Expansion Project Description*

Federal Emergency Management Agency, Map Number 06071C5810 F, March 18, 1996, *Flood Insurance Rate Map, San Bernardino County, California and Incorporated Areas, Panel 5810 of 9400.*



Source: Federal Emergency Management Agency, 1996.

Flood Insurance Rate Map

LILBURN CORPORATION

Victorville Sanitary Landfill
San Bernardino County, California

Figure 4.7-1

Letter 3

California Integrated Waste Management Board

Linda Moulton-Patterson, Chair
1001 I Street • Sacramento, California 95814 • (916) 341-6000
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Terry Tamminen
Secretary for Environmental Protection

Arnold Schwarzenegger
Governor

November 21, 2003

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Mr. Matthew Slowik, Senior Associate Planner
County of San Bernardino
Land Use Services Department
Advanced Planning Division
385 N. Arrowhead Avenue, 1st Floor
San Bernardino, CA 92415-0182

Subject: **SCH #2002091132** – Draft Program Environmental Impact Report (PEIR) for the proposed Victorville Sanitary Landfill (VSLF) Expansion project requiring issuance of revised Solid Waste Facilities Permit (SWFP) No. 36-AA-0045 in San Bernardino County.

Dear Mr. Slowik:

Permitting and Inspection (P&I) Branch staff of the California Integrated Waste Management Board (IWMB or Board) have reviewed the document cited above. Thank you for allowing P&I Branch staff to submit the following comments after the close of the designated review period. Following is a description of the proposed project based on P&I Branch staff's understanding of the project as described in the draft PEIR; IWMB agency background information; and comments as to the scope, content and significant impact mitigation in the draft PEIR. If the proposed *Project Description* below varies substantially from the project as understood by the lead agency, IWMB staff requests that any significant differences be clarified and included in the final PEIR.

BACKGROUND

The VSLF is owned and operated by the County of San Bernardino (County) Solid Waste Management Division (SWMD). The existing landfill is located in an unincorporated area of the County, adjacent to the northern boundary and within the sphere of influence of the City of Victorville, and west of Interstate (I) 15 Freeway. The location is further defined as being wholly within Section 23, Township 6 North, Range 4 West as identified on the US Geological Survey Victorville 7.5 Minute Quadrangle. The main access point to the site is a 1,500-foot paved road from the southeast, off Stoddard Wells Road.

The landfill site is located in a relatively undeveloped area of the desert in an area known as Sidewinder Valley. The site is adjacent to public lands administered by the U.S. Bureau of Land Management (BLM) associated with the Quartzite Mountains to the northeast. Land within 1,000 feet to the north, and west of the property boundary is designated as Resource Conservation (RC), land to the south is a combination of RC and Regional Institutional (IR) and land to the east is designated as General Commercial (CG) with a Sign Control Overlay area (SCP). The area surrounding the landfill site is largely vacant, with the exception of some light industrial development located approximately 1,500 feet south of the facility boundary. There are no residences and only two businesses within one mile of the site.

PROPOSED PROJECT DESCRIPTION

The "broad-scale" project proposed in the draft PEIR consists of expanding the VSLF from an 80-acre solid waste disposal facility to an approximate 491-acre solid waste disposal facility. The disposal 'footprint' for the existing waste management unit (WMU) is proposed to increase from the permitted [unlined] 67 acres to a total of 341 acres mainly northeast and southwest of the existing permitted 80-acre site. This expansion of the landfill will include the increase in permitted height by 52 feet, from 3,130 feet above Mean Sea Level (MSL) to approximately 3,182 feet MSL, and increase the maximum depth of fill by 152 feet in Phase 3, from 2,900 feet MSL to approximately 2,748 feet MSL. Additionally, the landfill expansion will increase the total landfill permitted refuse volume from 7.7 million cubic yards to approximately 84 million cubic yards and extend the estimated landfill closure date from 2005 to 2081.

The project will be constructed in three phases over 79 years and will include a minimum five-foot thick composite liner or equivalent in the lateral expansion areas, a leachate collection and removal system, a landfill gas collection and removal system (LCRS), and a surface water drainage control system that passes through a de-siltation area and detention basin before being released into the areas natural drainage basin. No changes to the site access are proposed. The proposed project does not propose an increase in daily or annual tons or trips from currently permitted limits. The 7-acre septage pond area will be excavated, lined, and used as the first area for refuse disposal outside the existing 67-acre footprint (Phase 1A).

AGENCY BACKGROUND INFORMATION

IWMB Role as a Responsible Agency

The IWMB operates in cooperation with local government to assure protection of the public health, safety and the environment from the potentially detrimental effects of improper solid waste management. The IWMB concurs in the issuance of a new or revised SWFPs with Local Enforcement Agencies (LEAs) to assure that a solid waste facilities (SWFs) operates in a manner consistent with all applicable solid waste laws and regulations. Since a SWFP is required for this project, the IWMB will be acting as a responsible agency for the environmental review for the proposed project, and for concurrence on the issuance of revised SWFP No. 36-AA-0045. The Board is required to use the PEIR prepared by the lead agency for this project proposal.

Criteria for California Environmental Quality Act (CEQA) Compliance Disclosure

CEQA compliance is required for the establishment, expansion, or change in operation(s) of a SWF requiring the issuance or revision of a SWFP. P&I staff review of the draft PEIR is 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 statute and guidelines. In order for the IWMB to ascertain that the draft PEIR is complete and adequate for our use in the SWFP permitting process, the proposed project should be described in sufficient detail and the potential environmental impacts must be identified clearly in the environmental assessment and analysis. Mitigating measures to reduce potentially significant environmental impacts should be incorporated into the project, when feasible, in order to avoid potentially significant effects from project implementation. When a potentially significant environmental effect is identified in the draft PEIR and an argument is made as to why no mitigation is necessary, the discussion/analysis should be in sufficient detail that the reviewer/decision-maker can understand the lead agency's reasoning for their determination. If documentation is incorporated by reference into the environmental document, the Sections or pages should be cited and pertinent information to the decision-making process should be included in its entirety or in a summarized version of the critical information to support project analysis and evaluation.

P&I STAFF COMMENTS and QUESTIONS

Since the IWMB would be a responsible agency involved in the discretionary approval process for the SWF design and operational aspects of the project(s) proposal(s), P&I Branch staff will need to perform an environmental review and analysis for this project using the PEIR developed by the lead agency as required in CEQA Guidelines, 14 CCR §15096. The draft PEIR must detail all provisions for landfill design and operation in order to indicate the ability of the facility to meet State Minimum Standards for environmental protection (see CCR Title 27, §20005, et. seq.). To assist P&I Branch staff's analysis and evaluation of this project, and aid P&I Branch staff in the determination of the adequacy of the PEIR and related CEQA document(s) for IWMB SWFP concurrence purposes, we request that the following comments and questions be addressed in the final PEIR. If these have already been addressed in an existing document (e.g. Joint Technical Document, Report of Disposal Site Information, Closure Plans, previous environmental documents), please indicate the document page number(s) and section(s) and provide the cited documentation to P&I Branch staff.

Proposed Revised SWFP/Scope of Project Analysis in the draft PEIR

Section 1.3 beginning on page 1-2 in the draft PEIR states that "This Program EIR is a first-tier document that describes the broad-scale impacts of the proposed landfill expansion."..."The proposed project...goes beyond any horizon year generally used to evaluate environmental impacts."..."Because the proposal calls for an extended site life, environmental impacts could be identified in the future that are not known today." Page 1-3, Section 1.3 in the draft PEIR states that "...it is anticipated that subsequent environmental documents...would be prepared at approximate five-year intervals." What is the scope of the project analysis in this draft PEIR that will be reflected in the subsequent proposed revised SWFP? 3-1

In accordance with the analogy in Section 1.3, the horizon year would be limited to those regulatory parameters outlined for Phase 1A and 1B. The proposed revised SWFP would therefore reflect a *Permitted Disposal Footprint Area* of 130 acres (67 acres in Phase 1A plus 63 acres in Phase 1B), a *Maximum Elevation* of 3,160 feet above MSL, a *Maximum Depth* [of excavation] of 2,850 feet MSL (50 feet below grade), and an *Estimated Closure Date* of 2013. The *Environmental Impact Evaluation* in Section 4.0 of the draft PEIR lends the analyses to support this conclusion. However, the *Environmental Impact Evaluation* stipulates that the environmental analyses "...should be re-evaluated prior to Phase 3 due to the long time frame and changes likely to occur..." 3-2

Please define the proposed SWFP regulatory parameters/entitlements and any permit conditions for the proposed revised SWFP. To what date are the analyzed parameters using this PEIR for the Board's and LEA's action on the permit. Please use reference analyses from Section 4.0 of the draft PEIR to support the conclusion.

Landfill WMU Phase Development Plan

Figure 3-8 on page 3-16 in the draft PEIR shows the *Phases 1A/1B Excavation Plan*. Figure 3-10 on page 3-21 in the draft PEIR shows the *Phases 1A, 1B, and 2 Fill and Phase 3 Excavation Plan*. The draft PEIR does not contain a figure for the Phase 2 Excavation Plan; please include this figure in the final PEIR. 3-3

Figure 3-8 and 3-10 (*Excavation Plans*) shows excavation contours for Phase development and lists the elevations for each contour line interval. The contour elevations in these figures are not consistently legible. The SWFP will permit a *Maximum* [excavation] *Depth* for the waste disposal 'footprint'. What is the maximum excavation depth elevation (feet MSL) for each development Phase in the site development plan(s)? Will each Phase (1A, 1B, 2 & 3) of development be a dedicated separate WMU, or will only the LCRSs be dedicated for each separate development Phase? If each Phase is a dedicated WMU, will each WMU undergo closure upon secession to the next Phase of development? 3-4

Separation of Disposed Waste and Groundwater

Title 27 CCR §20240(c) requires a minimum five-foot (5 ft.) separation between the wastes and the highest anticipated elevation of underlying groundwater. Page 3-29, Section 3.5.5 in the draft PEIR states:

> "The depth to groundwater at the site ranges from 100 feet in the northwest to approximately 206 feet below ground surface in the southeast." 3-5

The Phase development plans indicate that Phase 2 is in the northwest of the site and Phase 3 is in the southeast of the site. What is the highest seasonal groundwater elevation immediately beneath each proposed development Phase, for the landfill? Groundwater elevations may be those measured in each disposal site monitoring well, please list the most recent seasonal well

depth data collected at each well location. What is the maximum depth that can be excavated in the lateral expansion areas that can maintain this required minimum five-foot (5 ft.) separation? 3-5 continu

Potentially Significant Impact Analysis for Landfill Expansion and Proposed Mitigation

Impact HW-4 identified in the *Hydrology and Water Quality* Section (4.7) on page 4.7-11 in the draft PEIR states:

> "Leachate from the landfill could potentially migrate into the groundwater aquifer. The existing landfill is currently unlined, with the exception of the surface impoundment area (approximately six acres which has been clean-closed). Additional leachate from the proposed expansion could potentially contaminate the underlying groundwater aquifer creating a significant impact to water quality."

Evidence cited in support of *Impact HW-4*; Section 4.7 on page 4.7-11 states:

> "According to the Phase II [Evaluation Monitoring Program for the VSLF], soils in the vicinity of the surface impoundments [located in the northwest portion of future Phase 1A] and groundwater beneath and down-gradient from the landfill have been impacted by the landfill...the extent of the impacted groundwater down-gradient from the landfill has not fully been defined and could require additional investigation...The report concluded that groundwater beneath the landfill has been impacted by inorganic and organic constituents." 3-6

Page 3-29 indicates that the "Groundwater velocities are on the order of approximately one foot per day and the flow direction is to the southwest." This groundwater flow velocity is very rapid and can potentially carry contaminants from the landfill a significant distance in a relatively short period of time.

Mitigation Measure HW-6 in response to *Impact HW-4* requires that:

> "The proposed landfill liner system and drainage facilities shall be designed and constructed in conformance with the Regional Water Quality Control Board, Lahontan Region (RWQCB), California Integrated Waste Management Board (CIWMB), and County of San Bernardino, Department of Health Services, Local Enforcement Agency (LEA). These systems must be designed and constructed to ensure minimal risks to groundwater contamination [that] would occur with expansion of the landfill."

The discussion leading up to *Mitigation Measure HW-6* implies that "The proposed waste contamination *sic* system [is] for the lateral expansion areas of the landfill..." However, the project proposes a vertical expansion of an increase in permitted height by 52 feet, from 3,130 feet above MSL to approximately 3,182 feet MSL.

IWMB staff contend that the proposed 52-foot vertical expansion over the currently permitted 67-acre unlined landfill 'footprint' has even more potential to contaminate groundwater because in addition to the leachate that would be generated by the proposed vertical expansion MSW decomposing, the overburden weight of the additional expansion MSW would push down on the waste that is already believed to be contaminating the groundwater beneath the landfill. This contention is based upon substantial information generated from previous proposals to the IWMB of a similar nature. A proposal to construct an interface liner over the existing landfilled MSW within the unlined 'footprint' could possibly mitigate for at least the addition of leachate generation potential for additional MSW. 3-6 continued

Project Alternative Environmentally Superior to the Project Proposal

Without mitigating this vertical expansion of MSW impact to the existing landfill 'footprint' and associated underlying groundwater, a potentially significant impact would not be minimized nor constrained. P&I Branch staff suggest that in light of this information, the **Alternative Design 4** proposed in the draft PEIR would be the **environmentally superior alternative.** 3-7

MITIGATION REPORTING or MONITORING PROGRAM (MRMP)

As required by Public Resources Code (PRC) Section 21081.6, the Lead Agency should submit a MRMP at the time of local certification of the PEIR. This should identify the environmental impacts associated with the proposed project, identify mitigation measures to reduce impacts to a less than significant level, identify agencies responsible for ensuring the implementation of the proposed mitigations, and specify a monitoring/tracking mechanism. PRC Section 21080 (c)(2) requires that mitigation measures "...avoid the effects or mitigate the effects to the point where clearly no significant effects on the environment would occur." The MRMP is also required to be made a condition of project approval. Changes to this Section 21081.6(b) also requires that "A public Agency shall provide that measures to mitigate or avoid significant effects on the environment are fully enforceable through permit conditions, agreements, or other measures." The MRMP should also indicate that agencies designated to enforce mitigation measures in the draft PEIR have reviewed the MRMP and agreed that they have the authority and means to accomplish the designated enforcement responsibilities. 3-8

SIGNIFICANT and UNAVOIDABLE CUMULATIVE ENVIRONMENTAL IMPACTS

Section 5.6 on page 5-6 of the draft PEIR identifies the following *CUMULATIVE IMPACTS THAT CAN NOT BE MITIGATED TO LESS THAN SIGNIFICANT LEVELS*: 3-9

- **Air Quality.** Impacts to the non-attainment status for PM_{10} and ozone levels within the Mojave Desert Air Basin; and
- **Aesthetics.** Impacts to aesthetics and scenic resources in the desert area known as Sidewinder Valley. The impact creates a "cumulatively significant urban environment in the view corridor and viewshed of the I-15 Freeway and along Stoddard Wells Road.

Title 14 of the California Code of Regulations, (14 CCR), Section 15093(b) states "When the lead agency approves a project which will result in the occurrence of significant effects which are identified in the final EIR but are not avoided or substantially lessened, the agency shall state in writing the specific reasons to support its action...". 14 CCR 15093(c) requires that "...the statement [of overriding considerations] should be included in the record of the project approval..." P&I Branch staff request a copy of the *Written Statement of Overriding Considerations* be sent to Virginia Rosales, Region 2 Acting Supervisor, Mail Stop #15, Permitting and Inspections Branch, Permitting and Enforcement Division at the IWMB. **3-9 continue**

CONCLUSION

Board staff requests copies of (and consultation on) any subsequent environmental documents (e.g. final PEIR), information, and/or revisions for this project, as well as any public notices regarding project changes or approvals. If the lead agency plans to certify the PEIR, please notify the Board staff at least ten days in advance of the meeting. If the document is adopted without a public hearing, staff requests prior notification of the date of the adoption and project approval by the decision-making body of the lead agency. **3-10**

Board staff has no further comments on the project as proposed at this time. Thank you for the opportunity to comment on this draft PEIR. If you have any questions regarding these comments, please contact me at 916.341.6327 or e-mail at jloane@ciwmb.ca.gov.

Sincerely,

John Loane, Integrated Waste Management Specialist (IWMS)
Permitting and Inspection Branch, Region 2 and 3
Permitting and Enforcement Division
California Integrated Waste Management Board

cc: Scott Morgan
State Clearinghouse
P.O. Box 3044
Sacramento, CA 95812-3044

Virginia Rosales, Acting Supervisor
Dianne Ohiosumua, IWMS
Permitting and Inspection Branch, Region 3
Permitting and Enforcement Division, IWMB

County of San Bernardino LEA
Division of Environmental Health Services
385 North Arrowhead Avenue
San Bernardino, CA 92415-0160

Letter No. 3 dated November 21, 2003
California Integrated Waste Management Board

Comment 3-1: This comment refers to page 1-3 which discusses the level of analysis provided for the life of the landfill expansion and states that "...it is anticipated that subsequent environmental documents... would be prepared at approximate five-year intervals." What is the scope of the project analysis in this DEIR that will be reflected in the subsequent proposed revised SWFP?

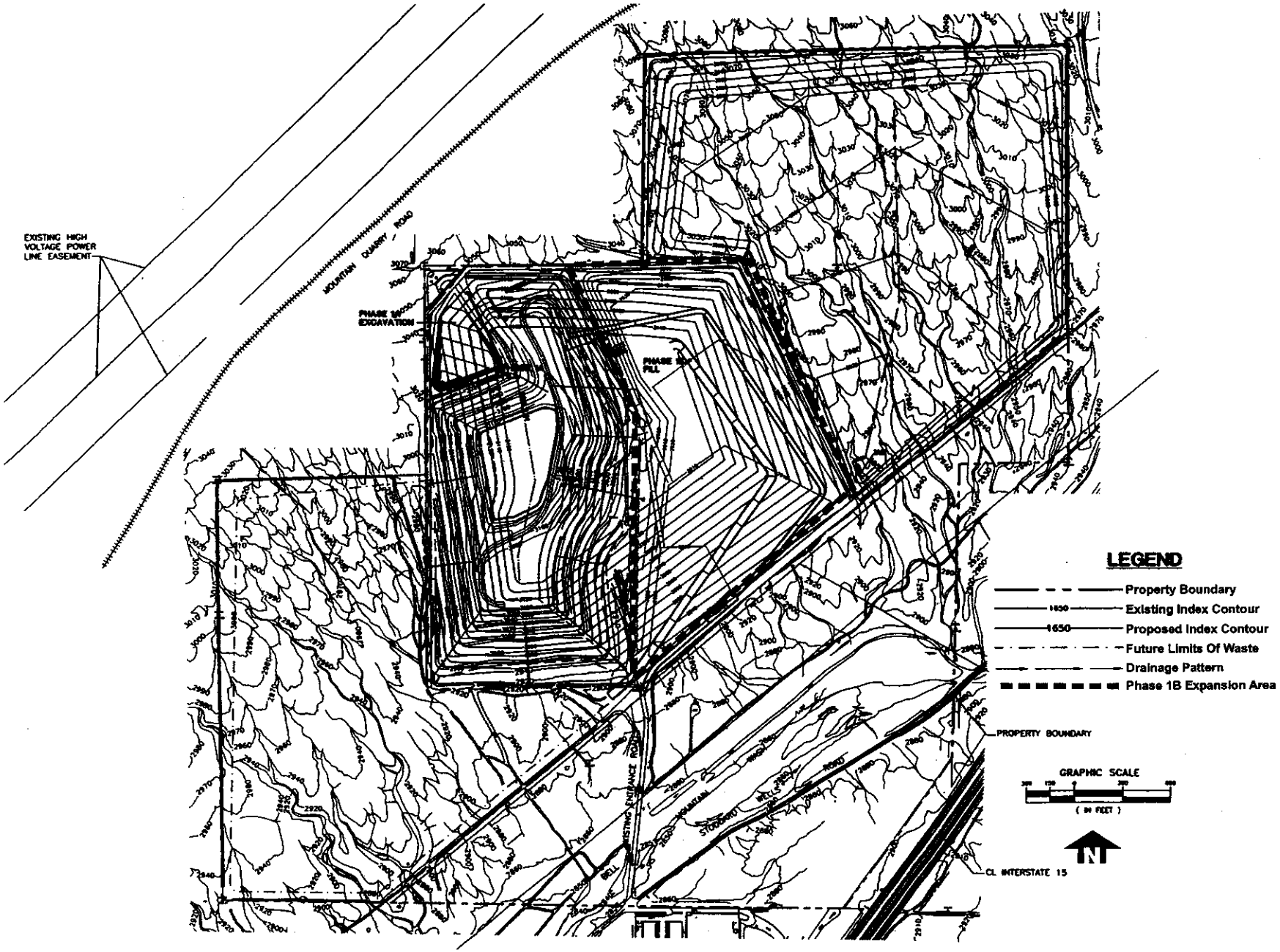
Response: The Draft EIR was prepared as a Program EIR to analyze the broad environmental effects of a program with the understanding that additional environmental review may be required for particular aspects or phases of the program. In this case, the program is the long-term development of the Victorville Sanitary Landfill over a 76-year period. Subsequent activities that would require subsequent environmental review would be any changes in operation that would require a revision or amendment to the Solid Waste Facilities Permit (SWFP) (CEQA Guideline Section 15168). Additional CEQA analysis may be required based on findings developed by the LEA or the CIWMB at 5-year permit review intervals.

Comment 3-2: This comment requests a definition of the proposed SWFP regulatory parameters/entitlements and any permit conditions for the proposed revised SWFP. The second part of the question asks clarification regarding CIWMB's and LEA's use of the EIR for permit action; what phases or time frame does the EIR provide sufficient analysis for agency decision making? Reference environmental analyses and include in Section 4.0 to support the conclusion.

Response: Refer to Response 3-1. The EIR provides sufficient analysis for the CIWMB and the LEA to approve entitlements and permits for a 79-year SWFP contingent upon regular environmental reviews at the 5-year SWFP revisions. This will allow for current conditions and regulations to be evaluated at regular intervals as intended in CEQA Guidelines Section 15168.

Comment 3-3: This comment states that the DEIR does not contain a figure for the Phase 2 Excavation Plan.

Response: Figure 3-9 on page 3-17 that was labeled Phases 1A and 1B Fill Plan has been revised as Phases 1A and 1B Fill Plan and Phase 2 Excavation Plan see attached revised Figure 3-9.



Source: BAS & Assoc., 09/02.

Phases 1A and 1B Fill Plan and Phase 2 Excavation

Victorville Sanitary Landfill
San Bernardino County, California

LILBURN CORPORATION

Figure 3-9

Comment 3-4: This comment refers to Figures 3-8 and 3-10 in which contour elevations are not consistently legible. A series of questions are also presented in this comment and include: 1) What is the proposed maximum excavation depth for each development phase; 2) Will each phase (1A, 1B, 2 and 3) of development be a dedicated separate waste management unit (WMU), or will only the leachate collection and removal systems (LCRSs) be dedicated for each separate development phase and; 3) If each phase is a dedicated WMU, will each WMU undergo closure upon secession to the next phase of development?

Response: Figures 3-8 and 3-10 (excavation plans) were revised to show "legible" contour lines, especially Figure 3-8 (Phases 1A/1B Excavation Plan).

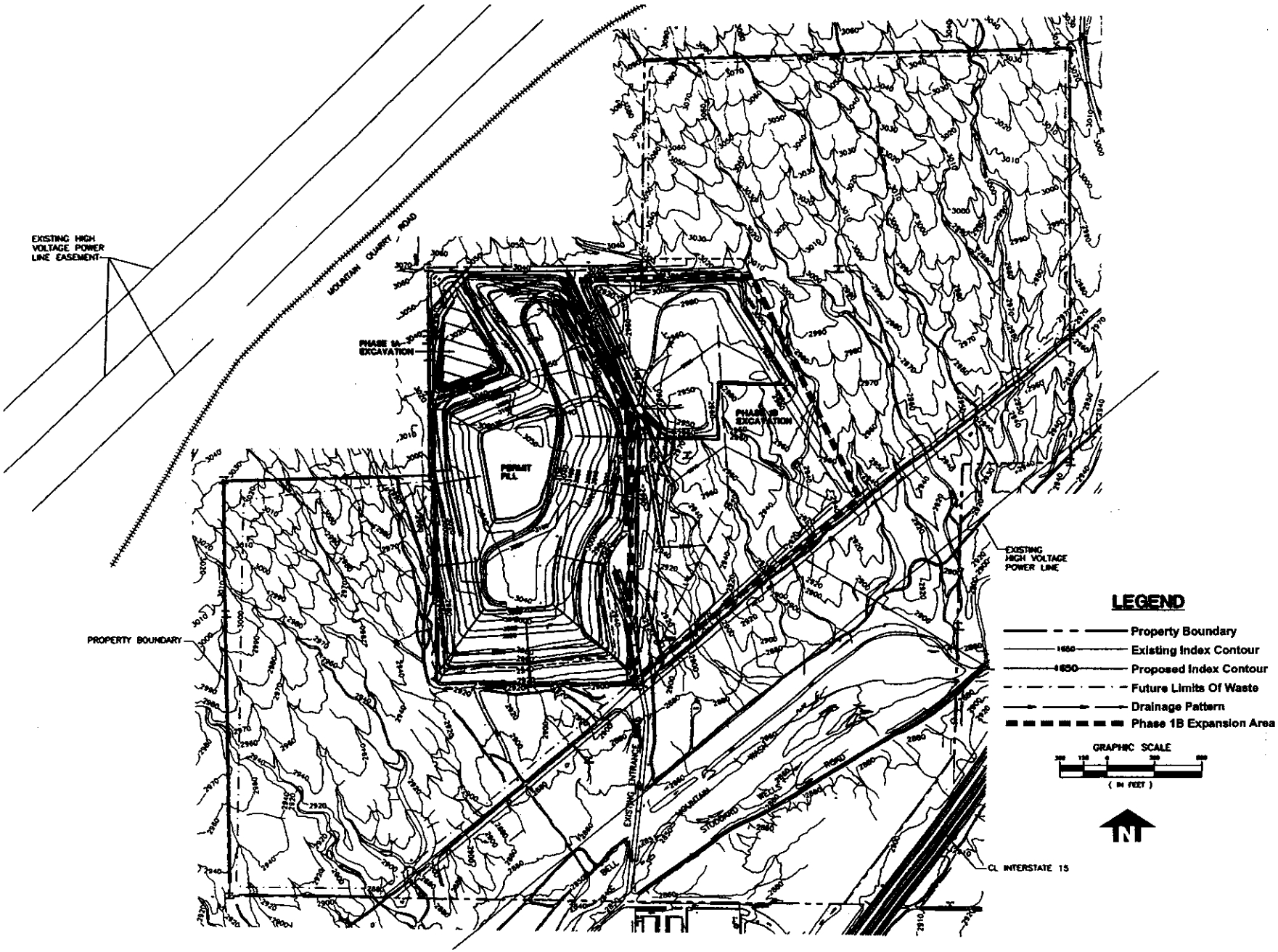
The following paragraph has been added after the third paragraph on Page 3-15:

<u>The maximum depth of excavation (shown as feet above mean sea level) for each development Phase within the expansion area is shown below:</u>

- <u>Maximum Excavation Depth –Phase 1A: 3,008 feet</u>
- <u>Maximum Excavation Depth –Phase 1B: 2,886 feet</u>
- <u>Maximum Excavation Depth –Phase 2: 2,918 feet</u>
- <u>Maximum Excavation Depth –Phase 3: 2,748 feet</u>

In addition, a new Figure 4.7.1 has been added to the Section 4.7 showing groundwater contours and flow path based on the most recent complete set of groundwater monitoring data (see response to comment 2-7). This figure shows that the proposed sub-grade contours for each phase were designed to be at least five-feet above the highest anticipated groundwater level as required in 27 CCR siting criteria.

The LCRS was designed to function as individual systems within each phase of development. These systems will operate independent of each other with separate sumps to collect leachate. The landfill will be operated as a single unit with refuse placement following the excavation, liner and LCRS installation for each construction stage within a given phase. Refuse fill overlaps onto each adjacent phase, therefore, discreet closure as defined within 27 CCR is not possible. However the operator may elect to implement partial closure of a portion of the site during active operations.



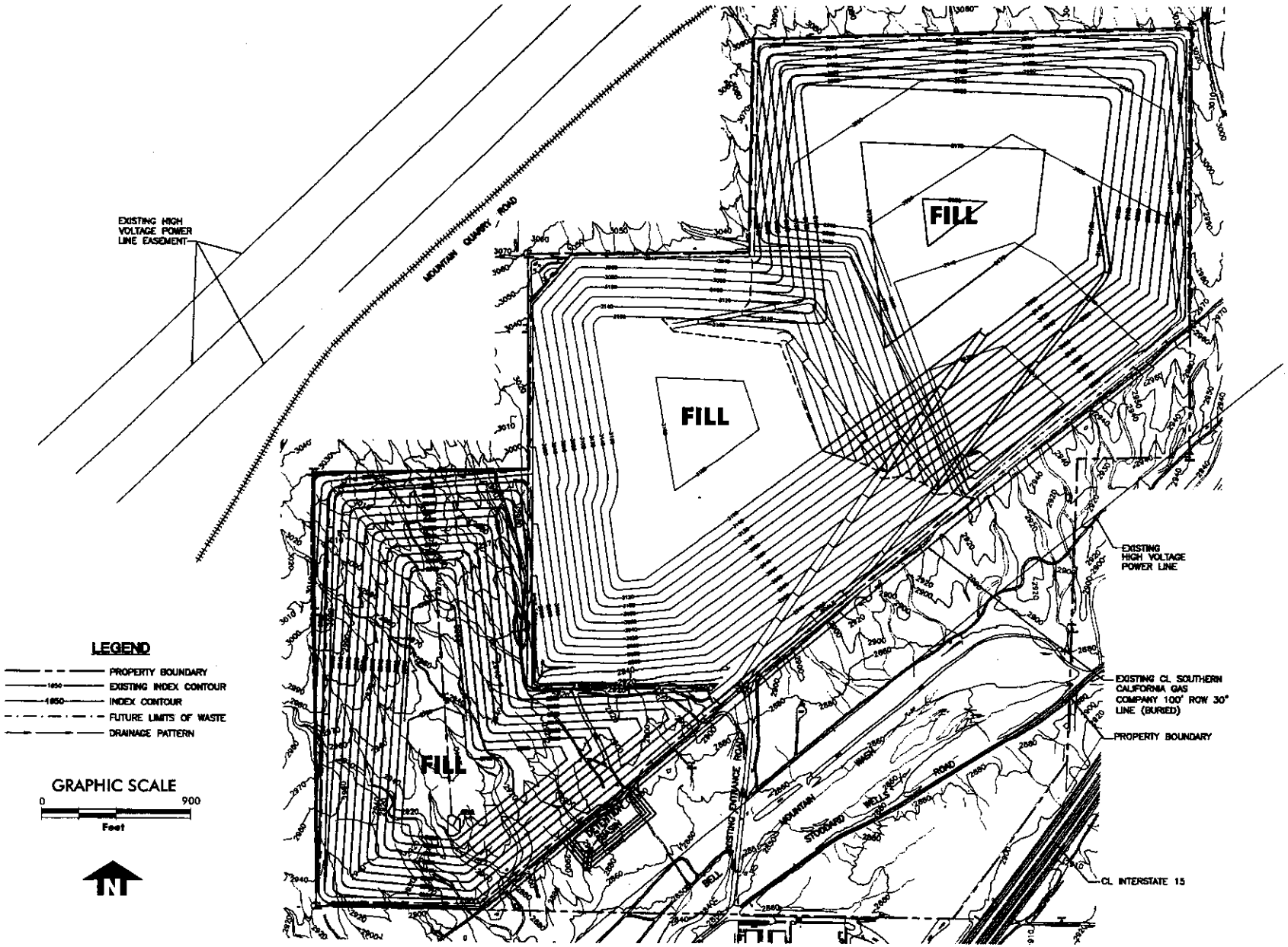
Source: BAS & Assoc., 09/02.

Phases 1A/1B Excavation Plan

Victorville Sanitary Landfill
San Bernardino County, California

LILBURN CORPORATION

Figure 3-8



Source: BAS & Assoc., 09/02.

Phases 1A, 1B, and 2 Fill and Phase 3 Excavation Plan

LILBURN CORPORATION

Victorville Sanitary Landfill
San Bernardino County, California

Figure 3-10

Comment 3-5: This comment refers to page 3-29, Section 3.5.5 in which the depth to groundwater is cited for both the northwest and southeast areas of the landfill. The Final EIR should include the highest seasonal groundwater elevation immediately beneath each proposed development phase, and the maximum depth that can be excavated in the lateral expansion areas that can maintain the required five-foot minimum separation. Additionally, a list of the most recent seasonal well depth for all wells should be included in the Final EIR.

Response: The new text and Table 3-6 have been added to Page 3-29 following the first paragraph under Surface and Groundwater Monitoring as follows:

Groundwater elevations within the existing landfill footprint and downgradient of the Victorville Landfill have generally decreased since 1998, when the septage impoundments at the northwestern corner of the facility were closed (proposed Phase 1A). Well VSL-7, which is located immediately downgradient of the septage ponds, has been dry for three years. Similar trends in groundwater elevation decreases have been observed in wells VSL-5 and VSL-9, which are also downgradient of the septage ponds.

Table 3-6 compares the most recent groundwater elevation and the historical high groundwater elevation measured at each monitoring well with the adjacent base grade of the proposed landfill expansion.

Table 3-6
Historical Groundwater Elevations

Well	November 2003 Groundwater Elevation (feet amsl)	Highest Groundwater Elevation/Date Measured		Adjacent Landfill Base Elevation
VSL-1	2849.63	2849.98	February, 2003	3016
VSL-3	2676.03	2677.89	May, 1993	2900
VSL-4	2993.74	2994.09	August, 2002	2920
VSL-5	2744.30	2773.86	August, 1993	3008
VSL-6	2670.64	2675.53	January, 1994	2800
VSL-7	Dry	2768.76	November, 1996	3008
VSL-8	2671.17	2674.45	August, 2001	2860
VSL-9	2741.11	2767.11	June, 1996	3008
VSL-10	2675.96	2686.34	May, 2001	2900
VSL-11	2675.96	2676.41	August, 2001	2900
VSL-12	2676.98	2677.40	August, 2003	2780
VSL-13	2675.90	2675.90	April, 2001	2780

VSL-14	2799.29	2799.56	February, 2003	2820
VSL-15	2831.11	2831.11	April, 2001	2960
VSL-16	2697.16	2697.16	April, 2001	2940
VSL-17	2675.97	2676.34	May, 2003	2900

Notes: Wells VSL-10, VSL-11, VSL-12, VSL-13, VSL-14, VSL-15, VSL-16, and VSL-17 were constructed in 2001.

As shown on Table 3-6, all areas of proposed expansion will be at least five feet above the highest measured groundwater elevation in an adjacent well or as interpreted from groundwater equipotential surface contours. In fact, most areas will be at least 100 feet above the highest anticipated groundwater elevation. Groundwater potentiometric surface elevation contours were constructed using April 2001 data to compare estimated groundwater elevations with the proposed sub-grade configuration. There are no areas of the site where the groundwater is less than five feet below the landfill sub-grade. The historical groundwater elevation data show very little fluctuation in response to regional climatic phenomena, such as the unusually heavy rains associated with the 1993 and 1997/1998 El Nino events. As a result, use of the April 2001 data set is considered representative of historical and anticipated conditions. Based on this information, a minimum five-foot separation between waste and the groundwater table is anticipated throughout the site's active life and post-closure maintenance period.

Comment 3-6: This comment states that the proposed 52-foot vertical expansion over the currently permitted 67-acre unlined landfill would generated additional leachate from the additional weight of municipal solid waste, thereby further contaminating groundwater. The comment suggests a proposal to construct an interface liner over the existing unlined landfill to mitigate for the additional leachate.

Response: As a part of the Evaluation Monitoring Program Report for the site, eight additional groundwater monitoring wells were constructed (VSL-10 through VSL-17), including four that are downgradient of the landfill. Trace levels of one volatile organic compound (VOC) have been detected in samples from well VSL-11, which is closest to the point-of-compliance, but no VOCs have been detected in any of the samples collected from well VSL-12, which is approximately 500 feet downgradient of well VSL-6.

As described in quarterly groundwater monitoring reports prepared for the site by Geologic Associates in 2003, the most significant groundwater contamination at the Victorville Landfill is associated with the former septage disposal areas

that were operated until 1998. After the septage ponds were closed in 1998, groundwater elevations in the vicinity of the ponds decreased, and VOC contamination in the vicinity of the ponds also decreased. Inorganic chemistry anomalies also appear to be associated with the septage impoundments. The minor increases in chloride, nitrate as nitrogen, and total dissolved solids measured in samples from point-of-compliance monitoring well VSL-3 appear to be related to similar increasing trends in wells VSL-5 and VSL-9, which are adjacent to the closed ponds. Inorganic constituent concentrations in compliance wells VSL-6 and VSL-8 are consistent with background concentrations.

A few VOCs are regularly detected in samples collected from point of compliance monitoring well VSL-6, but VOCs are rarely detected in samples from compliance well VSL-8. Most VOC concentrations are far below State of California Drinking Water Standards or Federal Maximum Contaminant Levels. Some of the VOCs detected at the point of compliance appear to be related to landfill gas migration, and the County of San Bernardino has recently installed a landfill gas collection and removal system to reduce these impacts. In short, the results of quarterly groundwater monitoring suggest that groundwater chemistry has been affected only slightly by liquids migrating from the septage ponds that are now closed and from landfill gas, which is now being mitigated.

The current and past groundwater quality data do not indicate that liquids have been released from the landfill. In fact, the high desert regional climate averages approximately four to six inches of rainfall each year, while evapotranspiration rates are expected to be nearly an order of magnitude higher. Since most of this precipitation runs off as sheet flow only a relatively small volume of water is actually expected to enter the waste and the bulk of this water is expected to either be withdrawn as evaporation, or utilized in microbial decomposition of the waste itself. Consequently, available free moisture in the landfill is minimal. As a result, it is unlikely that significant compressional dewatering of the existing waste will occur from the weight of the proposed vertical expansion.

Liners constructed over highly compressible materials function such as waste are expected to perform poorly over time; a performance that will be further compromised by the installation of landfill gas wells. In addition, since little free liquid is expected to enter the waste, a physical barrier placed within the waste prism is not likely to have a significant effect on leachate control. As a result, there appears to be no long-term benefit in placing a liner over the existing refuse.

Comment 3-7: This comment states that without mitigating this vertical expansion (see previous comment) a potentially significant impact would not be minimized. Therefore, Alternative Design 4, as proposed in the DEIR, would be the environmentally superior alternative.

Response: Alternative Design 4 excludes the vertical expansion over the existing landfill footprint, resulting in 18 years of lost refuse capacity. The commentor states that the addition of 50 feet of waste over the existing, unlined landfill area would have a potentially significant impact on water quality. As stated in Response to Comment 3-6, the water quality monitoring data obtained over the last twelve years for the existing unlined site suggests that observed water quality impacts are related to the former liquid septage disposal operation, which introduced free water into the subsurface and to landfill gas migration. Now that the septage ponds have been formally closed and a landfill gas collection system has been installed, these water quality impacts are expected to decrease over time. There is no evidence of a significant liquid release from the landfill, nor is one anticipated in the future, particularly given the extremely arid nature of the site. As a result, the addition of wastes over the existing landfill footprint is not expected to have a significant effect on water quality.

Comment 3-8: This comment states that the Lead Agency must submit a Mitigation Monitoring Reporting Program (MMRP) in accordance with Public Resources Code Section 21081.6 at the time of local certification of the EIR.

Response: Please see Chapter 9.0 of the Draft EIR. The MMRP was part of the Draft EIR that circulated for public review.

Comment 3-9: This comment discusses impacts that can not be mitigated to less than significant levels and that require a statement of overriding considerations. Commentor requests that copy of the statement be sent to the Supervisor of the Permitting and Inspections Branch, Permitting and Enforcement Division of the California Integrated Waste Management Board.

Response: All documentation relating to the approval of the Final EIR will be included in the facility's Application for a Revised Solid Waste Facility Permit and Joint Technical Document.

Comment 3-10: In this comment the Board requests copies of (and consultation on) any subsequent environmental documents (e.g. Final EIR), information, and/or revisions for the project, in addition to public notices regarding project changes or approvals.

Response: As a responsible agency and as a commenting agency on the Draft EIR, the CIWMB would receive a copy of the Final EIR at least 10 days prior to the Board of Supervisors certification of the EIR (CEQA Section 21092.5).

For clarification, the Final EIR is not a subsequent environmental document, but a compiled EIR which includes the following: 1) the Draft EIR with revisions; 2) comments on the Draft EIR and the lead agency comments; 3) a list of persons, organizations or public agencies commenting on the Draft EIR; 4) and

other information added by the lead agency. It is this document that is certified by the lead agency (CEQA Guidelines Section 15132).

Subsequent environmental documents would be prepared for activities under taken within the context of the Victorville Sanitary Landfill Expansion program after the EIR has been certified. Generally a CEQA review is undertaken when the SWFP is updated or revisions to the SWFP are requested. CIWMB staff would be kept apprised of any changes in landfill operation because CIWMB is a responsible agency.

Letter 4

Department of Toxic Substances Control

Edwin F. Lowry, Director
5796 Corporate Avenue
Cypress, California 90630

Winston H. Hickox
Agency Secretary
California Environmental
Protection Agency

Gray Davis
Governor

October 10, 2003

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Mr. Matthew Slowik
Senior Associate Planner
Advance Planning Division
Land Use Services Department
County of San Bernardino
385 North Arrowhead Avenue, First Floor
San Bernardino, California 92415-0182

NOTICE OF CMPLETION OF A DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE VICTORVILLE LANDFILL EXPANSION PROJECT (SCH #2002091132)

Dear Mr. Slowik:

The Department of Toxic Substances Control (DTSC) has received your Notice of Completion (NOC) of a draft Environmental Impact Report (EIR) for the above-mentioned Project.

Based on the review of the document, DTSC's comments are as follows:

1) The draft EIR needs to identify and determine whether current or historic uses at the Project site have resulted in any release of hazardous wastes/substances at the Project area. **4-1**

2) The draft EIR fails to address the rest of the Hazards' section checklist of the California Environmental Quality Act (CEQA) which includes the following questions: **4-2**

   - Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

   - Would the project create a significant hazard to the public or the environment though reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

- Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

- Would the project be located on a site which is included on a list of hazardous materials sites complied pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

- Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

- Would the project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

4-2 continued

3) The draft EIR needs to identify any known or potentially contaminated sites within the proposed Project area. For all identified sites, the draft EIR should evaluate whether conditions at the site pose a threat to human health or the environment. A Phase I Assessment may be sufficient to identify these sites. Following are the databases of some of the regulatory agencies: **4-3**

- National Priority List (NPL): A list is maintained by the United States Environmental Protection Agency (U.S.EPA).

- CalSites: A Database primarily is used by the California Department of Toxic Substances Control.

- Resource Conservation and Recovery Information System (RCRIS): A database of RCRA facilities that maintained by U.S. EPA.

- Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS): A database of CERCLA sites that maintained by U.S.EPA.

- Solid Waste Information System (SWIS): A database provided by the California Integrated Waste Management Board consists of both open as well as closed and inactive solid waste disposal facilities and transfer stations.

- Leaking Underground Storage Tanks (LUST) / Spills, Leaks, Investigations and Cleanups (SLIC): A list that is maintained by Regional Water Quality Control Boards.

- Local County and City maintain lists for hazardous substances' cleanup sites and leaking underground storage tanks.

4) The draft EIR should identify the mechanism to initiate any required investigation and/or remediation for any site that may be contaminated, and the government agency to provide appropriate regulatory oversight. If hazardous materials/wastes were stored at the site, an environmental assessment should be conducted to determine if a release has occurred. If so, further studies should be carried out to delineate the nature and extent of the contamination. Also, it is necessary to estimate the potential threat to public health and/or the environment posed by the site. It may be necessary to determine if an expedited response action is required to reduce existing or potential threats to public health or the environment. If no immediate threat exists, the final remedy should be implemented in compliance with state regulations and policies. **4-4**

5) All environmental investigation and/or remediation should be conducted under a Workplan which is approved by a regulatory agency that has jurisdiction to oversee hazardous waste cleanup. **4-5**

6) If the subject property was previously used for agriculture, onsite soils could contain pesticide residues. Proper investigation and remedial action may be necessary to ensure the site does not pose a risk to the future residents. **4-6**

7) If any property adjacent to the project site is contaminated with hazardous chemicals, and if the proposed project is within 2,000 feet from a contaminated site, then the proposed development may fall within the "Border Zone of a Contaminated Property." Appropriate precautions should be taken prior to construction if the proposed project is within a "Border Zone Property." **4-7**

8) If building structures are planned to be demolished, an investigation should be conducted for the presence of lead-based paints and asbestos containing materials (ACMs). If lead-based paints or ACMs are identified, proper precautions should be taken during demolition activities. Additionally, the contaminants should be remediated in compliance with California environmental regulations and policies. **4-8**

9) If during construction/demolition of the project, soil and/or groundwater contamination is suspected, construction/demolition in the area should cease and appropriate health and safety procedures should be implemented. If it is determined that contaminated soil and/or groundwater exist, the draft EIR should identify how any required investigation and/or remediation will be conducted, and the government agency to provide appropriate regulatory oversight. **4-9**

DTSC provides guidance for preparation of a Preliminary Endangerment Assessment (PEA), and cleanup oversight through, the Voluntary Cleanup Program (VCP). For additional information on the VCP, please visit DTSC's web site at www.dtsc.ca.gov.

If you have any questions regarding this letter, please contact Mr. Johnson P. Abraham, Project Manager, at (714) 484-5476.

Sincerely,

Greg Holmes
Unit Chief
Southern California Cleanup Operations Branch
Cypress Office

cc: Governor's Office of Planning and Research
State Clearinghouse
P.O. Box 3044
Sacramento, California 95812-3044

Mr. Guenther W. Moskat, Chief
Planning and Environmental Analysis Section
CEQA Tracking Center
Department of Toxic Substances Control
P.O. Box 806
Sacramento, California 95812-0806

Letter No. 4 dated October 10, 2003
Department of Toxic Substances Control

Comment 4-1: The EIR should determine whether current or historic uses have resulted in any release of hazardous wastes/substances at the site.

Response: As discussed in Section 2.1 Project Summary, the site is a Class III sanitary landfill that has been in continuous operation since 1967. The site has never accepted hazardous waste and has never released hazardous waste. In addition the Initial Study prepared for the project identified that the project is not located on a list of hazardous materials sites compiled pursuant to Government Code 25962.5.

Comment 4-2: This comment states that the Draft EIR did not address the rest of the Hazards section of the CEQA Checklist.

Response: Hazards were addressed in the Initial Study prepared for the project and were identified as being either less than significant or no impact and therefore did not require additional discussion in the EIR. Section 2.7.2 of the Draft EIR summarizes the findings of the Initial Study.

Comment 4-3: The comment states that the EIR needs to identify any known or potentially contaminated sites within the proposed project area.

Response: The purpose of identifying a contaminated site in the vicinity of the project is to disclose to the public any hazards that could impact future residents or visitors to a site. In this case, the site is an existing landfill that has been identified throughout the EIR review process as the project site. Any other site in the vicinity of the Victorville Sanitary Landfill that may require remediation would not affect the proposed project because as proposed, it is the expansion of an existing use already occupying the site. The property to be used for the expansion is owned by the County and was recently acquired from the U.S. Bureau of Land Management (BLM) and had no historical permitted uses other than the landfill. As described in the Project Description, the proposed project is the expansion of the Victorville Sanitary Landfill in order to allow the County to continue to utilize the facility as a regional landfill by extending its projected closure date an additional 76 years to 2081. The expansion would not warrant a significant amount of additional staff on-site and there would be no change in the exposure of people to any hazards not already known to exist.

Comment 4-4: The comment states that the EIR should identify the mechanism to initiate any required investigation and/or remediation for any site that may require remediation of hazardous materials/wastes.

Response: As a part of the Evaluation Monitoring Program Report for the landfill, eight additional groundwater monitoring wells were constructed at the site (VSL-10 through VSL-17), including four that are downgradient of the landfill. Trace levels of one VOC have been detected in samples from well VSL-11, which is closest to the point-of-compliance, but no VOCs have been detected in any of the samples collected from well VSL-12, which is approximately 500 feet downgradient of well VSL-6.

As described in quarterly groundwater monitoring reports prepared for the site by Geologic Associates in 2003, the most significant groundwater contamination at the Victorville Landfill is associated with the former septage disposal areas that were operated until 1998. After the septage ponds were closed in 1998, groundwater elevations in the vicinity of the ponds decreased, and VOC contamination in the vicinity of the ponds also decreased. Inorganic chemistry anomalies also appear to be associated with the septage impoundments. The minor increases in chloride, nitrate as nitrogen, and total dissolved solids measured in samples from point-of-compliance monitoring well VSL-3 appear to be related to similar increasing trends in wells VSL-5 and VSL-9, which are adjacent to the closed ponds. Inorganic constituent concentrations in compliance wells VSL-6 and VSL-8 are consistent with background concentrations.

A few VOCs are regularly detected in samples collected from point of compliance monitoring well VSL-6, but VOCs are rarely detected in samples from compliance well VSL-8. Most VOC concentrations are far below State of California Drinking Water Standards or Federal Maximum Contaminant Levels. Some of the VOCs detected at the point of compliance appear to be related to landfill gas migration, and the County of San Bernardino has recently installed a landfill gas collection and removal system to reduce these impacts. In short, the results of quarterly groundwater monitoring suggest that groundwater chemistry has been affected only slightly by liquids migrating from the septage ponds that are now closed and from landfill gas, which is now being mitigated.

The current and past groundwater quality data do not indicate that liquids have been released from the landfill. In fact, the high desert regional climate averages approximately four to six inches of rainfall each year, while evapotranspiration rates are expected to be nearly an order of magnitude higher. Since most of this precipitation runs off as sheet flow only a relatively small volume of water is actually expected to enter the waste and the bulk of this water is expected to either be withdrawn as evaporation, or utilized in microbial decomposition of the waste itself. Consequently, available free moisture in the landfill is minimal. As a result, it is unlikely that significant compressional dewatering of the existing waste will occur from the weight of the proposed vertical expansion.

Liners constructed over highly compressible materials function such as waste are expected to perform poorly over time; a performance that will be further

compromised by the installation of landfill gas wells. In addition, since little free liquid is expected to enter the waste, a physical barrier placed within the waste prism is not likely to have a significant effect on leachate control. As a result, there appears to be no long-term benefit in placing a liner over the existing refuse.

Mechanisms to initiate investigations or remediation are determined by the Regional Water Quality Control Board, Lahonton Region within the facility's Waste Discharge Requirements. These requirements specify the number of monitoring wells, the parameters that are to be monitored, the action levels that can trigger additional testing, evaluation, or remediation, and the frequency of monitoring. The issuance of new/revised Waste Discharge Requirements is anticipated as a result of approval of the landfill's expansion.

Comment 4-5: The comment states that all environmental investigation and/or remediation should be conducted under a Workplan approved by a regulatory agency.

Response: All environmental investigation and/or or remediation is conducted under the applicable regulatory agencies such as but not limited to the Lahonton Regional Water Quality Control; Board, the California Integrated Waste Management Board, the Mojave Desert Air Quality Management District, etc.

Comment 4-6: The comment states that if the project site was previously used for agriculture, on-site soils could contain pesticide residues. Proper investigation and remedial action may be necessary to ensure the site does not pose a risk to future residents.

Response: The sites history is well documented and was never used for agriculture.

Comment 4-7: The comment states that if any property adjacent to the project site is contaminated with hazardous chemicals, and if the proposed project is within 2,000 feet from a contaminated site, then the proposed development may fall within the "Border Zone of a Contaminated Property." Appropriate precautions should be taken prior to construction.

Response: As discussed in Response 4-3, the purpose of identifying a contaminated site in the vicinity of the project is to disclose to the public any hazards that could impact future residents or visitors to a site. In this case, the site is an existing landfill that has been identified throughout the EIR review process as the project site. Any other site in the vicinity of the Victorville Sanitary Landfill that may require remediation would not affect the proposed project because as proposed, it is the expansion of an existing use already occupying the site. The property to be used for the expansion has been owned by the County or was recently acquired from the U.S. Bureau of Land Management (BLM) and had no historical permitted uses. All lands surrounding the project site are federal lands

administered by the BLM. As described in the Project Description, the proposed project is the expansion of the Victorville Sanitary Landfill in order to allow the County to continue to utilize the facility as a regional landfill by extending its projected closure date an additional 76 years to 2081. The expansion would not warrant a significant amount of additional staff on-site and there would be no change in the exposure of people to any hazards not already known to exist.

Comment 4-8: In this comment DTSC requested that an investigation for the presence of lead paints or asbestos containing materials should be conducted during demolition activities.

Response: No demolition activities are proposed.

Comment 4-9: This comment states that if during construction/demolition soil and/or groundwater contamination is suspected, than construction/demolition should cease and appropriate health and safety procedures should be implemented. The EIR should identify the mechanism to initiate any required investigation and/or remediation for the site.

Response: See Response to Comment 4-8.

STATE OF CALIFORNIA

Letter 5

Arnold Schwarzenegger, Gove

CALIFORNIA STATE LANDS COMMISSION
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825-8202

PAUL D. THAYER, *Executive C*
(916) 574-1800 FAX (916) 574-
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Contact Phone: (916) 574-189
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November 17, 2003

File Ref: 2002091132

Ms. Nadell Gayou
The Resources Agency
901 P. Street
Sacramento, CA 95814

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Mr. Matthew Slowik
San Bernardino County
Land Use Services Department
385 N. Arrowhead Avenue, 1st Floor
San Bernardino, CA 92415-0182

RE: Draft Program Environmental Impact Report for revisions to solid waste facilities permit 36-AA-0045 for the expansion of the Victorville Landfill Expansion Project

Dear Ms. Gayou and Mr. Slowik:

Staff of the California State Lands Commission (CSLC) has reviewed the subject document. The CSLC is a responsible agency under the California Environmental Quality Act. We offer the following comments.

The project involves an expansion of the existing landfill from the existing 67-acre footprint to a 341-acre footprint over a period of 76 years. The California State Lands Commission manages State school lands in the vicinity of the project for multiple uses and for the economic benefit of the State Teachers Retirement System. These interests include 60 acres of fee ownership in the southwest quarter of adjacent Section 24; 40 acres of reserved mineral interest (RMI) in the southwest quarter of Section 22 to the west; 430 acres of RMI in Section 26 to the south; and 160 acres of RMI in Section 27 to the southwest. Although we might not incur any direct impacts such as future groundwater contamination, we note the discussion on Page 4.7-11 and 4.7-12, of the Draft EIR, which states that soils in the vicinity of the existing landfill have already been impacted by landfill gas and migration of liquids from the surface impoundments. Although the Regional Water Quality Control Board is addressing this issue, the EIR should identify the extent and degree to which the aforementioned State interests are 5-1

impacted. The proposed construction engineering standards should preclude a repeat of these earlier problems. 5-1 continu

A second concern is the potential visual impact discussed on Page 4.1-11. The current landfill impacts the viewshed for all those traveling the busy Interstate 15 corridor in the vicinity of Victorville. An expansion of the landfill would exacerbate this visual impact and the EIR should address any resulting potential constraint to development of State lands. Other options should be granted serious consideration prior to permitting this expansion. 5-2

We appreciate the opportunity to comment. If you have any questions, please contact Greg Pelka, Senior Mineral Resources Engineer, at (562) 590-5227 or you may reach me at (916) 574-1814.

Sincerely,

Stephen L. Jenkins, Asst. Chief
Division of Environmental Planning
and Management

cc: Greg Pelka

Letter No. 5 dated November 17, 2003
California State Lands Commission

Comment 5- 1: This comment states that the EIR should identify the extent and degree to which the state interests are impacted.

Response: The following text and Table 3-6 has been added to Page 3-29 after paragraph number 4:

Groundwater elevations within the existing landfill footprint and downgradient of the Victorville Landfill have generally decreased since 1998, when the septage impoundments at the northwestern corner of the facility were closed (proposed Phase 1A). Well VSL-7, which is located immediately downgradient of the septage ponds, has been dry for three years. Similar trends in groundwater elevation decreases have been observed in wells VSL-5 and VSL-9, which are also downgradient of the septage ponds.

Table 3-6 compares the most recent groundwater elevation and the historical high groundwater elevation measured at each monitoring well with the adjacent base grade of the proposed landfill expansion.

Table 3-6
Historical Groundwater Elevations

Well	November 2003 Groundwater Elevation (feet amsl)	Highest Groundwater Elevation/Date Measured		Adjacent Landfill Base Elevation
VSL-1	2849.63	2849.98	February, 2003	3016
VSL-3	2676.03	2677.89	May, 1993	2900
VSL-4	2993.74	2994.09	August, 2002	2920
VSL-5	2744.30	2773.86	August, 1993	3008
VSL-6	2670.64	2675.53	January, 1994	2800
VSL-7	Dry	2768.76	November, 1996	3008
VSL-8	2671.17	2674.45	August, 2001	2860
VSL-9	2741.11	2767.11	June, 1996	3008
VSL-10	2675.96	2686.34	May, 2001	2900
VSL-11	2675.96	2676.41	August, 2001	2900
VSL-12	2676.98	2677.40	August, 2003	2780
VSL-13	2675.90	2675.90	April, 2001	2780
VSL-14	2799.29	2799.56	February, 2003	2820
VSL-15	2831.11	2831.11	April, 2001	2960
VSL-16	2697.16	2697.16	April, 2001	2940
VSL-17	2675.97	2676.34	May, 2003	2900

Notes: Wells VSL-10, VSL-11, VSL-12, VSL-13, VSL-14, VSL-15, VSL-16, and VSL-17 were constructed in 2001.

As shown on Table 3-6, all areas of proposed expansion will be at least five feet above the highest measured groundwater elevation in an adjacent well or as interpreted from groundwater equipotential surface contours. In fact, most areas will be at least 100 feet above the highest anticipated groundwater elevation. Groundwater potentiometric surface elevation contours were constructed using April 2001 data to compare estimated groundwater elevations with the proposed sub-grade configuration. There are no areas of the site where the groundwater is less than five feet below the landfill sub-grade. The historical groundwater elevation data show very little fluctuation in response to regional climatic phenomena, such as the unusually heavy rains associated with the 1993 and 1997/1998 El Nino events. As a result, use of the April 2001 data set is considered representative of historical and anticipated conditions. Based on this information, a minimum five-foot separation between waste and the groundwater table is anticipated throughout the site's active life and post-closure maintenance period.

As a part of the Evaluation Monitoring Program Report for the VSL, eight additional groundwater monitoring wells were constructed at the site (VSL-10 through VSL-17), including four that are downgradient of the landfill. Trace levels of one VOC have been detected in samples from well VSL-11, which is closest to the point-of-compliance, but no VOCs have been detected in any of the samples collected from well VSL-12, which is approximately 500 feet downgradient of well VSL-6.

As described in quarterly groundwater monitoring reports prepared for the site by Geologic Associates in 2003, the most significant groundwater contamination at the Victorville Landfill is associated with the former septage disposal areas that were operated until 1998. After the septage ponds were closed in 1998, groundwater elevations in the vicinity of the ponds decreased, and VOC contamination in the vicinity of the ponds also decreased. Inorganic chemistry anomalies also appear to be associated with the septage impoundments. The minor increases in chloride, nitrate as nitrogen, and total dissolved solids measured in samples from point-of-compliance monitoring well VSL-3 appear to be related to similar increasing trends in wells VSL-5 and VSL-9, which are adjacent to the closed ponds. Inorganic constituent concentrations in compliance wells VSL-6 and VSL-8 are consistent with background concentrations.

A few VOCs are regularly detected in samples collected from point of compliance monitoring well VSL-6, but VOCs are rarely detected in samples from compliance well VSL-8. Most VOC concentrations are far below State of California Drinking Water Standards or Federal Maximum Contaminant Levels. Some of the VOCs detected at the point of compliance appear to be related to landfill gas migration, and the County of San Bernardino has recently installed a landfill gas collection and removal system to reduce these impacts. In short, the results of the quarterly groundwater monitoring suggest that groundwater

chemistry has been affected only slightly by liquids migrating from the septage ponds that are now closed and from landfill gas, which is now being mitigated.

The current and past groundwater quality data do not indicate that liquids have been released from the landfill. In fact, the high desert regional climate averages approximately four to six inches of rainfall each year, while evapotranspiration rates are expected to be nearly an order of magnitude higher. Since most of this precipitation runs off as sheet flow only a relatively small volume of water is actually expected to enter the waste and the bulk of this water is expected to either be withdrawn as evaporation, or utilized in microbial decomposition of the waste itself. Consequently, available free moisture in the landfill is minimal. As a result, it is unlikely that significant compressional dewatering of the existing waste will occur from the weight of the proposed vertical expansion.

Liners constructed over highly compressible materials function such as waste are expected to perform poorly over time; a performance that will be further compromised by the installation of landfill gas wells. In addition, since little free liquid is expected to enter the waste, a physical barrier placed within the waste prism is not likely to have a significant effect on leachate control. As a result, there appears to be no long-term benefit in placing a liner over the existing refuse.

The State land referenced to the south, west and east of the Landfill expansion area would not be impacted from any future migration of groundwater contamination. Should the monitoring system show the migration of any contaminants off-site, an Evaluation Monitoring Plan/Corrective Action Plan will be implemented to contain and remediate contamination. Potential environmental concerns associated with the Landfill should not limit the State's ability to exercise any reserved mineral interests.

Comment 5-2: This comment relates concerns regarding the visual impact discussed on page 4.1-11. Specifically an expansion of the landfill would exacerbate the visual impact. The EIR should address any resulting potential constraint to future development of State lands near the landfill.

Response: The project's impacts to the visual quality of the existing viewshed are significant, even after the implementation of mitigation measures. The project's impacts are fully disclosed with text and visual simulations in Section 4.1 of the EIR. In addition, alternatives to the proposed project were evaluated (Chapter 6.0) including an alternative to restrict the height of the landfill to it current permitted height. This information will be used by the County in consideration of certifying the EIR and approving the landfill expansion.

SOUTHERN CALIFORNIA

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Los Angeles County: Yvonne Brathwaite Burke, L ngeles County • Zev Yaroslavsky, Los Angeles C y • Melanie Andrews, Compton • Harry Bl vin, San Gabriel • Paul Bowlen, Cerritos • Tony Cardenas, Los Angeles • Margaret Clark, Rosemead • Gene Daniels, Paramount • Mike Dispenza, Palmdale • Judy Dunlap, Inglewood • E Sarcetti, Los Angeles • Wendy Greuel, Los A les • Frank Gurulé, Cudahy • James Hahn, Los Angeles • Janice Hahn, Los Angeles • Sandra Jacobs, El Segundo • Tom LaBonge, Los Angeles • Bonnie Lowenthal, Long Beach • Martin Ludlow, Los Angeles • Keith McCarthy, Downey • Llewellyn R r, Claremont • Cindy Miscikowski, Los A les • Paul Nowatka, Torrance • Pam O nnor, Santa Monica • Alex Padilla, Los Angeles • Bernard Parks, Los Angeles • Jan Perry, Los Angeles • Beatrice Proo, Pico Rivera • Ed Reyes, Los Angeles • Greig Smith, Los Angeles • Stanford, Azusa • Tom Sykes, Walnut • Paul T t, Alhambra • Sidney Tyler, Jr., Pasadena • J Reyes Uranga, Long Beach • Antonio Villaraigosa, Los Angeles • Dennis Washburn, Calabasas • Jack Weiss, Los Angeles • Bob Yousefian, Glendale • Dennis P. Zine, Los Angeles

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rside County: Marion Ashley, Riverside nty • Ron Loveridge, Riverside • Jeff Miller, Corona • Greg Pettis, Cathedral City • Ron Roberts, Temecula • Charles White, Moreno Valley

Bernardino County: Paul Biane, San ardino County • Bill Alexander, Rancho monga • Edward Burgnon, Town of Apple Valley • Lawrence Dale, Barstow • Lee Ann Garcia, Grand Terrace • Susan Longville, San Bernardino • Gary Ovitt, Ontario • Deborah Robertson, Rialto

ura County: Judy Mikels, Ventura County • Becerra, Simi Valley • Carl Morehouse, San

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LAND USE SERVICES DEPT.
ADVANCE PLANNING DIVISION

November 12, 2003

Mr. Matthew W. Slowik
Senior Associate Planner
County of San Bernardino
Land Use Services Department
Planning Division
385 North Arrowhead Avenue
San Bernardino, CA 92415-0182

RE: **Comments on the Draft Program Environmental Impact Report for the Victorville Sanitary Landfill – SCAG No. I 20030560**

Dear Mr. Slowik:

Thank you for submitting the **Draft Program Environmental Impact Report for the Victorville Sanitary Landfill** to SCAG for review and comment. As areawide clearinghouse for regionally significant projects, SCAG reviews the consistency of local plans, projects, and programs with regional plans. This activity is based on SCAG's responsibilities as a regional planning organization pursuant to state and federal laws and regulations. Guidance provided by these reviews is intended to assist local agencies and project sponsors to take actions that contribute to the attainment of regional goals and policies.

We have reviewed the **Draft Program Environmental Impact Report for the Victorville Sanitary Landfill** and have determined that **the proposed Project is regionally significant per California Environmental Quality Act (CEQA) Guidelines (Section 15206).** The proposed Project considers the expansion of an existing waste disposal site in excess of 40-acres. CEQA requires that EIRs discuss any inconsistencies between the proposed project and applicable general plans and **regional plans (Section 15125 [d]).** If there are inconsistencies, an explanation and rationalization for such inconsistencies should be provided. The Draft EIR does not address SCAG policies that may be applicable to the **Victorville Sanitary Landfill.**

Policies of SCAG's Regional Comprehensive Plan and Guide and Regional Transportation Plan, which may be applicable to your project, are outlined in the attachment. **It would be helpful if the Final EIR would specifically cite the appropriate SCAG policies and address the manner in which the Project is consistent with applicable core policies or supportive of applicable ancillary policies. Please use our policy numbers to refer to them in your Final EIR. Also, we would encourage you to use a side-by-side comparison of SCAG policies with a discussion of the consistency or support of the policy with the Proposed Project.**

Please provide a minimum of 45 days for SCAG to review the Final EIR when this document is available. If you have any questions regarding the attached comments, please contact me at (213) 236-1867. Thank you.

Sincerely,

JEFFREY M. SMITH, AICP
Senior Regional Planner
Intergovernmental Review

COMMENTS
ON THE
DRAFT PROGRAM ENVIRONMENTAL IMPACT REPORT
FOR THE
VICTORVILLE SANITARY LANDFILL
SCAG NO. I 20030560

PROJECT DESCRIPTION

The proposed Project considers the expansion of the Victorville Sanitary Landfill including vertical and horizontal expansions, to meet the County's solid waste disposal needs.

INTRODUCTION TO SCAG REVIEW PROCESS

The document that provides the primary reference for SCAG's project review activity is the Regional Comprehensive Plan and Guide (RCPG). The RCPG chapters fall into three categories: core, ancillary, and bridge. The Growth Management (adopted June 1994), Regional Transportation Plan (adopted April 2001), Air Quality (adopted October 1995), Hazardous Waste Management (adopted November 1994), and Water Quality (adopted January 1995) chapters constitute the core chapters. These core chapters respond directly to federal and state planning requirements. The core chapters constitute the base on which local governments ensure consistency of their plans with applicable regional plans under CEQA. The Air Quality and Growth Management chapters contain both core and ancillary policies, which are differentiated in the comment portion of this letter. The Regional Transportation Plan (RTP) constitutes the region's Transportation Plan. The RTP policies are incorporated into the RCPG.

Ancillary chapters are those on the Economy, Housing, Human Resources and Services, Finance, Open Space and Conservation, Water Resources, Energy, and Integrated Solid Waste Management. These chapters address important issues facing the region and may reflect other regional plans. Ancillary chapters, however, do not contain actions or policies required of local government. Hence, they are entirely advisory and establish no new mandates or policies for the region.

Bridge chapters include the Strategy and Implementation chapters, functioning as links between the Core and Ancillary chapters of the RCPG.

Each of the applicable policies related to the proposed project are identified by number and reproduced below in italics followed by SCAG staff comments regarding the consistency of the Project with those policies.

SUMMARY OF SCAG STAFF COMMENTS

1. The Draft EIR does not addresses the relationship of the proposed project to **applicable regional plans** as required by Section 15125 [d] of *Guidelines for Implementation of the California Environmental Quality Act.* 6-1

2. The Final EIR should address the relationships (consistency with core policies and support of ancillary policies) to SCAG's Regional Comprehensive Plan and Guide, utilizing commentary from the following detailed SCAG staff comments. The response should also discuss any inconsistencies between the proposed project and applicable regional plans. We suggest that you identify the specific policies, by policy number, with a discussion of consistency or support with each policy. 6-2

CONSISTENCY WITH REGIONAL COMPREHENSIVE PLAN AND GUIDE POLICIES

The **Growth Management Chapter (GMC)** of the Regional Comprehensive Plan and Guide (RCPG) contains the following policies that are particularly applicable and should be addressed in the Draft EIR for the Victorville Sanitary Landfill Expansion Project.

3.03 The timing, financing, and location of public facilities, utility systems, and transportation systems shall be used by SCAG to implement the region's growth policies.

GMC POLICIES RELATED TO THE RCPG GOAL TO IMPROVE THE REGIONAL QUALITY OF LIFE

The Growth Management goals to attain mobility and clean air goals and to develop urban forms that enhance quality of life, that accommodate a diversity of life styles, that preserve open space and natural resources, and that are aesthetically pleasing and preserve the character of communities, enhance the regional strategic goal of maintaining the regional quality of life. The evaluation of the proposed project in relation to the following policies would be intended to provide direction for plan implementation, and does not allude to regional mandates.

3.18 Encourage planned development in locations least likely to cause environmental impact.

3.20 Support the protection of vital resources such as wetlands, groundwater recharge areas, woodlands, production lands, and land containing unique and endangered plants and animals.

3.21 Encourage the implementation of measures aimed at the preservation and

protection of recorded and unrecorded cultural resources and archaeological sites.

3.22 Discourage development, or encourage the use of special design requirements, in areas with steep slopes, high fire, flood, and seismic hazards.

3.23 Encourage mitigation measures that reduce noise in certain locations, measures aimed at preservation of biological and ecological resources, measures that would reduce exposure to seismic hazards, minimize earthquake damage, and to develop emergency response and recovery plans.

GMC POLICIES RELATED TO THE RCPG GOAL TO PROVIDE SOCIAL, POLITICAL, AND CULTURAL EQUITY

The Growth Management Goal to develop urban forms that avoid economic and social polarization promotes the regional strategic goal of minimizing social and geographic disparities and of reaching equity among all segments of society. The evaluation of the proposed project in relation to the policy stated below is intended guide direction for the accomplishment of this goal, and does not infer regional mandates and interference with local land use powers.

3.27 Support local jurisdictions and other service providers in their efforts to develop sustainable communities and provide, equally to all members of society, accessible and effective services such as: public education, housing, health care, social services, recreational facilities, law enforcement, and fire protection.

AIR QUALITY CHAPTER CORE ACTIONS

The **Air Quality Chapter** core actions related to the proposed project includes:

5.07 Determine specific programs and associated actions needed (e.g., indirect source rules, enhanced use of telecommunications, provision of community based shuttle services, provision of demand management based programs, or vehicle-miles-traveled/emission fees) so that options to command and control regulations can be assessed.

5.11 Through the environmental document review process, ensure that plans at all levels of government (regional, air basin, county, subregional and local) consider air quality, land use, transportation and economic relationships to ensure consistency and minimize conflicts.

WATER QUALITY CHAPTER RECOMMENDATIONS AND POLICY OPTIONS

The **Water Quality Chapter** core recommendations and policy options relate to the two water quality goals: to restore and maintain the chemical, physical and biological integrity of the nation's water; and, to achieve and maintain water quality objectives that are necessary to protect all beneficial uses of all waters.

11.07 Encourage water reclamation throughout the region where it is cost-effective, feasible, and appropriate to reduce reliance on imported water and wastewater discharges. Current administrative impediments to increased use of wastewater should be addressed.

GOALS AND OBJECTIVES FOR SOLID WASTE MANAGEMENT

The existing Solid Waste goals for the SCAG region are articulated in the state law. (Cal. Pub. Res. Code Sec. 40000 et. seq.) that governs solid waste management. These goals form the basis for solid waste planning at the city and county level and can be summarized as follows:

1. Promote the following waste management practices in order of priority:

- Waste Prevention
- Recycling and Composting
- Safe Disposal or Transformation

2. Minimize unnecessary duplication of effort in solid waste programs carried out by local governments

The regional objectives for solid waste are also identified in the state solid waste law and include the following:

3. Divert at least 25 percent of all waste from landfills by the 1995, and divert at least 50 percent by the year 2000.

4. Ensure that there is adequate, environmentally safe disposal capacity for the remaining wastes

CONCLUSIONS

All feasible measures needed to mitigate any potentially negative regional impacts associated with the proposed project should be implemented and monitored, as required by CEQA.

ENDNOTE

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

Roles and Authorities

THE SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS (SCAG) is a ***Joint Powers Agency*** established under California Government Code Section 6502 et seq. Under federal and state law, SCAG is designated as a Council of Governments (COG), a Regional Transportation Planning Agency (RTPA), and a Metropolitan Planning Organization (MPO). SCAG's mandated roles and responsibilities include the following:

SCAG is designated by the federal government as the Region's ***Metropolitan Planning Organization*** and mandated to maintain a continuing, cooperative, and comprehensive transportation planning process resulting in a Regional Transportation Plan and a Regional Transportation Improvement Program pursuant to 23 U.S.C. '134, 49 U.S.C. '5301 et seq., 23 C.F.R. '450, and 49 C.F.R. '613. SCAG is also the designated ***Regional Transportation Planning Agency***, and as such is responsible for both preparation of the Regional Transportation Plan (RTP) and Regional Transportation Improvement Program (RTIP) under California Government Code Section 65080 and 65082 respectively.

SCAG is responsible for developing the demographic projections and the integrated land use, housing, employment, and transportation programs, measures, and strategies portions of the ***South Coast Air Quality Management Plan***, pursuant to California Health and Safety Code Section 40460(b)-(c). SCAG is also designated under 42 U.S.C. '7504(a) as a ***Co-Lead Agency*** for air quality planning for the Central Coast and Southeast Desert Air Basin District.

SCAG is responsible under the Federal Clean Air Act for determining ***Conformity*** of Projects, Plans and Programs to the State Implementation Plan, pursuant to 42 U.S.C. '7506.

Pursuant to California Government Code Section 65089.2, SCAG is responsible for ***reviewing all Congestion Management Plans (CMPs) for consistency with regional transportation plans*** required by Section 65080 of the Government Code. SCAG must also evaluate the consistency and compatibility of such programs within the region.

SCAG is the authorized regional agency for ***Inter-Governmental Review*** of Programs proposed for federal financial assistance and direct development activities, pursuant to Presidential Executive Order 12,372 (replacing A-95 Review).

SCAG reviews, pursuant to Public Resources Code Sections 21083 and 21087, Environmental Impacts Reports of projects of regional significance for consistency with regional plans [California Environmental Quality Act Guidelines Sections 15206 and 15125(b)].

Pursuant to 33 U.S.C. '1288(a)(2) (Section 208 of the Federal Water Pollution Control Act), SCAG is the authorized ***Areawide Waste Treatment Management Planning Agency***.

SCAG is responsible for preparation of the ***Regional Housing Needs Assessment***, pursuant to California Government Code Section 65584(a).

SCAG is responsible (with the Association of Bay Area Governments, the Sacramento Area Council of Governments, and the Association of Monterey Bay Area Governments) for preparing the ***Southern California Hazardous Waste Management Plan*** pursuant to California Health and Safety Code Section 25135.3.

Revised July 2001

Letter No. 6 dated November 12, 2003
Southern California Association of Governments

Southern California Association of Governments (SCAG) is a regional planning organization with the responsibility to review and comment on regionally significant projects that may impact the environment. SCAG has reviewed the document and determined that the proposed project is regionally significant per California Environmental Quality Act Guidelines (Section 15206).

Comment 6-1: This comment states that the Draft EIR does not address the relationship of the proposed project to applicable regional plans.

Response: See response to Comment 6-2.

Comment 6-2: This comment states that the Final EIR should address the consistency of the proposed project with core policies within the SCAG's Regional Comprehensive Plan and Guide. Discussion should identify specific policies by policy number and discuss any inconsistencies between the proposed project and applicable regional plans.

Response: *Consistency with Regional Comprehensive Plan and Guide Policies:*

The Draft EIR presents the various elements (i.e., timing, financing, and location) of the Victorville Sanitary landfill in Section 3.0 Project Description, for use by SCAG in it's Regional Comprehensive Plan and Guide (RCPG) and Growth Management Chapter (GMC).

GMC policies related to the PCPG goal to improve the regional quality of life are addresses as follows:

Encourage planned development in location least likely to cause environmental impact.

The EIR discusses the potential environmental impacts associated with the expansion of the existing Victorville Sanitary Landfill. In the County's Strategic Plan for Solid Waste Management, each of the County's existing landfill facilities in the Victor Valley. Section 6.2 of Chapter 6.0-Alternatives, lays out the criteria used to evaluate each of the sites and indicates why each of the other landfill sites were rejected.

Support the protection of vital resources such as wetlands, groundwater recharge areas, woodlands, production lands, and lands containing unique and endangered plants and animals.

The EIR discusses potential impacts to groundwater (Section 4.7 Hydrology and Water Quality) and unique and endangered plants and animals (Section 4.3

Biological Resources). All potential impacts to these vital resources have been mitigated.

Encourage the implementation of measures aimed at the preservation and protection of recorded and unrecorded cultural resources and archeological sites.

The EIR addresses potential impacts to cultural resources and archeological sites in Section 4.4 Cultural Resources.

Discourage development, or encourage the use of special design requirements. in areas with steep slopes, high fire, flood, and seismic hazards.

The EIR discusses special design requirements for the project in sections 4.5 Geology and Soils and Section 4.6 Hazards

Encourage mitigation measures that reduce noise in certain locations, measures aimed at preservation of biological and ecological resources, measures that would reduce exposure to seismic hazards minimize earthquake damage and to develop emergency response and recovery plans.

Potential impacts relating to noise are discussed in Section 2.7.2 Effects Found Not to be Significant. Preservation of biological and ecological resources are discussed in Section 4.3 Biological Resources. Measures that would reduce exposure to seismic hazards minimize earthquake damage and to develop emergency response and recovery plans are discussed in sections 4.5 Geology and Soils and 4.6 Hazards, respectively.

Support local jurisdictions and other service providers in their efforts to develop sustainable communities and provide, equally to all members of society, accessible and effective services such as: public education, housing, health care, social services, recreations facilities, law enforcement, and fire protection.

This policy does not apply to the Victorville Sanitary Landfill Expansion Project.

Air Quality Core Actions and Policies

Potential impacts to air quality and mitigation measures are discussed in Section 4.2 Air quality.

Water Quality Core Recommendations and Policy Options.

Water Quality related impacts and mitigation measures are discussed in Section 4.7 Hydrology and Water Quality.

Goals and Objectives for Solid Waste Management

The Victorville Sanitary Landfill Expansion is an integral part of the San Bernardino County, Countywide Integrated Waste Management Plan (CIWMP) The CIWMP is a regional plan and should be used by SCAG in its implementation of the region's growth policies. Expansion of the existing landfill does not conflict with any applicable regional plans. The project meets the County's objective as stated in the CIWMP to plan for future growth.

Comment 6-3: This comment states that all feasible measures needed to mitigate any potentially negative regional impacts associated with the proposed project should be implemented and monitored, as required by CEQA.

Response: All feasible measures needed to mitigate any potentially negative regional impacts associated with the proposed project are discussed in Chapter 4.0 Environmental Impact Evaluation. Their means for implementation and monitoring are discussed in Section 9.0 Mitigation Monitoring and Reporting Program.

DEPARTMENT OF PUBLIC HEALTH

COUNTY OF SAN BERNARDINO
HUMAN SERVICES SYSTEM

ENVIRONMENTAL HEALTH SERVICES
☒ 385 North Arrowhead Avenue • San Bernardino, CA 92415-0160 • (909) 884-4056
☐ 1647 East Holt Boulevard • Ontario, CA 91761 • (909) 458-9673
☐ 13911 Park Avenue • Victorville, CA 92392 • (760) 243-3773
☐ San Bernardino County Vector Control Program
2355 East Fifth Street • San Bernardino, CA 92415-0064 • (909) 388-4600

JAMES A. FELTEN, MPA
Public Health Programs Administrator

THOMAS J. PRENDERGAST, JR., MD, MPH
Director of Public Health

DANIEL J. AVERA, REHS
Chief of Environmental Health

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NOV 13 2003
LAND USE SERVICES DEPT.
ADVANCE PLANNING DIVISION

November 6, 2003

Matthew W. Slowik, Senior Associate Planner
Land Use Services Department, Advance Planning Division
385 North Arrowhead Avenue, 1st Floor
San Bernardino, CA 92415-0182

RE: LEA COMMENTS ON THE DRAFT PROGRAM ENVIRONMENTAL IMPACT REPORT FOR THE VICTORVILLE SANITARY LANDFILL (SWIS# 36-AA-0045)

Dear Mr. Slowik,

Thank you for the opportunity to review the above-stated Draft Program Environmental Impact Report (DPEIR). Upon review of the above stated document the LEA would like to provide the following comment:

- Page 1-3, Section 1.3 Determination to Prepare a Program EIR, fifth paragraph, second sentence.
  "As currently permitted, the facility can receive up to 1,600 tons per day and a maximum of 400 vehicles round trips per day." The current SWFP, issued August 13, 1998, notes a maximum of 600 vehicle trips per day. **7-1**

Based on our understanding of this project the LEA has no further comments or questions.

If you have any questions please call me at (909) 387-4655.

Sincerely,

Raymond A. Britain, REHS
Waste Management/LEA Section

RB:jy

WAM/Britain/Letters/Victorville LF, Draft PEIR, 11-6-03

Letter No. 7 dated November 6, 2003
County of San Bernardino Department of Public Health Environmental Health Services

Comment 7-1: This comment notes a discrepancy between the EIR text and the current SWFP regarding the maximum number of vehicle trips per day.

Response: Text has been revised as follows

As currently permitted, the facility can receive up to 1,600 tons per day and a maximum of ~~400~~ 600 vehicles round trips per day.

Letter 8A

APPLE VALLEY 400

27431 Enterprise Circle West • Temecula, CA 92590
(909) 676-7000, Ext. 224 • Fax (909) 694-8413

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OCT 22 2003
LAND USE SERVICES DEPT
ADVANCE PLANNING

October 21, 2003

Mr. Matthew Slowik
County of San Bernardino
Land Use Services Department, Planning Division
385 N. Arrowhead Avenue, First Floor
San Bernardino, CA 92415-0182

Re: **NOTICE OF AVAILABILITY FOR THE DRAFT ENVIRONMENTAL IMPACT REPORT (EIR) FOR THE VICTORVILLE LANDFILLE EXPANSION PROJECT**

Dear Mr. Slowik:

We own land across Stoddard Wells Road southeast from the landfill which will be directly impacted by this landfill expansion.

We would appreciate it very much if you would send us a copy of the Draft EIR as you described in your notice dated October 1, 2003.

Sincerely,
APPLE VALLEY 400

Won S. Yoo
General Partner

Letter 8B

APPLE VALLEY 400

27431 Enterprise Circle West • Temecula, CA 92590
(909) 676-7000, Ext. 224 • Fax (909) 694-8413

October 31, 2003

VIA FAX (909) 387-3223

Mr. Matthew Slowik
County of San Bernardino
Land Use Services Department, Planning Division
385 N. Arrowhead Avenue, First Floor
San Bernardino, CA 92415-0182

Re: **NOTICE OF AVAILABILITY FOR THE DRAFT ENVIRONMENTAL IMPACT REPORT (EIR) FOR THE VICTORVILLE LANDFILL EXPANSION PROJECT**

Dear Mr. Slowik:

Thank you very much for faxing us a location map of the proposed Victorville Landfill Expansion Project.

We own approximately 400 acres along I-15, of which 200 acres are on the Victorville side and 200 acres are on the Apple Valley side. On the Victorville side, our property abuts the landfill expansion, with a common boundary line roughly one-half mile along the southern boundary of the landfill expansion. Therefore, the landfill expansion will directly and significantly impact our future land value.

In our letter to you dated October 21, 2003, we requested a copy of the Draft EIR as described in your notice dated October 1, 2003, so we can properly review the impact the landfill expansion will have on our property. Since it is a draft copy, you probably distributed the draft to many agencies. If you have an extra copy, we would really appreciate your sending it to us. If not, we would be happy to pay the cost of reproduction and mailing. Or, you could send us an electronic copy on CD or e-mail the draft to won_tpc@pe.net.

We appreciate whatever you can do for us. If you have any questions, please call me at (909) 676-7000, Extension 224.

Sincerely,
APPLE VALLEY 400

Won S. Yoo
General Partner

Letter 8C

APPLE VALLEY 400

27431 Enterprise Circle West • Temecula, CA 92590
(909) 676-7000, Ext. 224 • Fax (909) 694-8413

November 14, 2003

VIA FAX (909) 387-3223

Mr. Matthew Slowik
County of San Bernardino
Land Use Services Department, Planning Division
385 N. Arrowhead Avenue, First Floor
San Bernardino, CA 92415-0182

Re: **COMMENTS ON DRAFT ENVIRONMENTAL IMPACT REPORT (EIR) FOR THE VICTORVILLE LANDFILL EXPANSION PROJECT**

Dear Mr. Slowik:

Thank you very much for sending us the Draft EIR. Following are our comments:

1. We oppose the Victorville Landfill Expansion Project based on its negative impact to the real estate value of our land. We own approximately 400 acres along I-15, of which 200 acres are on the Victorville side (APN 472-031-09) and 200 acres are on the Apple Valley side (APN 472-031-08). On the Victorville side, our property abuts the landfill expansion, with a common boundary line roughly one-half mile along the southern boundary of the Landfill Expansion Project. **8-1C**

2. In the event the County of San Bernardino decides to proceed with the Landfill Expansion Project, we propose that the County pay us the difference between the current real estate value of our property and the lower value that will be created by the Landfill Expansion Project. **8-2C**

If you have any questions, please call me at (909) 676-7000, Extension 224.

Sincerely,
APPLE VALLEY 400

Won S. Yoo
General Partner

Letter No. 8A dated October 21, 2003
Apple Valley 400, Won S. Yoo

This letter is in response to the Notice of Availability and requests a copy of the Draft EIR.

Response: The author contacted the San Bernardino County Land Use Services Department and requested information was provided.

Letter No. 8B dated October 31, 2003
Apple Valley 400, Won S. Yoo

This letter is in response to the Notice of Availability and requests a copy of the Draft EIR.

Response: The author contacted the San Bernardino County Land Use Services Department and requested information was provided.

Letter No. 8C dated November 14, 2003
Apple Valley 400, Won S. Yoo

Comment 8C-1: The comment notes that Apple Valley 400 currently owns two 200-acre parcels of land adjacent to the landfill expansion area.

Response: Comment acknowledged.

Comment 8C-2: The comment proposes a property valuation consideration by the County.

Response: Property values are not an issue requiring evaluation under CEQA (CEQA Guidelines Section 15131). However the County of San Bernardino has sited and expanded landfills in both urban and rural areas and has found no instances where property values have diminished as a direct result of the landfill.

STATE OF CALIFORNIA - THE RESOURCES AGENCY

GRAY DAVIS, Governor

DEPARTMENT OF FISH AND GAME
Eastern Sierra & Inland Deserts Region
407 West Line Street
Bishop, CA 93514
(760) 872-1171

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NOV 21 2003
LAND USE SERVICES DEPT
ADVANCE PLANNING DIVISION

November 19, 2003

Mr. Matthew W. Slowik, Senior Associate Planner
County of San Bernardino
Land Use Services Department
Advance Planning Division
385 N. Arrowhead Avenue, First Floor
San Bernardino, CA 92415-0182

Re: **Draft Environmental Impact Report for Victorville Sanitary Landfill Solid Waste Facilities Permit Revision SCH#2002091132**

Dear Mr. Slowik:

The California Department of Fish and Game (Department) has reviewed the Draft Environmental Impact Report (DEIR) for the Victorville Sanitary Landfill Facility. The proposed project is to expand the Victorville Sanitary Landfill from an approximate 80 acre facility to an approximate 491 acre facility and extend its project closure date approximately 76 years to the year 2081. The project is located west of Interstate 15 near the intersection of Stoddard Wells Road and Quarry Road in San Bernardino County, north of the City of Victorville.

The Department is responding as a Trustee Agency for fish and wildlife resources (Fish and Game Code §711.7 and 1802 and CEQA Guidelines §15386) and a Responsible Agency regarding any discretionary actions (CEQA Guidelines §15381) required by the Department.

Specific comments are as follows:

Section 2.8.2 page 2-15, 16 & 17: Alternative Designs 1, 2, and 3 should be considered as being Biologically Superior since they do not impact as much listed species habitat. 9-

Section 4.3.2 Page 4.3-3: Authorization should have been obtained from the Department prior to moving tortoises. This is a violation of the Fish and Game Code. 9-

Impact BIO-1 Page 4.3-15: It mentions that two tortoises were relocated. See previous comment. 9-3

Mitigation Measure BIO-1e Page 4.3-16: Biologist must be authorized by the Department also. 9-4

BIO-1f Page 4.3-17: Tortoise can not be relocated to Critical Habitat Units without doing medical testing for disease first. 9-5

BIO-1p Page 4.3-19: This condition needs to state that a raven management plan will be developed and will be reviewed and approved by the Department and the Fish and Wildlife Service. 9-6

General Comments:

There needs to be a section that states the project area will be surveyed for burrowing owls prior to any ground disturbance according to protocols. Though not listed in the NDDB records, they are know to be in the area. If burrowing owls are found appropriate mitigation will be required. Disturbed areas as well as undisturbed areas will need to be surveyed. The results shall be submitted to the Department for review. 9-7

The Department agrees with the native plant salvage for future reclamation. We also agree with the DEIS that at 2081 for desert tortoise and Mohave ground squirrel will be needed. 9-8

Thank you for this opportunity to comment. Questions regarding this letter and further coordination on these issues should be directed to Ms. Rebecca Jones, Environmental Scientist III, and (661) 285-5867.

Sincerely,

for Denyse Racine, Supervising Biologist
Habitat Conservation Program

Cc: SCH
R. Jones, CDFG

Letter No. 9 dated November 21, 2003
California Department of Fish and Game

Comment 9-1 This comment requests that alternative Designs 1, 2, and 3 should be considered Biologically Superior since they do not impact as much listed species habitat.

Response: CEQA does not require the evaluation of alternatives to determine "superior" for each environmental issue. Alternative Design 1 was determined to be the "Environmentally Superior" alternative.

Comment 9-2 This comment references the EIR stating that two tortoise were relocated in October 2000, and that authorization from the Department of Fish and game was necessary before moving tortoises thereby, violating the Fish and Game Code.

Response: Tortoise relocation was done under the Biological Opinion issued by the U. S. Fish and Wildlife Service. The County acknowledges the error in not seeking a determination of consistency from the Department of Fish and Game (DFG). Consultation with DFG will occur prior to any new land disturbance.

Comment 9-3 This comment references the two tortoises related to Comment 9-2; see Response to Comment 9-2.

Comment 9-4 This comment states that in addition to the qualifications and approvals required by a biologist prior to handling desert tortoises, that the biologist must also be authorized by the Department of Fish and Game.

Response: See response to Comment 9-2.

Comment 9-5 This comment states that tortoise cannot be relocated to Critical Habitat Units without doing medical testing for disease first.

Response: The tortoises were moved to a location immediately outside the fence being installed around the perimeter of the landfill.

Comment 9-6 This comment notes that a raven management plan developed and approved by the Department of Fish and Game and the U.S. Fish and Wildlife Service must be part of Mitigation Measure BIO-1 p.

Response: Mitigation Measure BIO-1p has been revised as follows to include the approved raven management plan.

p. A landfill operations program addressing wind-blown litter arising from site operation, as well as ~~other potential~~ the development of a raven (Corvus corax) management plan ~~provisioning impacts arising from landfill operations~~, shall be implemented that will facilitate the most effective refuse control

practices, while minimizing potential provisioning of desert tortoise predators. The raven management plan developed will be approved by CDFG.

Comment 9-7 This comment notes that a section be added to the EIR that addresses surveying for burrowing owls prior to any ground disturbance in accordance with appropriate protocols. It further requests that if burrowing owls are found, that appropriate mitigation measures must be implemented and results of any surveys be submitted to the Department of Fish and Game for review.

Response: A new discussion of burrowing owls has been added to Section 4.3, beginning on page 4.3-21 as follows:

The burrowing owl (*Athene cunicularia*) is a special status species (federal and state) not seen on-site during field surveys or during monitoring for perimeter fence installation, but is commonly reported from the area, has been observed in adjacent regions, could occur in the same habitat type as found on-site, and may with some certainty be observed within the project vicinity. CDFG is currently reviewing a request from the Center for Biological Diversity to formally list the Western burrowing owl as threatened or endangered (request submitted May 2003).

Effects to this species would be the potential loss of nesting and foraging habitat over the life of the project (76 years) and potential loss of eggs and young if the specie were to breed on site, and if construction takes place during the nesting season (late February to July). So although the species was not identified on site in previous surveys, it is mobile and could occupy the site in the future.

The protocol is to survey the area and identify occupancy then conduct a forced dispersal (outside the nesting season) and eliminate the burrows. If nests are encountered, they cannot be disturbed during the nesting season.

Mitigation Measure BIO-5

Prior to disturbance of previously undisturbed land in Phases 2 and 3, SWMD shall survey areas to be disturbed and adjacent areas for burrowing owls in accordance with Department of Fish and Game protocol. Results of the survey shall be documented and a reported to CDFG for review.

Level of Significance After Mitigation

Less than significant.

Comment 9-8 This comment concurs with the requirement to relocate all species protected by the California Native Plants Act (Mitigation Measure BIO-4) and the County's

decision to apply for an Incidental Take Permit (Section 2081 of the Fish and Game Code)

Response: The County will apply for an Incidental Take Application in accordance with 2081 requirements.

Letter 10

@ SOUTHERN CALIFORNIA LOGISTICS AIRPORT

RECEIVED
DEC 03 2003
LAND USE SERVICES DEPT.
ADVANCE PLANNING DIVISION

November 24, 2003

Matthew Slowik, Senior Associate Planner
Land Use Department, Planning Division
385 N. Arrowhead Avenue, First Floor
San Bernardino, Ca 92415-0182

RE: Notice of Availability for the Draft Environmental Impact Report (EIR) for the Victorville Landfill Expansion Project on Approximately 491 Acres Located in the Unincorporated Area Near the City of Victorville

Dear Mr. Slowik:

I am responding to the above referenced Notice of Availability and your letter dated October 1, 2003.

The Southern California Logistics Airport is located four miles west of the Project site.

While the proposed project would not affect any air traffic patterns because the landfill height will only be an additional 52 feet and is well below nearby mountaintops (*Transportation/Traffic*, *Section 2.7.2 page 2-10)*, the FAA has determined that landfills that are within five (5) miles of an active runway may be impacted by reason of wildlife that may be attracted to the facility. In this case, the most significant impact would be birds and other fowl that may be attracted to the landfill. **10-1**

The Southern California Logistics Airport has no objection to the proposed Project provided appropriate measures are taken to minimize the attraction of wildlife that could be a hazard to air navigation.

Thank you for the opportunity to respond to the Draft Copy of the Program EIR.

Very truly yours,

Peter R. Soderquist, A.A.E.
Airport Director

cc: Victorville Planning Department

[illegible]
11/25/2003 7:34:50 AM

Letter No. 10 dated December 3, 2003
Global Access @ Southern California Logistics Airport

Comment 10-1 This comment request the potential impact of birds attracted to the landfill be minimized to prevent them from becoming a hazard to air navigation.

Response: California Administrative Code Title 27, require that operators of municipal solid waste landfills prevent the attraction of birds at landfills by operating the facility in accordance with State minimum standards that include the placement of daily cover over any exposed refuse to prevent the propagation of vectors including flies, rodents and birds. Additionally, birds are discouraged from landing at or near the site by the use of bird dispersal guns and whistles. This potential impact is discussed in Section 4.6 of the EIR. In addition to daily operational measures to reduce bird foraging at the landfill, the County will notify FAA and the nearby airports when construction of this expansion begins.

APPENDIX A
NOTICE OF PREPARATION AND PUBLIC COMMENTS

LAND USE SERVICES DEPARTMENT

COUNTY OF SAN BERNARDINO
ECONOMIC DEVELOPMENT
AND PUBLIC SERVICES GROUP

PLANNING DIVISION
385 North Arrowhead Avenue • San Bernardino, CA 92415-0182 • (909) 387-4131
Current Planning Fax (909) 387-3249 • Advance Planning Fax (909) 387-3223
15505 Civic Drive • Victorville, CA 92392 • (760) 243-8245 • Fax (760) 243-8212
http://www.sbcounty.gov/landuseservices

MICHAEL E. HAYS
Director of Land Use Services

Date: **September 27, 2002**

To: **Interested Individuals and Organizations**

Subject: **NOTICE OF PREPARATION OF ENVIRONMENTAL IMPACT REPORT FOR THE PROPOSED VICTORVILLE SANITARY LANDFILL EXPANSION PROJECT; THE UNINCORPORATED AREA OF VICTORVILLE**

The San Bernardino County Land Use Services Department will be the Lead Agency and will prepare a comprehensive Environmental Impact Report (EIR) for the Expansion of the Victorville Sanitary Landfill. The project site is located at Stoddard Wells Road and Quarry Road, immediately west of the I-15 freeway. A description of the proposed project is attached. The Environmental Checklist Form (Initial Study), completed September 27, 2002, identified the potential for significant impacts relative to the issue areas as follows: Aesthetics, Traffic/Circulation, Hydrology/Water Quality, Air Quality, Biology, Cultural Resources, Geology/Soils, Hazards/Hazardous Materials, and Utilities/Services. A copy of the Initial Study may be viewed at the following locations:

Land Use Services Department Advance Planning Division 385 North Arrowhead Avenue, 1st Floor San Bernardino, CA 92415-0182	Victorville Building & Safety Division 15505 Civic Drive Victorville, CA 92392	San Bernardino County Library Victorville Branch 15011 Civic Drive Victorville, CA 92392

This letter is a request for environmental information that you or your organization believes should be addressed in the EIR. Due to time limits, as defined by the California Environmental Quality Act (CEQA), your response should be sent at the earliest possible date, but no later than thirty (30) days after receipt of this notice. Comments and questions may be directed to Matthew Slowik, Senior Associate Planner, 385 North Arrowhead Avenue, San Bernardino, CA 92415-0182. In addition to receiving written comments, the Land Use Services Department will be conducting a public scoping meeting **at 6:30 p.m. on Wednesday, November, 6, 2002**. The meeting will be held at the Victorville City Hall (City Council Chambers), 14343 Civic Drive, Victorville, CA 92392.

Sincerely,

Matthew W. Slowik

MATTHEW W. SLOWIK, M.U.R.P.
Senior Associate Planner
Advance Planning Division

Attachment: Project Description

JOHN F. MICHAELSON
County Administrative Officer

JOHN GOSS
Assistant County Administrator
Economic Development and
Public Services Group

Board of Supervisors
BILL POSTMUS ..... First District
JON D. MIKELS ..... Second District
JERRY EAVES ..... Fifth District
DENNIS HANSBERGER ..... Third District
FRED AGUIAR ..... Fourth District

PROJECT DESCRIPTION:

The proposed project consists of a request for a new Solid Waste Facility Permit to allow for the expansion of the Victorville Sanitary Landfill from an 80-acre solid waste facility to an approximate 491-acre solid waste facility. This expansion of the landfill will increase the landfills permitted height 50 feet from 3,130 feet above Mean Sea Level (MSL) to approximately 3,180 feet MSL, and increase maximum depth 152 feet from 2,900 feet MSL to approximately 2,748 feet MSL. Additionally the landfill expansion will increase the total landfill permitted refuse volume from 7.7 million cubic yards to approximately 84 million cubic yards and extend the estimated landfill closure date from 2005 to 2081.

The existing facility consists of 80-acres of which 67-acres having been used for landfilling of solid waste, seven acres were used as septage drying ponds and six acres comprised the daily/intermediate soil cover borrow area. In 1998, the facility ceased accepting liquid waste and in September 2000, the liquid waste surface impoundments were clean closed in compliance with applicable regulations. The septage drying ponds will be lined and used as the first area for refuse disposal outside of the existing 67-acre footprint. The proposed expansion of the landfill will incorporate approximately 491 acres with approximately 341 acres to be used for landfilling.

Constructed in three phases over 79 years, the expansion of the landfill will be undertaken in compliance with all existing California Code of Regulations (CCR) Title 27 requirements including a composite liner or equivalent, leachate collection and removal system, landfill gas collection system, and surface water control system.

The existing and proposed expansion area has a General Plan Designation of RC (Resource Conservation), which would permit the proposed project. Permits and/or concurrence may be required from the Division of Environmental Health Services, Local Enforcement Agency, County of San Bernardino, the California Integrated Waste Management Board, the Lahonton Regional Water Quality Control Board, and Mojave Desert Air Quality Management District.

Access to the facility is from Stoddard Wells Road to an un-named road that runs north into the landfill. No changes to the site access will result from the project.

The existing Solid Waste Facility Permit issued by the Division of Environmental Health Services, Local Enforcement Agency, County of San Bernardino and concurred upon by the California Integrated Waste Management Board in 1998, permits the facility to accept up to 1,600 tons of solid waste per operating day. Additionally the existing SWFP permits up to 600 vehicles per day (1,200 trips) to utilize the facility. Expansion of the landfill will not require these existing tonnage or traffic limitations to be revised.

The proposed project does not propose an increase in daily or annual tons or trips. Landfilling would continue at the same general rate and within the same permit limitation as currently permitted. Additionally, the anticipated closure date will increase from 2005 to 2081, and permitted acreage will increase from 80 to approximately 491 acres.

Clerk of the Board of Supervisors
County of San Bernardino
385 North Arrowhead, 2nd Floor
San Bernardino, CA 92415

Department of Water Resources
1416 Ninth Street, Room 449
Sacramento, CA 95814

Dept of Toxic Substances Control
1001 "I" Street
Sacramento, CA 95814-2828

CA Environmental Protection Agency
555 Capitol Mall, Suite 235
Sacramento, CA 95814

California Integrated Waste
Management Board
P.O. Box 4025
Sacramento, CA 95812-4025

Air Resources Board
2020 L Street
Sacramento, CA 95815

State Clearinghouse FEDEX
1400 10th Street, Room 121
Sacramento, CA 95814

Ken Miller
San Bernardino Co Flood Control Dist
825 East 3rd Street
San Bernardino, CA 92415-0835

Department of Conservation
Division of Mines & Geology
801 K Street
Sacramento, CA 95814

Clerk of the Board of Supervisors
County of San Bernardino
175 W. Fifth Street
San Bernardino, CA 92415

County of San Bernardino Public Works
Transportation/Flood Control
825 E. Third Street, Room 142
San Bernardino, CA 92415-0835

Linda Grimes
Caltrans CEQA/IGR Office
464 West 4th Street, 6th Floor
San Bernardino, CA 92401

Dave Weaver
Los Angeles Corps of Engineers
P.O. Box 2711, Room 6402
Los Angeles, CA 90053

Art Rivera
Waste System Division
222 W. Hospitality Lane, 2nd Floor
San Bernardino, CA 92415-0017

Department of Transportation
Flood Control/Airports
825 E. Third Street, Room 101
San Bernardino, CA 92415-0835

San Bernardino Assoc. of Governments
472 N. Arrowhead Avenue
San Bernardino, CA 92401

State of California Dept. of
Conservation Gov & Environ Relations
801 K Street, 24th Floor
Sacramento, CA 95814-3500

Jackie Adams
County of San Bernardino
Local Enforcement Agency
385 N. Arrowhead Ave, 2nd Floor
San Bernardino, CA 92415

EIR OFFICER DIVISION
ADMINISTRATOR
Federal Highway Administrator
80 9th Street, Suite 400
Sacramento, CA 95814

Department of Housing & Community
Development
1800 Third Street
P.O. Box 952051
Sacramento, CA 94252-2051

San Bernardino County Planning
Dept. County Government Center
385 North Arrowhead Avenue
San Bernardino, CA 92415-0182

CEQA Coordinator Advance Planning
Branch
Caltrans – District 8
464 West 4th Street, 6th Floor
San Bernardino, CA 92401-1400

City of Victorville Planning Department
P.O. Box 5001
Victorville, CA 92393-5001

City of Hesperia Planning Department
15776 Main Street
Hesperia, CA 92345

SCAG
EIR Clearinghouse
818 7th Street, 12th Floor
Los Angeles, CA 90017

EIR Clearinghouse
SANBAG
472 North Arrowhead Avenue
San Bernardino, CA 92401

Town of Apple Valley
Economic/Community Development
14955 Dale Evans Parkway
Apple Valley, CA 92307

Victor Valley College
8422 Bear Valley Road
Victorville, CA 92392

Department of Fish & Game
12550 Jacaranda Street
Victorville, CA 92392

Lahontan Regional Water Quality
Control Board
15428 Civic Drive
Victorville, CA 92392

Mojave Desert Resource Conservation District
17330 Bear Valley Road, #106
Victorville, CA 92392-7734

County of San Bernardino
Environmental Health Service
15505 Civic Drive
Victorville, CA 92392

County Service Area #64
12402 Industrial Blvd., "D" #6
Victorville, CA 92393

Victor Valley Water District
17185 Yuma
Victorville, CA 92392

Mojave Water Agency
P.O. Box 1089
Apple Valley, CA 92307

Victor Valley Transit Authority
11741 E. Santa Fe
Hesperia, CA 92345-8305

California State Lands Commission
200 Oceangate, 12th Floor
Long Beach, CA 90802-4331

Bureau of Land Management
Barstow Resource Area
2601 Barstow Road
Barstow, CA 92311

U.S. Department of Transportation
Federal Aviation Administration
LAX FPO
P.O. Box 92007
Worldway Postak Center
Los Angeles, CA 90009

MDAQMD
15428 Civic Drive, Suite 200
Victorville, CA 92392-2383

Mojave Desert Resource Conservation District
17330 Bear Valley Road, #106
Victorville, CA 92392-7734

San Bernardino County Fire Dept.
Hazardous Material Division
1500 W. San Bernardino Ave.
Colton, CA 92324

City of Barstow
Planning Department
220 East Mountain View
Barstow, CA 92311

U.S. Fish & Wildlife Service
2493 Portola Road, Suite B
Ventura, CA 93003-7726

Becky Jones
Ca. Dept. of Fish & Game
36431 41st Street East
Palmdale, CA 93552

Form A

Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, PO Box 3044, Sacramento, CA 95812-3044 916/445-0613

SCH # _____

Project Title: Victorville Sanitary Landfill Solid Waste Facilities Permit Revision

Lead Agency: County of San Bernardino , Land Use Services Department
Contact Person: Matthew W. Slowik
Street Address: 385 North Arrowhead Avenue
Phone: (909) 387-4131
City: San Bernardino
Zip: 92415-0182
County: San Bernardino

Project Location:

County: San Bernardino
City/Nearest Community: City of Victorville
Cross Streets: Stoddard Wells Road / Quarry Road
Zip Code: 92392
Total Acres: Approximately 491
Assessor's Parcel No. 472-011-34
Section: 23
Twp. T6N
Range: R4W
Base: SBBBM
Within 2 Miles: State Hwy #: Interstate 15
Waterways: N/A
Airports: N/A
Railways: N/A
Schools: N/A

Document Type:

CEQA:
- [x] NOP
- [ ] Early Cons
- [ ] Neg Dec
- [ ] Draft EIR
- [ ] Supplement/Subsequent EIR (Prior SCH No.)_____
- [ ] Other _____

NEPA:
- [ ] NOI
- [ ] EA
- [ ] Draft EIS
- [ ] FONSI

Other:
- [ ] Joint Document
- [ ] Final Document
- [ ] Other_____

Local Action Type:

- [ ] General Plan Update
- [ ] General Plan Amendment
- [ ] General Plan Element
- [ ] Community Plan
- [ ] Specific Plan
- [ ] Master Plan
- [ ] Planned Unit Development
- [ ] Site Plan
- [ ] Rezone
- [ ] Prezone
- [ ] Use Permit
- [ ] Land Division (Subdivision, etc.)
- [ ] Annexation
- [ ] Redevelopment
- [ ] Coastal Permit
- [x] Other Solid Waste Permit

Development Type:

- [ ] Residential: *Units*_____ *Acres*_____
- [ ] Office: *Sq.ft.*_____ *Acres*_____ *Employees*_____
- [ ] Commercial: *Sq.ft.*_____ *Acres*_____ *Employees*_____
- [ ] Industrial: *Sq.ft.*_____ *Acres*_____ *Employees*_____
- [ ] Educational _____
- [ ] Recreational _____
- [ ] Water Facilities: *Type*_____ *MGD*_____
- [ ] Transportation: *Type*_____
- [ ] Mining: *Mineral*_____
- [ ] Power: *Type*_____ *Watts*_____
- [ ] Waste Treatment: *Type*_____
- [ ] Hazardous Waste: *Type*_____
- [x] Other: Sold Waste Landfill

Funding (approx.): Federal $ 0.00 State $ 0.00 Total $_____

Project Issues Discussed in Document:

- [x] Aesthetic/Visual
- [ ] Agricultural Land
- [x] Air Quality
- [ ] Archeological/Historical
- [ ] Coastal Zone
- [ ] Drainage/Absorption
- [ ] Economic/Jobs
- [ ] Fiscal
- [ ] Flood Plain/Flooding
- [ ] Forest Land/Fire Hazard
- [ ] Geologic/Seismic
- [ ] Minerals
- [ ] Noise
- [ ] Population/Housing Balance
- [ ] Public Services/Facilities
- [ ] Recreation/Parks
- [ ] Schools/Universities
- [ ] Septic Systems
- [ ] Sewer Capacity
- [ ] Soil Erosion/Compaction/Grading
- [x] Solid Waste
- [ ] Toxic/Hazardous
- [x] Traffic/Circulation
- [ ] Vegetation
- [x] Water Quality
- [x] Water Supply/Groundwater
- [ ] Wetland/Riparian
- [x] Wildlife
- [ ] Growth Inducing
- [ ] Landuse
- [ ] Cumulative Effects
- [ ] Other _____

Present Land Use/Zoning/General Plan Designation:

Solid Waste Landfill/Open Space

Project Description:

Expansion of the Victorville Sanitary Landfill (SWIS # 36-AA-0045) from an approximate 80 acre facility to an approximate 491 acre facility and extending its projected closure date approximately 76 years to the year 2081.

Revised 3-31-99

Reviewing Agencies Checklist

Form A, continued

KEY
S = Document sent by lead agency
X = Document sent by SCH
✓ = Suggested distribution

____**Resources Agency**
____Boating & Waterways
____Coastal Commission
____Coastal Conservancy
____Colorado River Board
_S_Conservation
_S_Fish & Game
____Forestry & Fire Protection
____Office of Historic Preservation
____Parks & Recreation
____Reclamation Board
____S.F. Bay Conservation & Development Commission
_S_Water Resources (DWR)

Business, Transportation & Housing
____Aeronautics
____California Highway Patrol
_S_CALTRANS District # 8
____Department of Transportation Planning (headquarters)
_S_Housing & Community Development

____**Food & Agriculture**

Health & Welfare
____Health Services ____

State & Consumer Services
____General Services
____OLA (Schools)

Environmental Protection Agency
____Air Resources Board
_S_California Waste Management Board
____SWRCB: Clean Water Grants
____SWRCB: Delta Unit
____SWRCB: Water Quality
____SWRCB: Water Rights
_S_Regional WQCB # 6B (LAHONTON)

Youth & Adult Corrections
____Corrections

Independent Commissions & Offices
____Energy Commission
____Native American Heritage Commission
____Public Utilities Commission
____Santa Monica Mountains Conservancy
____State Lands Commission
____Tahoe Regional Planning Agency

____Other ____

Public Review Period (to be filled in by lead agency)

Starting Date ____ Ending Date ____

Signature ____ Date ____

Lead Agency (Complete if applicable):
Consulting Firm: Lilburn Corporation
Address: 1905 Business Center Drive
City/State/Zip: San Bernardino, CA 92408
Contact: Michael Perry
Phone: (909) 890-1818

Applicant: Solid Waste Management Department
Address: 222 West Hospitality Lane. Second Floor
City/State/Zip: San Bernardino, CA 92405
Phone: (909) 386-8701

For SCH Use Only:
Date Received at SCH ____
Date Review Starts ____
Date to Agencies ____
Date to SCH ____
Clearance Date ____
Notes:

COUNTY OF SAN BERNARDINO
INITIAL STUDY AND ENVIRONMENTAL CHECKLIST FORM

This Initial Study has been prepared pursuant to County Guidelines under Ordinance 3040 and the State CEQA Guidelines Section 15063.

I. PROJECT DESCRIPTION

Victorville Sanitary Landfill	USGS Quad: Victorville, CA. (7 ½')
Solid Waste Facilities	T,R, Section:T6N, R4W, Sec. 23 SBM
Permit Revision	Thomas Bros: pg. 4116, (00 ed).
County of San Bernardino	Planning Area: Victor Valley
Solid Waste Management	OLUD: Resource Conservation (RC)
Department	Improvement Level: 5

INTRODUCTION

The County of San Bernardino is the Lead Agency as defined in the California Environmental Quality Act (CEQA) for the preparation of the environmental documents for the proposed expansion of the Victorville Sanitary Landfill. The County has determined that an Environmental Impact Report (EIR) shall be prepared because the proposed expansion of the landfill may have significant effects on the environment. This Initial Study has been prepared to identify environmental issues that should be addressed in the EIR and to eliminate from further evaluation any issues that are not germane to the proposed project.

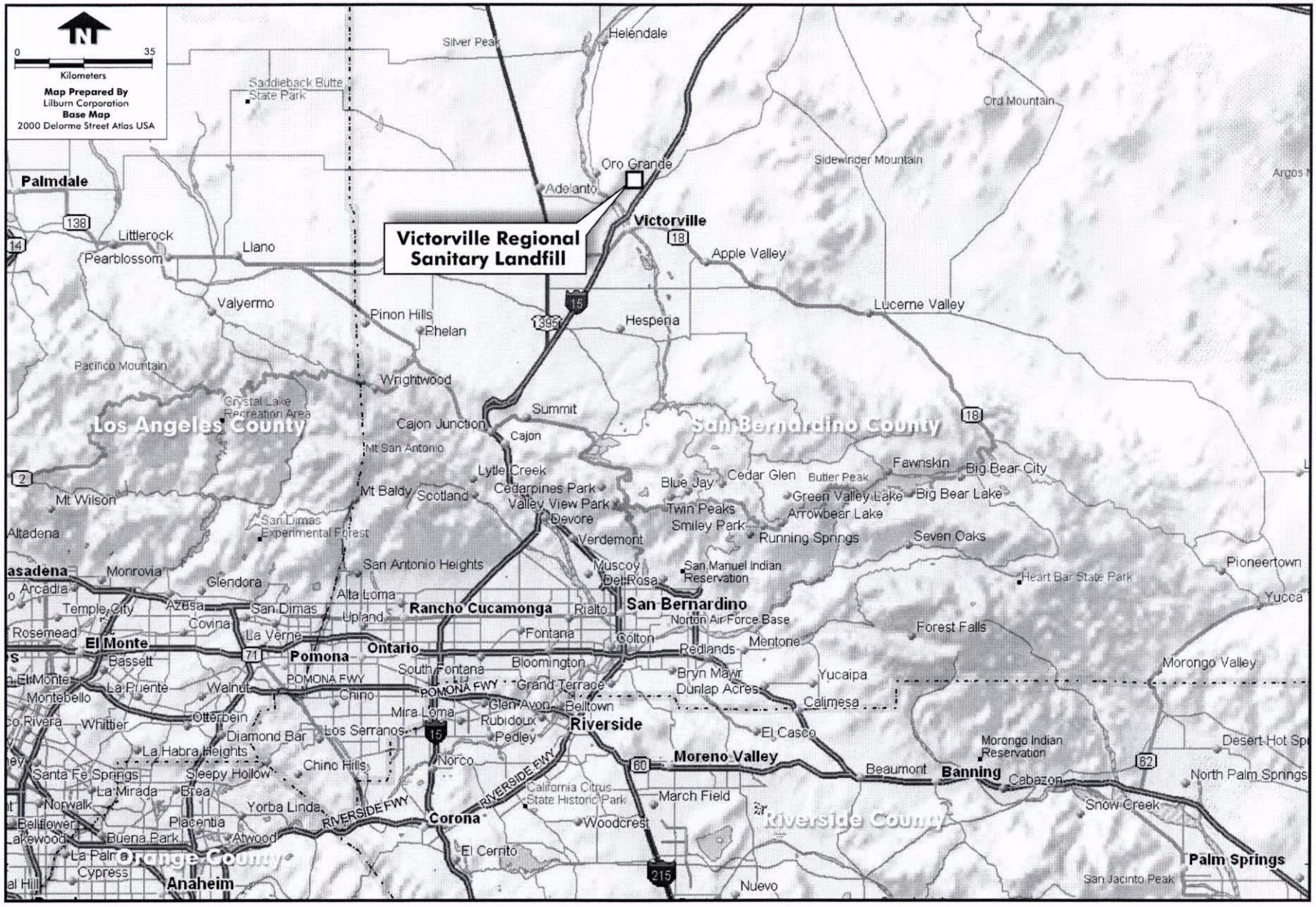
This Initial Study has been prepared to assess the potential environmental effects associated with the proposed revisions to the 1998 Solid Waste Facilities Permit (SWFP) No. 36-AA-0045 for the Victorville Sanitary Landfill. The proposed revisions to the SWFP include: 1) the horizontal expansion of the landfill from a permitted 67 acres to approximately 341 acres on an approximate 491-acre site; 2) an increase in the maximum permitted height of 50 feet from the currently permitted 3,130 feet above mean sea level (msl) to 3,180 feet above msl; an extension of the landfill projected closure date from its current date of 2005 to 2081, a period of 76 years. The landfill capacity was calculated using the following assumptions: 400 tons per day (TPD) waste, operating 358 days/year, 1200 lb/yd^3 waste density, and 2.7 percent tonnage growth rate/year[1]. The remaining 150 acres not used for landfilling are encumbered by numerous easements and will be used as a buffer zone along the southeast portion of the landfill or for the landfill perimeter road.

BACKGROUND

The Victorville Sanitary Landfill is a Class III disposal facility accepting only non-hazardous solid wastes in accordance with waste classification regulations in California Code of Regulations, Title 27 (27 CCR). Figure 1 shows the regional location of the landfill in relation to the Victor Valley service area it supports. The landfill has been in operation since 1965 and was originally permitted to utilize the entire 80-acre site for landfilling. However, the permitted disposal area was revised to be equal to the 67-acre footprint, as it existed on October 9, 1993. Of the total 80-acre landfill facility, 67-acres are being used for landfilling of solid waste, seven acres were used as liquid waste surface impoundments and six acres comprised the daily/intermittent soil cover borrow area. In 1998, the facility ceased accepting liquid waste and in September 2000, the liquid waste surface impoundments were clean closed in compliance with applicable regulations.

[1] Growth rate based upon the San Bernardino Associated Governments, Regional Statistical Areas, San Bernardino High Desert, July 2001 population projections to 2025.

SBC Vict-Regional 5/22/02



Regional Location

Victorville Regional Sanitary Landfill
San Bernardino County, California

LILBURN CORPORATION

Figure 1

The 7-acre septage pond area will be excavated, lined, and used as the first area for refuse disposal outside the existing 67-acre footprint (Phase 1A). In addition, the County also held a Free Use Permit (CA-33499) from the BLM for a 37.5-acre borrow area immediately east of the landfill site. Figure 2 shows the landfill footprint; including the additional borrow area as existing conditions on-site.

The site is located in an unincorporated area of the County of San Bernardino within the sphere of influence of the City of Victorville. The landfill is owned and operated by the County of San Bernardino Solid Waste Management Division (SWMD) on approximately 491 acres of which 480 acres were purchased/patented from the U.S. Department of Interior, Bureau of Land Management.

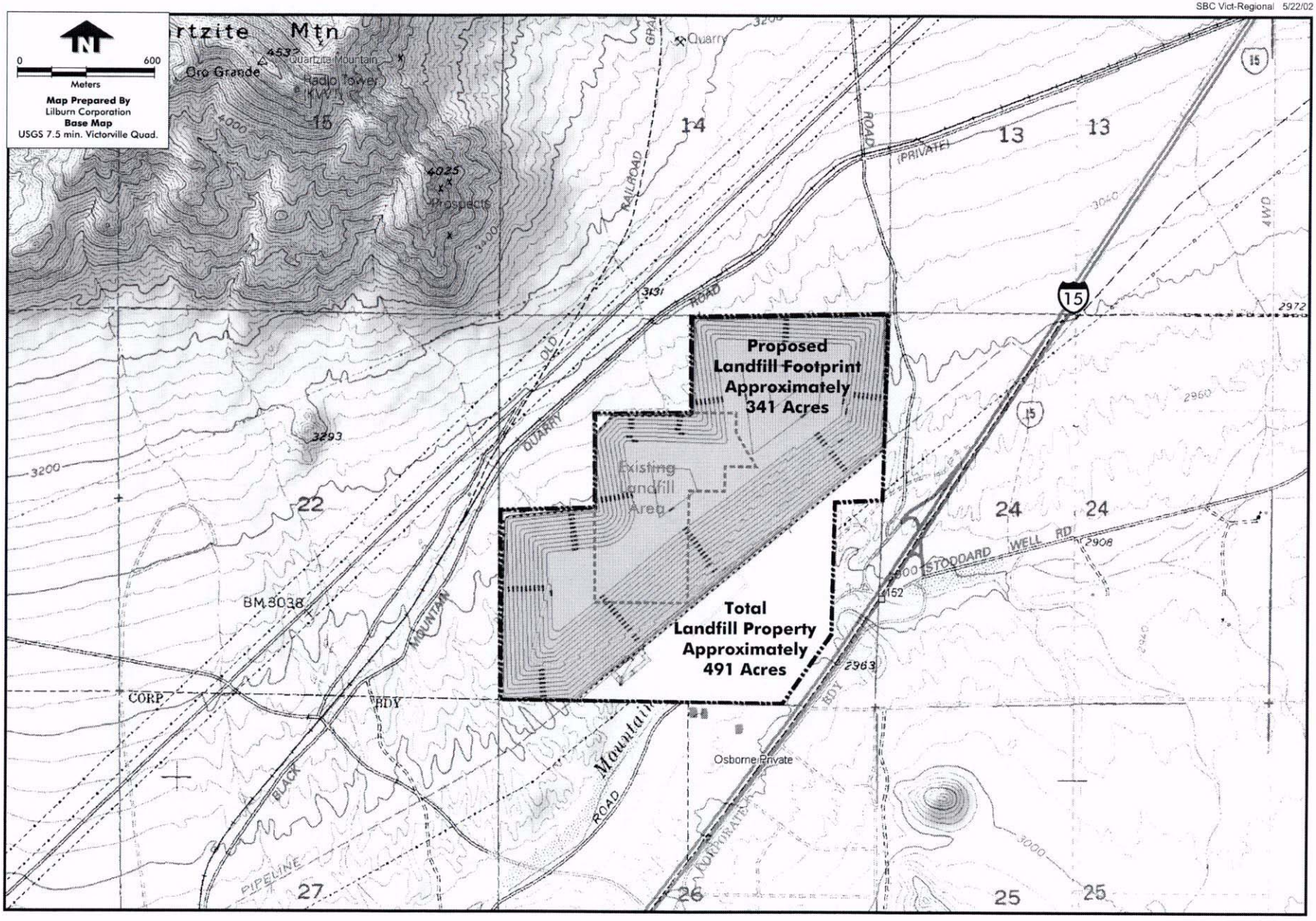
The proposed landfill expansion will compliment a portion of the countywide management of the waste disposal program as described herein. In October 1996, the County of San Bernardino Board of Supervisors adopted the *Solid Waste Partnership Strategy Implementation Plan* (PSIP) to provide a framework for reducing the number of County-operated landfills into a consolidated system of five regional landfills, with a network of transfer stations and community collection centers providing service in the San Bernardino Valley, Victor Valley, Mountain, North Desert and East Desert regions of the County, as defined in the PSIP.

The solution for waste disposal needs in the Victor Valley under the PSIP was the consolidation of waste disposal at one regional landfill – the Victorville Sanitary Landfill. SWMD consolidated the Victor Valley solid waste management program by taking the following actions:

- Ceased accepting municipal solid waste at the Phelan, Hesperia, and Apple Valley Sanitary Landfills;
- Revised the Victorville Sanitary Landfill SWFP to allow for changes in operational activities such as increasing the daily tonnage and traffic entering the landfill, and increasing the height of the landfill, to support diversion of the Victor Valley's waste stream from other landfills to the Victorville Sanitary Landfill;
- Constructed transfer operations at the Phelan, Apple Valley and Hesperia landfill sites to support the local communities; and
- Rerouted commercial solid waste haulers directly to the Victorville Sanitary Landfill from local communities currently being served by the Apple Valley and Hesperia Sanitary Landfills.

The environmental effects of making the Victorville Sanitary Landfill a regional facility were addressed in a Negative Declaration adopted in 1998. A Negative Declaration was also adopted in 1998 to support the closure of the Phelan Sanitary Landfill and the construction of a transfer station at that site. The Negative Declaration addressed the impacts associated with the transfer of all solid waste disposed at the Phelan Sanitary Landfill to the regional Victorville Sanitary Landfill. The transferring of solid waste to the Victorville Sanitary Landfill occurs in transfer trucks. Negative Declarations were also adopted for the closure of the Apple Valley (1998) and Hesperia (1997) Sanitary Landfills and the rerouting of solid waste from those communities to the Victorville Sanitary Landfill. Finally a Negative Declaration was adopted for the process of regionalizing the Victorville Sanitary Landfill.

The proposed project is the expansion of the Victorville Sanitary Landfill in order to allow the County to continue to utilize the facility as a regional landfill by extending its projected closure date an additional 76 years to 2081.



Project Site

Victorville Regional Sanitary Landfill
San Bernardino County, California

LILBURN CORPORATION

Figure 2

PERMITS TO OPERATE

The Victorville Sanitary Landfill currently operates under the following regulatory permits and documents:

1. Solid Waste Facilities Permit No. 36-AA-0045 issued by the County of San Bernardino Department of Public Health, Division of Environmental Health Services acting as the Local Enforcement Agency (LEA), in June 1998.

2. Waste Discharge Requirements by Order No. 6-95-106 issued by the California Regional Water Quality Control Board (RWQCB) Lahontan Region, adopted in September 1995.

3. Notice of Intent for General Permit to Discharge Storm Water Associated with Industrial Activity under the National Pollution Discharge Elimination System (NPDES) program - Permit No. 6B36S005235, issued May, 1994.

4. County of San Bernardino Fire Agency, Special Handler Permit No. 9402156435 and Hazardous Waste Generator Permit No. 9402156436, June 1998.

5. U.S. Environmental Protection Agency (EPA) "Notice of Hazardous Waste Activity", EPA Generator ID No. CAD982495848, issued August, 1990.

RESPONSIBLE AGENCIES FOR REVIEW AND APPROVAL OF THE REVISED SWFP FOR THE EXPANSION OF THE VICTORVILLE SANITARY LANDFILL

The following agencies are responsible for review, evaluation and/or approval of the revisions to the SWFP that would lead to the expansion of the Victorville Sanitary Landfill:

1. County of San Bernardino Division of Environmental Health Services, LEA - responsible for review of the SWFP Permit Application for the site. The LEA additionally reviews the Application for conformance to local ordinances, ensures that the revisions to the SWFP are consistent with local planning and zoning, and ensures that the project has conformed to the requirements of the CEQA.

2. California Integrated Waste Management Board (CIWMB) - review of the revised SWFP and concurrence with the decision of the LEA.

3. California Regional Water Quality Control Board (RWQCB), Lahontan Region - responsible for review of the revised SWFP for consistency with the appropriate sections of Title 27 California Code of Regulations (CCR) pertaining to the protection of water quality and conformance with existing Waste Discharge Requirements for the landfill.

4. County of San Bernardino Land Use Services Department, Planning Division - responsible for preparation and adoption of the environmental document supporting the revised SWFP.

SITE DESCRIPTION

Location

The Victorville Sanitary Landfill is located in an unincorporated area of the County of San Bernardino, adjacent to the northern boundary of the City of Victorville and west of Interstate 15 (I-15). The location is further defined as being wholly within Section 23, Township 6 North, Range 4 West as identified on the US Geological Survey Victorville 7.5 Minute Quadrangle (see Figure 2). The main access point to the site is a 1,500-foot paved road from the southeast, off Stoddard Wells Road.

The site occupies approximately 491 acres of the 640-acre section. Those remaining portions of Section 23 not a part of the Victorville Sanitary Landfill site are otherwise encumbered with various easements for roadways, railroads, or utility corridors including an electrical transmission line.

Surrounding Land Use

Information obtained from the County of San Bernardino General Plan Map, North Desert Planning Area, shows that the land within 1,000 feet to the north, and west of the property boundary is designated as Resource Conservation (RC), land to the south is a combination of RC and Regional Institutional (IR) and land to the east is designated as General Commercial (CG) with a Sign Control Overlay area (SCP). There are no residences and only two businesses within one mile of the site. Several light industrial users are situated near Stoddard Wells Road and the site access road located approximately 1,500 feet south of the facility boundary. Table 1 shows the official land use districts and improvement levels for areas surrounding the site.

Table 1
Existing Land Uses,
Designated Districts and Improvement Levels
For Area Surrounding The Victorville Sanitary Landfill

Location	Existing Land Use	Official Land Use District	Improvement Level[2]
North	Private Railroad & Vacant Property	RC	5 & 4
South	Commercial/Industrial Business	IR/RC	1 & 5
East	Interstate 15 & Vacant Property	CG/SCP	5 & 4
West	Private Railroad & Vacant Property	RC	5 & 4

Source: County of San Bernardino General Plan, 1989, revised 2001.

[2] The County of San Bernardino General Plan uses the assignment of Improvement Level (IL) designations to correspond to infrastructure needs with anticipated land use types and densities. Recognizing the direct relationship between the intensity of land use and the required amount of public facilities and services, policies were developed to require that development proceed at a pace commensurate with the provision of services. Thus, five Improvement Levels have been established to define these intensity levels. At one end of the scale, IL1 defines very urban areas, while at the other end of the scale IL5 is applied to very remote rural areas that virtually preclude development.

PROPOSED OPERATIONAL CHANGES

Table 2 shows the existing regulatory permit conditions and requirements at the Victorville Sanitary Landfill, and the proposed changes in operations.

Table 2
Regulatory Permit Conditions and Requirements At The Victorville Sanitary Landfill and Proposed Changes In Operation

	Existing	Proposed
Operations	Landfill disposal site	No change in operations
Hours of Site Activity	7 a.m. to 9 p.m.; 7 days a week	No change
Hours Open to the Public	8 a.m. to 5 p.m.; 7 days a week	No change in hours
Tons per day	Maximum 1,600 tpd	No change
Traffic Volume	Maximum 600 vehicles/day	No change
Total Landfill Area (including ancillary uses)	80 acres	Increase in total landfill area to approximately 491 acres
Disposal Footprint	67 acre landfill footprint	Increase in disposal footprint to approximately 341 acres
Uunused Area Around Landfill	13 acres	Approximately 150 acres
Maximum Elevation	3,130 feet above sea level	3,180 feet above sea level
Landfill Capacity Date	2005	2081

Landfill Development

The proposed expansion of the Victorville Sanitary Landfill would occur in three phases. With the exception of the existing 67-acre landfill footprint, each new area to be filled would be excavated between 20 to 120 feet below grade. The excavated area would then be lined with an approved liner system and environmental controls such as the leachate collection and removal system (LCRS) would be developed. Once these are in place, refuse placement would begin. A typical liner system is shown in Figure 3. As shown, the liner system would be a minimum of five feet thick between the bottom of the excavated subgrade and the point where refuse is initially placed. Side slopes may be lined in a similar manner to the landfill bottom or may utilize a geosynthetic liner as approved by the Regional Water Quality Control Board.

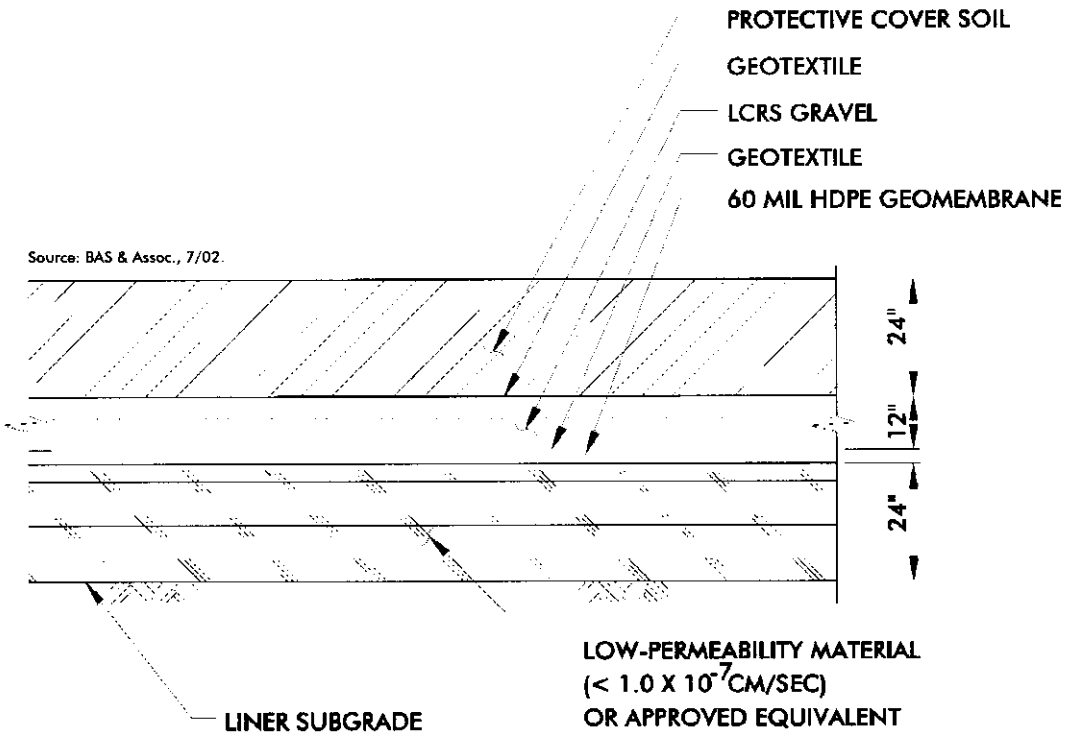
Phase 1

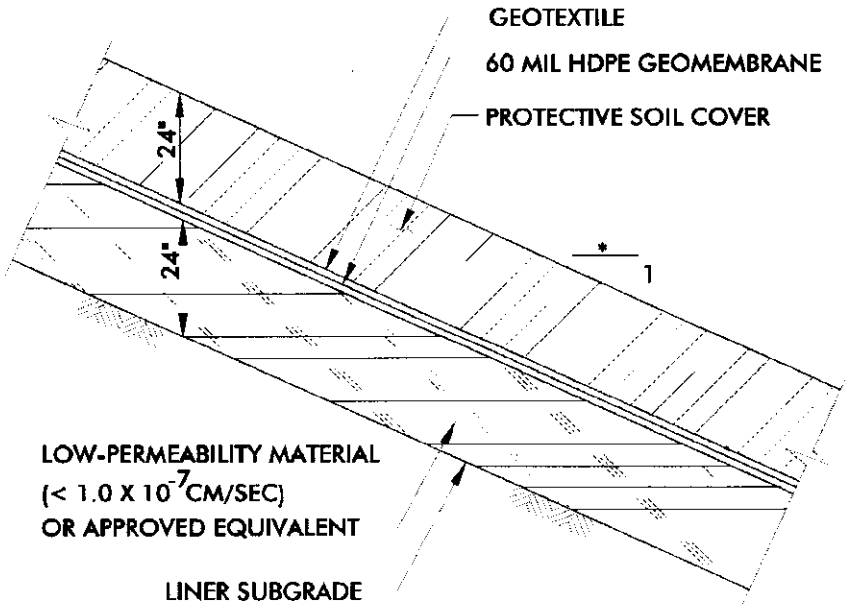
Phase 1 consists of two phases – 1A (approximately 4 acres) and 1B (approximately 22 acres). Phase 1A includes the existing unlined landfill which would continue to be developed by increasing the vertical height to the maximum proposed elevation of 3,180 feet above msl (including final cover system). In addition, the previously disturbed seven-acre septage pond area will be excavated to a depth of approximately 20 feet. Excavated material would be stockpiled for use as cover material for the active landfill. Prior to filling any of the new areas in Phase 1, a liner system and appropriate environmental controls will be installed.

Table 3
Existing And Proposed Environmental Controls
At The Victorville Sanitary Landfill

	Existing	Proposed
Landfill Gas Monitoring and Control	A LFG monitoring/collection system is currentrly under construction	Installation of a LFG monitoring/collection system
Ground Water Quality Monitoring	Groundwater monitoring wells in place under Evaluation and Monitoring Program established under Water Quality Control Board WDR Order No. 6-95-106	Expansion of monitoring system as the landfill expands. Also, new areas will be lined with a composite liner approved by RWQCB
Surface Water Quality Monitoring	Landfill is operating under a SWPPP in accordance with NPDES General Permit requirements and a MPRR conducted to evaluate the effectiveness of the BMPs implemented as part of the SWPPP	Programs and Plans will be updated to include expansion areas
Leachate Control and Monitoring System	Existing operation pre-dates state and federal requirements to install either a liner system or LCRS	LCRS is part of the design of the lateral expansion areas and will be installed as these areas are developed
Fire Control	Existing firebreak around the landfill, control of subsurface by daily and intermediate soil or ADC application	Fire break will continue to be maintained around the perimeter of the landfill
Vector and Bird Control	Minimized by refuse compaction and application of daily cover or ADC	Continue same proceedures
Litter Control	Portable litter fences in the vicinity of the active working face. Collection of litter from litter fences and the perimeter fence around the landfill. Inspect entry road and area around scale house.	Continue same proceedures
Odor Control	Confining the active working face to a discreet area and applying daily cover or ADC at the end of each operating day	Continue same proceedures
Dust Control	Apply water to unpaved haul roads, soil stockpiles, etc., at regular intervals throughout the day.	Continue same proceedures
High Wind Conditions	When the wind velocity, registers 45 miles per hour (mph) three or more times in any 30 minute period or registers 40 mph, commercial loads may be directed to a designated tipping area. Three or more wind gusts of 50 mph or greater in any 30 minute period will result in the closure of the site to private vehicles.	Continue same proceedures

LFG – Landfill Gas
RWQCB – Regional Water Quality Control Board
SWPPP – Stormwater Pollution Prevention Plan
BMPs – Best Management Practices
WDR – Waste Discharge Requirements
LCRS – Leachate Collection and Removal System
ADC – Alternative Daily Cover (in this case woven fiber tarps are used to replace soil as daily cover)





Typical Liner Details

LILBURN CORPORATION

Victorville Regional Sanitary Landfill
San Bernardino County, California

Figure 3

The new areas to be filled with refuse in Phase 1B consist of the existing borrow areas that would be excavated to a maximum depth of approximately 80 feet. Excavated material would be stockpiled for use as cover material for the active landfill. When excavation is completed, construction of the landfill liner system would begin. Subsequent filling in Phase 1B will create a deck area of 3,180 feet above msl (including the final cover system). All environmental control systems including the LCRS, landfill gas recovery system, surface drainage system, etc., would be designed in accordance with all regional, state and federal regulations.

Phase 1 (Both A and B) would be active for approximately 30 years before reaching capacity.

Phase 2

Prior to completion of filling in Phase 1, work would begin on Phase 2. This approximate 158-acre area is located northeast of the existing landfill. Excavation and liner construction would be conducted similar to Phase 1 and would be completed just before Phase 1 reaches its refuse capacity. As refuse filling begins in Phase 2, construction of the final cover system may begin in Phase 1. Phase 2 would be active for approximately 25 years (Estimated 2065) before reaching capacity.

Phase 3

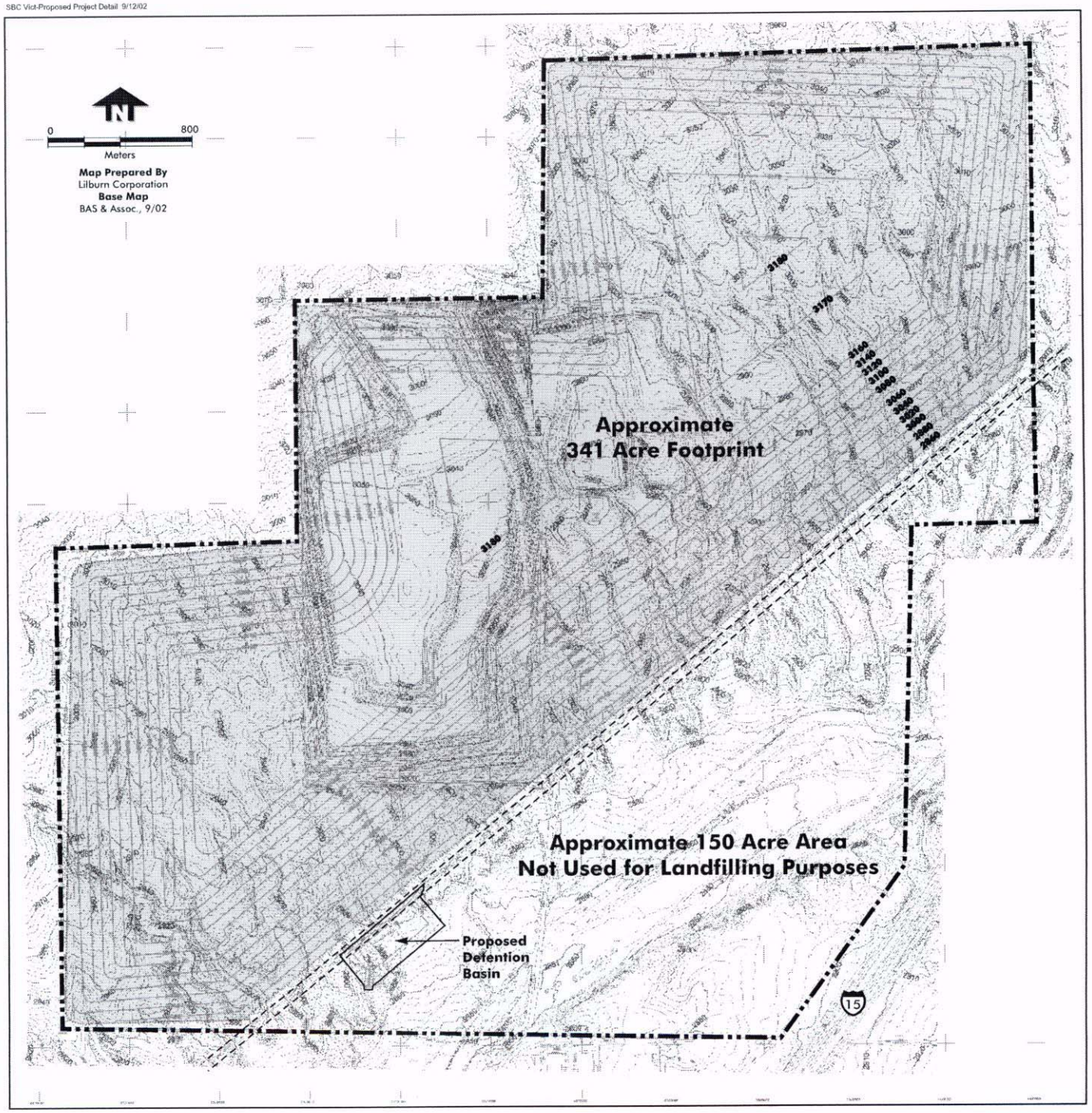
Prior to completion of filling in Phase 2, work would begin on Phase 3. This approximate 90-acre area is located southwest of the existing landfill. Excavation and liner construction would be conducted similar to Phases 1 and 2 and would be completed before Phase 2 reaches its refuse capacity. As refuse filling begins in Phase 3, construction of the final cover system will begin in Phase 2. Phase 3 would be active for approximately 16 years (Estimated 2081) before reaching capacity.

Filling and operations will ultimately result in an approximate 341-acre landfill footprint with a final grading configuration at an elevation of 3,180 feet above msl (Figure 4).

Landfill Closure

A separate Final Closure and Post Closure Maintenance Plan will be prepared and submitted to the appropriate regulatory agencies two years prior to the anticipated closure date for any portion of the site that will undergo final closure. As described above, the landfill may be closed in phases as each phase reaches refuse capacity. When a phase is filled to capacity and has reached final grades, it can be closed and capped with a final cover system. These areas would be closed in accordance with an approved Partial Final Closure Plan. Those areas that had not been closed at the end of active operation would then be closed in accordance with an approved Final Closure Plan prepared in compliance with all applicable regulatory requirements in effect at that time.

SBC Vict-Proposed Project Detail 9/12/02



LEGEND

Property Boundary

Landfill Footprint

Proposed Project Detail

Victorville Regional Sanitary Landfill
San Bernardino County, California

LILBURN
CORPORATION

Figure 4

	Potentially Significant Impact	Less than Significant With mitigation	Less Than Significant Impact	No Impact
I. AESTHETICS — Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☒	☐	☐	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☒	☐	☐	☐
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☒	☐	☐	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

SUBSTANTIATION (check ✓ if project is located within the viewshed of any Scenic Route listed in the General Plan):

a-d) The landfill currently exists within the view shed area of I-15, a County designated scenic route. The proposed expansion will result in an increase of approximately four times the existing landfill's size. The expansion includes a vertical increase in the existing permitted landfill height by 50 feet. At completion, the landfill will incorporate an area of approximately 491 acres, of which 341 will be used for landfilling. The remaining 150 acres will not be used for landfill, but may include landfill ancillary uses such as detention basins. The landfill expansion will result in a potentially significant impact to the existing scenic vista and will be discussed in further detail in the EIR.

	Potentially Significant Impact	Less than Significant With mitigation	Less Than Significant Impact	No Impact
II. AGRICULTURE RESOURCES — In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒

	Potentially Significant Impact	Less than Significant With mitigation	Less Than Significant Impact	No Impact
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	☒

SUBSTANTIATION (check _ if project is located in the Important Farmlands Overlay):

a-c) The site is not located in an area designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency. The site does not conflict with existing agricultural zoning areas, or any area designated as Williamson Act lands. According to the San Bernardino County General Plan (July 1989, revised 2001), only lands surrounding the Mojave River are well suited for agricultural uses in the desert areas of the County. The landfill, which is approximately 3 ½ miles east of the Mojave River and separated by the Quartzite Mountain foothills, and, is located outside the agricultural area along the Mojave River. Since the landfill area is not currently designated for agricultural uses, the projects development will not result in an overall loss to any agricultural lands in the area.

	Potentially Significant Impact	Less than Significant With mitigation	Less Than Significant Impact	No Impact
III. AIR QUALITY — Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☒	☐	☐	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☒	☐	☐	☐
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)?	☒	☐	☐	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒

	Potentially Significant Impact	Less than Significant With mitigation	Less Than Significant Impact	No Impact
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒

SUBSTANTIATION (discuss conformity with the South Coast Air Quality Management Plan, if applicable):

a-c) The proposed landfill expansion will result in an increase of approximately four times the existing landfill size. The proposed project includes an additional 263 acres of lateral expansion and a vertical expansion of an additional 50 feet over what is currently permitted. This expansion includes areas of the site previously disturbed but not used for solid waste disposal; the former septage ponds and borrow pits. The project has the potential to conflict with the attainment of the Mojave Desert Air Quality Management District's (MDAQMD) Federal Particulate Matter (PM_{10}) Attainment Plan due to the potential generation of fugitive dust. The project also has the potential to conflict with applicable air quality plans and will be discussed further in the EIR.

d) Currently no sensitive receptors (only commercial/industrial facilities) exist in the vicinity of the project site. As the area surrounding the site is zoned as resource conservation and commercial, there is little potential for land uses to be developed such that sensitive receptors would be near the landfill in the future.

e) As there are no sensitive receptors within the surrounding vicinity of the project, there is currently no impact with objectionable odors effecting substantial numbers of people. The only potential concerns regarding objectionable odors are impacts to hikers/recreationalists that may use the adjacent BLM administered lands. Future air quality impacts are likely to be less than significant as the surrounding area is mainly zoned as Resource Conservation, and several areas of General Commercial district. An air quality analysis will be conducted for the proposed project at this site and will be included in the EIR.

	Potentially Significant Impact	Less than Significant With mitigation	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES — Would the project:				
a) Have 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 California Department of Fish and Game or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
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 US Fish and Wildlife Service?	☒	☐	☐	☐

	Potentially Significant Impact	Less than Significant With mitigation	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒
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 the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☒	☐

SUBSTANTIATION (check if project is located in the Biological Resources Overlay ✓ or contains habitat for any species listed in the California Natural Diversity Database ✓):

a) The Victorville Sanitary Landfill was developed on land owned by the BLM and leased by the County as part of its solid waste disposal system. The land conveyance between the two agencies conveyed certain BLM properties leased to the County for solid waste disposal and occupied by community landfills that have been operated by the County for over 30 years. These properties were formally transferred to the County in November 2000 in exchange for County-owned properties that are considered high quality desert tortoise habitat, at a ratio agreed upon by the two agencies.

As part of the environmental review for the land conveyance, all lands proposed for transfer to the County including the approximately 480 acres on and adjacent to the Victorville Sanitary landfill were surveyed for threatened and endangered species, including desert tortoise (*Gopherus agassizii*). Biological resources surveys were conducted and findings were then incorporated into a Biological Assessment for the Landfill Conveyance Project prepared in 1996. Subsequently, a Biological Opinion was issued on the project by the US Fish and Wildlife Service in 1999 for the potential effects that certain activities related to the land conveyance may have on the threatened desert tortoise. The Biological Assessment prepared for the Landfill Conveyance Project, included mitigation measures that would reduce the potential for direct tortoise mortality to near zero. The Biological Opinion included the stipulation that these measures be followed at the landfill sites where landfilling and/or other construction activities associated with closure of the landfills are carried out.

A summary of the biological resources surveys and subsequent implementation of mitigation measures at the landfill will be discussed further in the EIR.

b) The Victorville Quadrangle 7.5 Minute Series Topographic Map (Revised 1998) shows four blue-line washes traversing the landfill expansion area. All four of these washes appear to drain southeast from Quartzite Mountain located to the northwest. These washes drain into Bell Mountain Wash, which crosses the project site on the southeast side. They are not perennial, nor are there any perennial surface waters present within a one-mile radius of the site. Surface water in and around the landfill is ephemeral and occurs during and immediately following precipitation events. The proposed project may result in impacts to the existing washes onsite and will be discussed further in the EIR.

c) No protected wetlands as defined by Section 404 of the Clean Water Act exist on the project site.

d) The project is the expansion of an 80-acre landfill and related uses into an approximate 491-acre landfill including disturbance of an additional 224 acres. Currently, approximately 117 acres are disturbed by landfilling and related uses. This may result in an additional loss of movement areas for wildlife species and any migratory wildlife corridors that currently exist on the site. This issue will be discussed further in the EIR.

e) The project site contains desert native plants as defined in the Desert Native Plant Protection section of the County's Development Code (Section 89.0420 – Subject Desert Native Plants, July 1989). Although the project will result in a loss to the native species on the site, it does not threaten the general survival of these species in the area. The project may result in a significant impact to desert native plants and will be discussed further in the EIR.

f) Compliance with habitat conservation plans and other plans related to long-term viability of the desert tortoise will be discussed in the EIR.

	Potentially Significant Impact	Less than Significant With mitigation	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES — Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☒	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☒	☐	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒

SUBSTANTIATION (check if the project is located in the Cultural _ or Paleontologic _ Resources overlays or cite results of cultural resource review):

a) No historical resources are known within the undeveloped portion of the site.

b) A study conducted by Archeological Associates during June 1997 included a search of records at the Archeological Information Center at the San Bernardino County Museum, which indicated no prehistoric archeological resources have been recorded within the project site. However, one historical resource, PSBR-38H, the Boulder Dam-San Bernardino 115kV electrical transmission line, is documented within the site. The transmission line was built in the early 1930's to supply power from the Boulder Dam project and is eligible for listing in the National Register of Historical Places. Project-related activities are not expected to adversely affect this resource, and no mitigation measures were recommended in the study report completed for the Victorville Sanitary Landfill (Lilburn Corp, Revised July 1998).

c-d) San Bernardino County Museum records show the area has a high potential to contain numerous resources of paleontological value. Based on a paleontological resources survey conducted by County Museum staff, it was recommended that a mitigation program, consistent with the Society of Vertebrate Paleontology, County of San Bernardino and the provisions in CEQA, be implemented to mitigate any potential impacts. In addition, the report recommended that a monitor should be present when excavating in potentially high resource areas to ensure no artifacts, fossils, or other cultural resources are lost or damaged during construction. The monitor must have the ability to temporarily halt excavation to salvage any paleontological resources found onsite. This is a potentially significant impact and will be discussed further in the EIR.

	Potentially Significant Impact	Less than Significant With mitigation	Less Than Significant Impact	No Impact
VI. GEOLOGY AND SOILS — Would the project:				
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?	☐	☐	☐	☒

	Potentially Significant Impact	Less than Significant With mitigation	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒
d) Be located on expansive soil, 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 waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

SUBSTANTIATION (check __ if project is located in the Geologic Hazards Overlay District):

a) No known faults pass through the site. The Helendale Fault lies six miles northwest of the site and is capable of producing earthquakes of up to moment magnitude (M_w) 8.3. The San Andreas Fault, capable of up to M_w 8.3 earthquakes, is 24 miles southwest of the site. The Lenwood Fault, capable of producing up to M_w 7.3 earthquakes is 22 miles northeast of the site. The Camp Rock Fault, capable of producing up to M_w 7.0 earthquakes is 27 miles northeast of the site. Each of these faults can produce strong ground shaking. Liquefaction should not occur at the site due to the depth of the ground water table. The site exists in a relatively flat area that slopes slightly to the southwest caused by Quartzite Mountain located to the north. Native soils on the site include gravels and sands cemented with caliche zones (desert sands and gravel naturally cemented together with calcium carbonate). The geologic and topographic conditions in the area minimize the risk of landslides in the area. Earthquake related impacts will be discussed in more detail in the EIR.

b) The proposed landfill expansion will involve the removal of topsoil in the expansion area for preliminary grading of the site. Due to the high wind activity in the area, there is potential for wind erosion to occur on the project site. Mitigation measures will be implemented to assure minimal soil erosion impacts during project development. During landfill operation, soil erosion will be managed similar to the existing permitted landfill area. This will be discussed in further detail in the EIR.

c-e) A Geologic Hazards Investigation Report was prepared for the expansion area in April 2001. The report concluded the landfill was located on a stable alluvial fan deposit with no potential for rapid geologic change including expansion, subsidence, or collapse. Findings of the report will be discussed further in the EIR.

	Potentially Significant Impact	Less than Significant With mitigation	Less Than Significant Impact	No Impact
VII. HAZARDS AND HAZARDOUS MATERIALS — Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☒
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site that 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?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a 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?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☒	☐	☐	☐
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

SUBSTANTIATION:

a-d) The VSL accepts only non-hazardous waste and the proposed expansion does not involve development of any facilities onsite to accept hazardous waste. Household hazardous products brought on-site in the waste stream are routinely removed during load checking, and stored on-site until a licensed contractor removes them for proper disposal. The landfill expansion will not create any risk involving hazardous wastes onsite.

e-f) The landfill is within five miles of two airports and one private landing strip: Southern California International Airport (formerly George Air Force Base) approximately five miles west, Apple Valley Municipal Airport approximately four 4 miles east, and a private landing strip, approximately ¼ mile southeast. However, the landfill is not within an Airport Safety Overlay District, as indicated by the County of San Bernardino Hazard Overlay maps. Any potential impacts to surrounding aircraft operations will be discussed further in the EIR.

g) The landfill is currently permitted to accept up to 1,600 tons of solid waste per day and up to 600 vehicles per day. The landfill is a regional facility that accepts solid waste from throughout the Victor Valley. No increase in the vehicle trips or tonnage is proposed, nor is a change proposed in vehicle routing. Therefore, the expansion of the landfill to extend its life capacity for an additional 76 years would not alter traffic patterns such that the project would interfere with an adopted emergency response or evacuation plan.

h) The landfill is not located in a wildland fire hazard area and does not create any impacts involving wildland fires onsite.

	Potentially Significant Impact	Less than Significant With mitigation	Less Than Significant Impact	No Impact
VIII. HYDROLOGY AND WATER QUALITY — Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☒	☐	☐	☐
b) 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)?	☐	☐	☒	☐
c) 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- or off-site?	☒	☐	☐	☐

	Potentially Significant Impact	Less than Significant With mitigation	Less Than Significant Impact	No Impact
d) 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- or off-site?	☒	☐	☐	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f) Otherwise substantially degrade water quality?	☒	☐	☐	☐
g) 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?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
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?	☐	☐	☐	☒

SUBSTANTIATION:

a) The County has implemented an Evaluation Monitoring Program in response to the Regional Water Quality Control Board, WDR Order No. 6-95-106 because of detected releases of contaminants into groundwater. This issue will be addressed in the EIR. The new areas of the landfill will be lined (composite liner system-two-layer, low permeability) for all lateral expansion areas, minimizing risk to groundwater contamination. The existing permitted refuse disposal area, which is not lined, includes additonal vertical expansion onto the exisiting landfill area. The impacts to groundwater quality will be discussed further in the EIR.

b) Water used for dust control at the existing landfill is currently supplied from an off-site source. The expansion of the landfill will increase onsite vehicle use which will result in increased dust generation. Additional water will be needed to mitigate any additional dust caused at the landfill. This issue will be discussed further in the EIR.

c-d) The project involves excavating the area for lateral expansion of the landfill. Numerous drainages exist onsite that carry runoff from Quartzite Mountain. Bell Mountain Wash, which is a major drainage, runs through the

south side of the site. As a result of the landfill expansion project, these natural drainage patterns will be altered substantially during initial project grading and subsequently as the landfill is constructed. The project will involve mitigating any impacts caused to surface water. This issue will be discussed further in the EIR.

e-f) The project will involve creating a drainage system to handle stormwater draining toward and through the landfill area. Surface water is currently diverted away from the landfill on the existing permitted area. Although the project will create impacts to the existing natural drainages, the landfill's drainage system will be improved as necessary to ensure it is capable of controlling any increased drainage caused by the proposed landfill expansion. This will be discussed further in the EIR.

g-j) The project does not include placing any housing on the project site nor is it in the 100-year flood plain. The project will not create any risks associated with flooding, inundation by seiche, tsunami, or mudflow.

	Potentially Significant Impact	Less than Significant With mitigation	Less Than Significant Impact	No Impact
IX. LAND USE AND PLANNING — Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

SUBSTANTIATION:

a) The VSL is currently located in an area zoned as Resource Conservation (RC) within the County of San Bernardino, as is the immediate surrounding area. The site is also located within the City of Victorville Sphere of Influence. The surrounding land use and zoning includes an area of General Commercial (CG) further to the east of the site along Interstate 15, the Victorville City limits to the south, and Resource Conservation (RC) District further to the west and north of the site. Several light industrial businesses currently exist near the boundary of the site at the access road approximately 1,500 feet south of the facility boundary. No established community exists within the vicinity of the site and prescribed zoning in the area would not create any significant future impacts.

b) The proposed project involves expansion of the existing landfill area. The VSL is currently identified as a County Operated Nonhazardous (Class III) Sanitary Landfill Facility in the County General Plan. Expansion of the landfill will not conflict with any applicable land use plan, policy, or regulation.

c) The project's compliance with habitat or natural community conservation plans in the area will be discussed in the EIR.

	Potentially Significant Impact	Less than Significant With mitigation	Less Than Significant Impact	No Impact
X. MINERAL RESOURCES — Would the project:				
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?	☐	☐	☐	☒

SUBSTANTIATION (check __ if project is located within the Mineral Resource Zone Overlay):

a-b) The project site is not in a mineral resource area designated by the Division of Mines and Geology.

	Potentially Significant Impact	Less than Significant With mitigation	Less Than Significant Impact	No Impact
XI. NOISE — Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

	Potentially Significant Impact	Less than Significant With mitigation	Less Than Significant Impact	No Impact
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐

SUBSTANTIATION (check if the project is located in the Noise Hazard Overlay District ____ or is subject to severe noise levels according to the General Plan Noise Element _):

a-c) The proposed landfill expansion project will not result in additional noise onsite, beyond the current landfill operations. The expansion of the landfill will increase the total waste disposal capacity and operational life, but it should not increase the daily activity onsite. Although the project will not increase noise levels, future urban growth and waste generation in the landfill service area creates a potential for increased daily activity on the site, which consequently would result in higher noise levels onsite. This impact would be less than significant as the existing noise levels onsite are minimal. The landfill site and surrounding area are close to the I-15, a high volume car and truck corridor. No sensitive receptors exist within the vicinity of the project site.

d) During initial grading and liner construction, the onsite activities will increase the ambient noise levels. This noise level increase will be temporary, and as there are not sensitive receptors within the project vicinity, will not create a significant impact.

e) The project site is not within two miles of a public airport and therefore will not expose workers to excessive noise levels.

f) A private landing strip is located just to the southeast of the landfill expansion area. The landing strip is positioned in a north-south direction with the flight path east of the landfill. The landfill expansion includes a 150-acre unused/buffer area between the landfill and the southeast property line to minimize impacts to the existing industrial uses. This buffer area will minimize any potential noise impacts to less than significant levels.

	Potentially Significant Impact	Less than Significant With mitigation	Less Than Significant Impact	No Impact
XII. POPULATION AND HOUSING — Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

	Potentially Significant Impact	Less than Significant With mitigation	Less Than Significant Impact	No Impact
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

SUBSTANTIATION:

a) The proposed landfill expansion project will have no impact on the general population growth in the area. The project does not involve developing any housing and will not indirectly enhance the potential for population growth in the immediate vicinity.

b-c) No housing currently exists on or near the site.

	Potentially Significant Impact	Less than Significant With mitigation	Less Than Significant Impact	No Impact
XIII. PUBLIC SERVICES —				
a) Would the project 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:				
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

SUBSTANTIATION:

a) The nearest fire station servicing the landfill is in the community of Oro Grande. Access to the site is limited to the I-15 freeway and Stoddard Wells Road, which provide access from the City of Victorville. The site is currently in the service area of the California Department of Forestry (CDF) for fire protection. The response time for emergency services to the site will remain largely unchanged from existing conditions. The project would not generate additional employees that would require public services such as schools or parks. The proposed project will result in minimal impacts to the public services in the area.

	Potentially Significant Impact	Less than Significant With mitigation	Less Than Significant Impact	No Impact
XIV. 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?	☐	☐	☐	☒

SUBSTANTIATION:

a-b) The landfill expansion would not require increased recreational facilities nor would it cause substantial physical deterioration to any existing regional parks or recreational facilities in the surrounding area.

	Potentially Significant Impact	Less than Significant With mitigation	Less Than Significant Impact	No Impact
XV. TRANSPORTATION/TRAFFIC — Would the project:				
a) Cause an 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 results 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?	☐	☐	☐	☒

	Potentially Significant Impact	Less than Significant With mitigation	Less Than Significant Impact	No Impact
f) Result in inadequate parking capacity?	☐	☐	☐	☒
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	☒

SUBSTANTIATION:

a-b) The proposed project is the expansion of the landfill to extend the projected closure date from 2005 for an additional 76 years to 2081. This would allow traffic to continue entering/leaving the site long past its current site life projection. A traffic study will be completed for the proposed project and an analysis of the results in addition to impacts on established service standards to roads and highways, any impacts to safety, emergency access, parking, and alternative transportation will be addressed in the subsequent EIR.

c) The proposed project would not affect any air traffic patterns because the proposed landfill height, an additional 50 feet above what is currently permitted is well below nearby mountaintops.

d-e) The landfill access road will not change as a result of the proposed project and emergency access will remain unchanged as well.

f) Minimal parking is required at the landfill because of the transient nature of the project.

g) No alternative transportation is proposed because the landfill employs so few workers.

	Potentially Significant Impact	Less than Significant With mitigation	Less Than Significant Impact	No Impact
XVI. UTILITIES AND SERVICE SYSTEMS — Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
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 effects?	☐	☐	☒	☐
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☒	☐	☐	☐

	Potentially Significant Impact	Less than Significant With mitigation	Less Than Significant Impact	No Impact
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
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(s) 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?	☐	☐	☐	☒

SUBSTANTIATION:

a) The proposed project does not include any discharges to waste water treatment facilities.

b/e) The landfill expasion project will result in the additional use of water onsite for fugitive dust control. The landfill expansion project will not generate additional wastewater because the operator will continue to use portable chemical toilets on-site.

c) The project will result in the construction of a new stormwater drainage system onsite. Stormwater is curently diverted around the landfill and any precipitation onsite is diverted away from the landfill area. The proposed expansion will involve a lateral expansion of approximately four times the existing landfill size. The additional stormwater drainange system impacts are likely to cause less than significant impacts to the environment and will be discussed in further detail in the EIR.

d) Water used on the project site is currently obtained from off-site sources. No new or expanded water entitlements should be needed for the landfill expansion project. The existing water supply will provide sufficient service to the landfill expansion.

f-g) As the proposed project is the expansion of the existing VSL, it will increase the capacity for additional solid waste disposal in the service area. The project will abide by all federal, state, and local statutes related to solid waste.

	Potentially Significant Impact	Less than Significant With mitigation	Less Than Significant Impact	No Impact
XVII. MANDATORY FINDINGS OF SIGNIFICANCE—				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population ot drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☒	☐	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a 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)?	☒	☐	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐

SUBSTANTIATION:

a) The site is in a Desert Tortoise habitat, developing the land would permanently remove it from being actual or future habitat. The site area is predominantly vegetated with Mojave Creosote Bush Scrub and Joshua Tree Woodland elements and other locally protected plant species. There is also potential for Mojave Ground Squirrels to exist on the site. Natural drainage patterns will be altered and any existing riparian habitats will be significantly impacted. Expansion of the landfill will involve removal of the existing habitat onsite and will alter the site native environment. The projects impacts on the local environment will be discussed further in the EIR.

b) The project may cause cumulative impacts. The VSL expansion will increase the total capacity and life of the landfill, but the daily operations will remain relatively unchanged from the existing conditions. Operational air quality impacts, noise impacts, and traffic impacts may be cumulatively considerable with development. Further discussion of the project's cumulative impacts will be included in the EIR.

c) The existing lateral expansion area for the landfill is native habitat. Development may create a substantial adverse efffect in the areas of aesthetics, traffic impacts, hydrology and water quality, and air quality that could cause a substantial adverse effect on human beings. Other issues to be evaluated in the EIR include biology, cultural resources, geology and soils, hazards and hazardous materials, and utitlties and service systems.

XVIII. MITIGATION MEASURES

(Any mitigation measures which are not "self-monitoring" shall have a Mitigation Monitoring and Reporting Program prepared and adopted at time of project approval)

A mitigation monitoring and compliance program (MMCP) will be included in the EIR to be prepared for this project.

REFERENCES (List author or agency, date, title)

Bryan A. Stirrat & Associates, Draft Final Expansion Project Information, October 2001

Byran A. Stirrat & Associates, Draft Victorville Sanitary Landfill Project Description, July 2002

City of Victorville General Plan, July 1997

County of San Bernardino Development Code, 1998, revised 2002

County of San Bernardino General Plan, adopted 1989, revised 2001

County of San Bernardino, Draft Initial Study for the Victorville Sanitary Landfill Expansion

Department of Conservation: Division of Mines and Geology, Fault Activity Map of California and Adjacent Areas, 1994

IT Corporation, Geologic Hazards Investigation Report of the Victorville Sanitary Landfill Expansion Area, April 2001

IT Corporation, Final 2-D Seismic Reflection Survey Report, Victorville Sanitary Landfill, June 1999

Lilburn Corporation, Fatal Flaw Analysis for the Victorville Sanitary Landfill, July 1997, Revised July 1998

Lilburn Corporation, County of San Bernardino Initial Study and Environmental Checklist Form for Victorville Sanitary Landfill Solid Waste Facility Permit Revision, March 1998, Revised June 1998

Lilburn Corporation, A Biological Survey of the Victorville Disposal Site Proposed Expansion Area, April 1992

Tetra Tech, Inc., Preliminary Closure Plan/Post-Closure Maintenance Plan, January 1998

USGS, Victorville Quadrangle 7.5 Minute Series Topographic Map. 1956, Revised 1993

Initial Environmental Evaluation Prepared By:

Date _____ Signature _____

On the basis of this initial evaluation:

The proposed project WOULD NOT have a significant effect on the environment (Mitigation Measures are included within the project's Conditions of Approval/Mitigation Monitoring Reporting Program), and a NEGATIVE DECLARATION should be prepared. ☐

The proposed project MAY have a significant adverse effect on the environment, and an ENVIRONMENTAL IMPACT REPORT should be required. ☒

Date _____ Signature _____

STATE OF CALIFORNIA

Governor's Office of Planning and Research

State Clearinghouse

Gray Davis
Governor

Tal Finney
Interim Director

Notice of Preparation

RECEIVED
OCT 09 2002
LAND USE SERVICES DEPT.
ADVANCE PLANNING DIVISION

September 30, 2002

To: Reviewing Agencies

Re: Victorville Sanitary Landfill Solid Waste Facilities Permit Revision
SCH# 2002091132

Attached for your review and comment is the Notice of Preparation (NOP) for the Victorville Sanitary Landfill Solid Waste Facilities Permit Revision draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Matthew Slowik
San Bernardino County Land Use Services Department
385 N. Arrowhead Ave., 3rd Floor
San Bernardino, CA 92415-0182

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Becky Frank

Becky Frank
Project Analyst, State Clearinghouse

Attachments
cc: Lead Agency

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
(916)445-0613 FAX(916)323-3018 www.opr.ca.gov

Document Details Report
State Clearinghouse Data Ba

SCH# 2002091132
Project Title Victorville Sanitary Landfill Solid Waste Facilities Permit Revision
Lead Agency San Bernardino County Land Use Services Department

Type NOP Notice of Preparation

Description Expansion of the Victorville Sanitary Landfill from an approximate 80 acre facility to an approximate 491 acre facility and extending its projected closure date approximately 76 years to the year 2081.

Lead Agency Contact

Name Matthew Slowik
Agency San Bernardino County Land Use Services Department
Phone 909 387-4131 **Fax**
email
Address 385 N. Arrowhead Ave., 3rd Floor
City San Bernardino **State** CA **Zip** 92415-0182

Project Location

County San Bernardino
City Victorville
Region
Cross Streets Stoddard Wells Road/Quarry Road
Parcel No. 472-011-34
Township 6N **Range** 4W **Section** 23 **Base** SBBM

Proximity to:

Highways I-15
Airports
Railways
Waterways
Schools
Land Use solid waste landfill/open space

Project Issues Aesthetic/Visual; Air Quality; Solid Waste; Traffic/Circulation; Water Quality; Water Supply; Wildlife

Reviewing Agencies Resources Agency; Department of Conservation; Office of Historic Preservation; Department of Parks and Recreation; Department of Water Resources; Department of Fish and Game, Region 6; Native American Heritage Commission; State Lands Commission; Caltrans, District 8; Caltrans, Division of Aeronautics; Air Resources Board, Major Industrial Projects; Integrated Waste Management Board; State Water Resources Control Board, Division of Water Rights; Regional Water Quality Control Bd., Region 6 (Victorville)

Date Received 09/30/2002 **Start of Review** 09/30/2002 **End of Review** 10/29/2002

Note: Blanks in data fields result from insufficient information provided by lead agency.

Distribution List — Bunt Bay Project — SCH 2006091132

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  Gabrina Gatchel
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- [ ] **Dept. of Fish & Game 6 I/M**
  Tammy Allen
  Region 6, Inyo/Mono, Habitat Conservation Program
- [ ] **Dept. of Fish & Game M**
  Tom Napoli
  Marine Region

Independent Commissions

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  Environmental Office
- [x] **Native American Heritage Comm.**
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- [ ] **Public Utilities Commission**
  Ken Lewis
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  Betty Silva
- [ ] **Governor's Office of Planning & Research**
  State Clearinghouse Planner
- [ ] **Colorado River Board**
  Gerald R. Zimmerman
- [ ] **Tahoe Regional Planning Agency (TRPA)**
  Lyn Barnett
- [ ] **Office of Emergency Services**
  John Rowden, Manager
- [ ] **Delta Protection Commission**
  Debby Eddy
- [ ] **Santa Monica Mountains Conservancy**
  Paul Edelman

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- [ ] **State Water Resources Control Board**
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- [x] **State Water Resouces Control Board**
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  Division of Water Rights
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DEPARTMENT OF TRANSPORTATION
DISTRICT 8
464 W. Fourth St. MS 726
SAN BERNARDINO, CA 92401
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October 16, 2002

RECEIVED
OCT 18 2002
LAND USE SERVICES DEPT.
ADVANCE PLANNING DIVISION

08-SBd-15-47.70

Mr. Matthew W. Slowik, M.U.R.P.
Land Use Services Department
Advance Planning Division
385 North Arrowhead Avenue, 1st Floor
San Bernardino, CA 92415-0182

Dear Mr. Slowik:

PROPOSED VICTORVILLE SANITARY LANDFILL EXPANSION PROJECT

Thank you for transmitting the Notice of Preparation of Environmental Impact Report dated September 27, 2002 for the above referenced proposal. We have reviewed this submittal and we request consideration of the following comments:

Because of the size of this proposed project, we have a concern with the project's traffic impact, including cumulative traffic impacts resulting from continued development in this area. With this concern, we suggest ensuring compliance with policies incorporated in the County of San Bernardino Congestion Management Program by including appropriate traffic impact mitigation measures with the required project conditions of approval.

Inclusion in the Environmental Impact Report (EIR) of a Traffic Impact Study (TIS) to analyze the potential impacts on Rte-15 and other transportation facilities is recommended. Please send a copy of the EIR to this office when it becomes available.

If you have any questions, please contact R B Balanza, Development Review Coordinator, at (909) 383-6212, or FAX (909) 383-6890.

Sincerely,

Linda Grimes

LINDA GRIMES, Chief
Office of Forecasting/
IGR/CEQA Review

INTEROFFICE MEMO

DATE: October 29, 2002

PHONE: 387-8109
MAIL CODE: 0835

FROM: **NARESH P. VARMA**, Chief
Environmental Management Division, Department of Public Works

RECEIVED
OCT 31 2002
LAND USE SERVICES DEPT.
ADVANCE PLANNING DIVISION
File # 10(ENV)-4.01

TO: **MATTHEW W. SLOWIK,** Senior Associate Planner
Advance Planning Division, Land Use Services Department

SUBJECT: NOTICE OF PREPARATION OF ENVIRONMENTAL IMPACT REPORT – VICTORVILLE SANITARY LANDFILL EXPANSION PROJECT, UNINCORPORATED VICTORVILLE AREA

Thank you for giving the San Bernardino County Department of Public Works the opportunity to comment on the above referenced project. The project site is located at Stoddard Wells Road and Quarry Road, west of the I-15 freeway, near Victorville. After reviewing the submitted document, our Department has comments concerning this project, as it appears to affect County traffic issues and environmental concerns.

The Traffic Division's comments and recommendations are as follows:

1. Paragraph six (6) of the project description states that the expansion of the landfill will not require the permitted existing tonnage or traffic limitations to be revised. The introduction portion of the Initial Study assumes a 2.7% growth rate in calculating the landfill capacity. A clarification is therefore required.

2. A traffic impact study is required to address the projected growth in fill rate.

The Environmental Management Division's comments and recommendations are as follows:

1. Since the project has already been determined to support desert tortoise, it is recommended that the County of San Bernardino assume presence and forego further desert tortoise surveys. (Assuming presence will allow the County to focus their efforts on reducing or avoiding impacts to the desert tortoise and compensate for the anticipated loss of habitat).

2. To fully understand that project impacts on the surrounding biological community, it is recommended that the County conduct focused surveys for Mohave ground squirrel and various raptor, bat, reptile, and botanical species. Those results would be a valuable additional to the Draft EIR.

The Solid Waste Management Division's only comment is, "These documents reflect our previous comments to Land Use Services and there are not additional comments on these final documents."

The Water Resources Division's comment is, "There are no Flood Control District (FCD) and FEMA concerns, and therefore, no response is necessary."

Should there be any further changes to this project, please notify our Department, so that we may have the opportunity to comment on the changes. If you have any questions or need additional information, please feel free to contact Kelly A. Rozich at X78114.

NPV:KAR:jm/NoPrepEIR-VictorvilleLandfill Expansion.Response.doc

cc: Jacob Babico, Traffic
Shay Lawrey, Env. Mgmt.
Mike Fox, Water Resources
Peter Wulfman, Solid Waste
Kelly A. Rozich
KAM/PJM Reading File

California Regional Water Quality Control Board
Lahontan Region

Winston H. Hickox
Secretary for Environmental Protection

Victorville Office
Internet Address: http://www.swrcb.ca.gov/rwqcb6
15428 Civic Drive, Suite 100, Victorville, California 92392
Phone (760) 241-6583 • FAX (760) 241-7308

Gray Davis
Governor

October 8, 2002

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OCT 10 2002
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ADVANCE PLANNING DIVISION

WDID No. 6B360304025

Matthew W. Slowik
Senior Associate Planner
Advance Planning Division
385 North Arrowhead Ave.
San Bernardino, CA 92415-0182

NOTICE OF PREPARATION OF ENVIRONMENTAL IMPACT REPORT FOR THE PROPOSED VICTORVILLE SANITARY LANDFILL EXPANSION PROJECT, SCH# 2002091132, VICTORVILLE, SAN BERNARDINO COUNTY

Regional Water Quality Control Board staff (Board staff) received your Notice of Preparation (September 27, 2002), which included the project description, Initial Study and Environmental Checklist. As lead agency your office staff will prepare a comprehensive Environmental Impact Report (EIR) to address the proposed Victorville Landfill expansion project. In response, Board staff provides the following comments.

As indicated in your Initial Study and Environmental Checklist, a site-specific EIR is recommended for the expansion of the Class III Victorville Landfill. Board staff concurs that an EIR should be prepared and requests that Board staff be given the opportunity to review the draft and final versions in a timely manner.

The Regional Water Quality Control Board's purpose in issuing landfill Waste Discharge Requirements (WDRs) is to assure that landfilling activities, and their legacy, do not result in adverse impacts to surface water or ground water bodies. Considering the preliminary stage of this project, the regulatory requirements discussed in this letter are general. Prior to adopting WDRs for this expansion, the county must submit Preliminary Closure/Post Closure Maintenance Plans, which shall incorporate a cover-integrity monitoring and maintenance program and the annualized post-closure maintenance plan cost analysis shall include an itemized estimate of the annual cost of each component.

Board staff's comments pertain only to those environmental factors that are indicated in the Environmental Checklist as (potentially) significantly to less than significantly impacted by this project and come under Regional Board regulatory purview. Board staff has determined that the Checklist summaries describing the current conditions at the landfill for each said factor are adequate. For each of these factors, their summary indicates that they will be discussed further in the EIR; additionally, Board staff requests that the following comments are included in these discussions.

Hydrology and Water Quality

Violation of water quality standards or waste discharge requirements:
The EIR should provide an analysis describing how the ground and surface water could affect the Landfill and how the Landfill, including how any waste, if it escapes from the Landfill, could affect the beneficial uses of ground water bodies (including, but not limited to, any aquifers underlying the facility) and surface water bodies. Pertaining to the current ground water monitoring and vadose zone monitoring system, the EIR should include whether this system will be impacted by the expansion necessitating the destruction of any monitoring well. The EIR should also include how the expansion will impact the ongoing evaluation monitoring program.

Substantially deplete ground water supplies:
Board staff requests that included in the EIR is a discussion on the source and amount of water used in dust control and the consequences of obtaining a source other than the current one should it become unavailable.

Stormwater runoff and drainage diversion:
Coverage under the State's General Permit for Stormwater Discharges Associated with Construction Activity will be required prior to initiating construction activities at this site. For landfills, the Stormwater Pollution Prevention Program (SWPPP) must include a discussion on the prevention of ponding and infiltration of water into buried waste that is left in place. Additionally, all on-site stockpiled materials, including materials that will be transported offsite for disposal, shall be protected from excessive erosion and infiltration by rainwater. Run-off from any stockpiled materials and construction areas shall be properly controlled.

In discussing potential stormwater impacts by this project, stormwater drainage diversion should be assessed. Title 27, of the California Code of Regulation, requires that the following information be provided: projected volume and pattern of runoff for the landfill expansion including peak stream discharges associated with a 100-year, 24-hour storm event.

Mandatory findings of significance:
Board staff requests that included in this discussion is the potential contribution of pollutants to that portion of the Mojave Groundwater Basin and thus the cumulative affect to water quality and health of the Mojave River. Limited segments of the Mojave River have been recommended by the State Water Resources Control Board (SWRCB) to be included on a 'Watch List.' The Mojave River's segment, between the upper and lower narrows, has been chosen as a candidate for placement on this list for nutrients. The significance of this Watch List is that for those waterbodies listed, water quality appears impacted and more information must be collected to resolve whether standards and beneficial uses are attainable. The waters on the Watch List are of high priority for SWRCB and RWQCB monitoring before the next USEPA's Clean Drinking Water Act Section 303(d) list is completed.

Board staff appreciates the opportunity to comment on this Notice of Preparation. If you have any questions, please call Christy Hunter at (760) 241-7393, or Hisam A. Baqai, Supervising Engineer at (760) 241-6583.

Sincerely,

Christy Hunter
Associate Engineering Geologist
Mojave Watershed Unit

cc: State Clearinghouse
Office of Planning and Research
P.O. Box 3044
1400 Tenth Street
Sacramento, CA 95812-3044

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RANPAC, Inc.

27431 Enterprise Circle West • Temecula, CA 92590-4833
Phone (909) 676-7000 • Fax (909) 694-8413
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October 9, 2002

VIA FAX (909) 387-3249

Mr. Matthew W. Slowik, M.U.R.P.
Senior Associate Planner
Land Use Services Department
County of San Bernardino
385 North Arrowhead Avenue, 1ST Floor
San Bernardino, CA 92415-0182.

Re: **NOTICE OF PREPARATION OF ENVIRONMENTAL IMPACT REPORT FOR THE PROPOSED VICTORVILLE SANITARY LANDFILL EXPANSION PROJECT; THE UNINCORPORATED AREA OF VICTORVILLE**

Dear Mr. Slowik:

Can you please send me a map of the proposed expansion area of the Victorville Sanitary Landfill.

We own 400 acres near your proposed project and would like to know how it will affect our project.

Thank you.

Sincerely,
APPLE VALLEY 400

Won

Won S. Yoo
President & CEO

MIKE CAN YOU RESPOND BY SENDING AN EXTRA MAP TO THESE FOLKS,

THANKS
MWS.
4/25/02

STATE OF CALIFORNIA--THE RESOURCES AGENCY
DEPARTMENT OF FISH AND GAMEE
Eastern Sierra-Inland Deserts - Region 6
Bishop Field Office
Habitat Conservation Program
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Bishop, California 93514
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ADVANCE PLANNING DIVISION

October 21, 2002

Mr. Matthew Slowik
San Bernardino County
Land Use Services Department
385 N. Arrowhead Ave., 3rd Floor
San Bernardino, CA 92415-0182

Re: Notice of Preparation for the Victorville Sanitary Landfill Solid Waste Facilities Permit Revision draft Environmental Impact Report SCH2002091132

Dear Mr. Slowik:

The Department of Fish and Game (Department) has reviewed the Notice of Preparation (NOP) for the Draft Environmental Impact Report for the above mentioned project. The proposed activities include expansion of the landfill from an approximate 80 acre facility to an approximate 491 acre facility and extending its projected closure date approximately 76 years to the year 2081.The proposed project is located at Stoddard Wells Road and Quarry Road within the sphere of influence of the City of Victorville, in San Bernardino County.

The Department is responding as a Trustee Agency for fish and wildlife resources (Fish and Game Code sections 711.7 and 1802 and CEQA Guidelines section 15386) and a Responsible Agency regarding any discretionary actions (CEQA Guidelines section 15381) required by the Department.

The NOP indicates there are at least 11 listed or sensitive species that occur in the project vicinity and may be affected by the proposed project. These species include: desert tortoise (*Gopherus agassizii*), Mohave ground squirrel (*Spermophilus mohavensis*), burrowing owl (*Athene cunicularia*), sharp-shinned hawk (*Accipiter striatus*), prairie falcon (*Falco mexicanus*), ferruginous hawk (*Buteo regalis*), golden eagle (*Aquila chrysaetos*), Cooper's hawk (*Accipiter cooperi*), LeConte's thrasher (*Toxostoma lecontei*), loggerhead shrike *(Lanius ludovicianus) and* Mojave Monkeyflower (*Mimulus mohavensis).* Although many of the above-mentioned species are not listed as threatened or endangered, they are considered rare and may become listed in the future. Impacts to rare species, regardless of listing status, may be considered significant under CEQA and require appropriate avoidance, minimization, and compensation measures. The Department requests an analysis of project impacts to the above-mentioned species.

To enable Department staff to adequately review and comment on the proposed project, we suggest that updated biological studies be conducted prior to any environmental or discretionary approvals. The following information should be included in the DEIR:

1. A complete assessment of the flora and fauna within and adjacent to the project area, with particular emphasis upon identifying endangered, threatened, and sensitive species and sensitive habitats.

   a. Conduct an updated (within the last 1 year) general biological study of the site to determine if any of the above-mentioned species or habitats may be potentially impacted by the proposed project.

   b. If appropriate habitat for any listed species occurs on the site, including surface waters potentially containing any fish species, have a qualified biologist conduct focused surveys according to USFWS and/or Department protocol.

   c. Have a qualified botanist conduct a focused rare plant survey during the appropriate time of year following USFWS and/or Department protocols.

   d. Have a qualified biologist conduct focused surveys for burrowing owl following the 1993 Burrowing Owl Consortium protocol guidelines. Survey protocols can be obtained from the Department. If occupied burrows are found at the project site, the following measures should be included as mitigation measures in the DEIR:

      (1) Occupied burrows should not be disturbed during the nesting season (February 1 through August 31) unless a qualified biologist approved by the Department verifies through non-invasive methods that either: (a) the adult birds have not begun egg-laying and incubation; or (b) the juveniles from the occupied burrows are foraging independently and are capable of independent survival. If a biologist is unable to verify one of the above conditions, then no disturbance shall occur within 300 feet of the burrowing owls nest during the breeding season to avoid abandonment of the young.

      (2) If destruction of occupied burrows is unavoidable, and if owls are not nesting, the project proponent can implement a one-way door exclusion method according to Department protocols, then collapse their burrow. As mitigation for the permanent impact to burrowing owl foraging and burrow habitat at the project site, the applicant should acquire and permanently protect a minimum of 6.5 acres of foraging habitat per pair or unpaired resident bird impacted by the project.

   e. If any listed species will potentially be impacted by the proposed project, consultation with the Department and the USFWS will be required to establish appropriate avoidance, minimization, and mitigation measures. An incidental

take permit may be required pursuant to Fish and Game Code Section 2080 *et seq* and/or Section 7 or 10 of the Federal ESA.

f. The Department requests that impacts to State and Federally-listed species and potential avoidance, alternatives, and mitigation measures be addressed in the CEQA document and not solely in subsequent negotiations between the applicant and the agencies.

2. A thorough discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources, with specific measures to offset such impacts.

   1) CEQA Guidelines, Section 15125(a), directs that knowledge of the regional setting is critical to an assessment of environmental impacts and that special emphasis should be placed on resources that are rare or unique to the region.

   2) Project impacts should be analyzed relative to their effects on off-site habitats. Specifically, this should include nearby public lands, open space, adjacent natural habitats, and riparian ecosystems. <u>This is particularly important when it comes to raven control.</u> Impacts to and maintenance of wildlife corridor/movement areas, including access to undisturbed habitat in adjacent areas, should be fully evaluated and provided. This includes impacts to wildlife from increased raven populations.

   3) 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. A discussion of possible conflicts and mitigation measures to reduce these conflicts should be included in the environmental document.

   4) A cumulative effects analysis should be developed as described under CEQA Guidelines, Section 15130. General and specific plans, as well as past, present, and anticipated future projects, should be analyzed relative to their impacts on similar plant communities and wildlife habitats.

3. A range of alternatives should be analyzed to ensure that alternatives to the proposed project are fully considered and evaluated. A range of alternatives which avoid or otherwise minimize impacts to sensitive biological resources should be included. Specific alternative locations should also be evaluated in areas with lower resource sensitivity where appropriate.

   1) Mitigation measures for project impacts to sensitive plants, animals, and habitats should emphasize evaluation and selection of alternatives which avoid or otherwise minimize project impacts. Off-site compensation for unavoidable impacts through acquisition and protection of high-quality habitat elsewhere should be addressed.

   2) The Department considers Rare Natural Communities as threatened habitats having both regional and local significance. Thus, these communities should be fully avoided and otherwise protected from project-related impacts.

4. 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, even though a Federal Biological Opinion has been issued. 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 the proposed project and mitigation measures may be required in order to obtain a CESA Permit. Revisions to the Fish and Game Code, effective January 1998, require that the Department issue a separate CEQA document for the issuance of a CESA 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 CESA permit. For these reasons, the following information is requested:

   1) A biological mitigation monitoring and reporting plan, and a raven control plan should be of sufficient detail and resolution to satisfy the requirements for a CESA Permit. The Department recommends early consultation with the Department to discuss appropriate measures to avoid, minimize, and/or compensate for impacts.

   2) A Department-approved Mitigation Agreement and Mitigation Plan are required for plants listed as rare under the Native Plant Protection Act.

5. The Department opposes the elimination of watercourses and/or their channelization or conversion to subsurface drains. All wetlands and watercourses, whether intermittent or perennial, must 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. Under Section 1600 et seq of the Fish and Game Code, the Department requires the project applicant to notify the Department of any activity that will divert, obstruct or change the natural flow or the bed, channel, or bank (which includes associated riparian habitat) of a river, stream or lake, or use material from a streambed prior to the applicant's commencement of the activity. Streams include, but are not limited to, intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams, and watercourses with subsurface flow. The Department's issuance of a 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 EIR for the project. However, if the EIR does not fully identify potential impacts to lakes, streams, and associated resources (including, but not limited to, riparian and alluvial fan sage scrub habitat) and provide adequate avoidance, mitigation, monitoring and reporting commitments, additional CEQA documentation will be required prior to execution (signing) of the Streambed Alteration Agreement. In order to avoid delays or repetition of the CEQA process, potential impacts to a lake or stream, as well as avoidance and mitigation measures need to be discussed within this CEQA document. The

Department recommends the following measures to avoid subsequent CEQA documentation and project delays:

(1) Incorporate all information regarding impacts to lakes, streams and associated habitat within the DEIR. Information that needs to be included within this document includes: (a) a delineation of lakes, streams, and associated habitat that will be directly or indirectly impacted by the proposed project; (b) details on the biological resources (flora and fauna) associated with the lakes and/or streams; (c) identification of the presence or absence of sensitive plants, animals, or natural communities; (d) a discussion of environmental alternatives; (e) a discussion of avoidance measures to reduce project impacts; and (f) a discussion of potential mitigation measures required to reduce the project impacts to a level of insignificance. The applicant and lead agency should keep in mind that the State also has a policy of no net loss of wetlands.

(2) Include in the DEIR a discussion of potential adverse impacts from any increased runoff, sedimentation, soil erosion, and/or urban pollutants on streams and watercourses on or near the project site, with mitigation measures proposed to alleviate such impacts.

(3) The Department recommends that the project applicant and/or lead agency consult with the Department to discuss potential project impacts and avoidance and mitigation measures. Early consultation with the Department is recommended, since modification of the proposed project may be required to avoid or reduce impacts to fish and wildlife resources.

Thank you for this opportunity to comment on this project. Questions regarding this letter and further coordination on these issues should be directed to Ms. Rebecca Jones, Environmental Scientist III, (661) 285-5867.

Sincerely,

Darrell Wong

Darrell Wong, Supervisor
Habitat Conservation Program

cc: Rebecca Jones, CDFG Palmdale
SCH

California Integrated Waste Management Board

Linda Moulton-Patterson, Chair
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Winston H. Hickox *Secretary for Environmental Protection*

Gray Davis
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LAND USE SERVICES DEPT.
ADVANCE PLANNING DIVISION

November 5, 2002

Matthew Slowik
San Bernardino County Land Use Services Department
385 N. Arrowhead Avenue, 3rd Floor
San Bernardino, CA 92415-0182

Subject: **SCH #2002091132** – Notice of Preparation (NOP) of a Draft Environmental Impact Report (EIR) for the Victorville Sanitary Landfill Expansion Requiring Issuance of Revised Solid Waste Facilities Permit (SWFP) No. 36-AA-0045 in San Bernardino County.

Dear Mr. Slowik:

Environmental Review Section (ERS) staff of the California Integrated Waste Management Board (IWMB or Board) have reviewed the document cited above. Following is a description of the proposed project based on ERS staff's understanding of the project as described in the NOP; IWMB agency background information; and comments as to the scope and content of the draft EIR. If the proposed *Project Description* below varies substantially from the project as understood by the lead agency, ERS staff requests that any significant differences be clarified and included in the draft EIR.

BACKGROUND

The Victorville Sanitary Landfill is located in an unincorporated area of the County of San Bernardino, adjacent to the northern boundary of the City of Victorville and west of Interstate 15. The site lies within the sphere of influence of the City of Victorville. The location is further defined as being wholly within Section 23, Township 6 North, Range 4 West as identified on the US Geological Survey Victorville 7.5 Minute Quadrangle. The main access point to the site is a 1,500-foot paved road from the southeast, off Stoddard Wells Road. Land within 1,000 feet to the north, and west of the property boundary is designated as Resource Conservation (RC), land to the south is a combination of RC and Regional Institutional (IR) and land to the east is designated as General Commercial (CG) with a Sign Control Overlay area (SCP). There are no residences and only two businesses within one mile of the site.

PROPOSED PROJECT DESCRIPTION

The proposed project consist of expanding the Victorville Sanitary Landfill from an 80-acre solid waste facility to an approximate 491-acre solid waste facility. The footprint of the landfill will increase from approximately 67 acres to 341 acres. This expansion of the landfill will include the increase in permitted height by 50 feet, from 3,130 feet above Mean Sea Level (MSL) to approximately 3,180 feet MSL, and increase the maximum depth of fill by 152 feet, from 2,900 feet MSL to approximately 2,748 feet MSL. Additionally, the landfill expansion will increase the total landfill permitted refuse volume from 7.7 million cubic yards to approximately 84 million cubic yards and extend the estimated landfill closure date from 2005 to 2081.

The project will be constructed in three phases over 79 years and will include a composite liner or equivalent, leachate collection and removal system, landfill gas collection system, and surface water control system. No changes to the site access are proposed. The proposed project does not propose an increase in daily or annual tons or trips from currently permitted limits. The 7-acre septage pond area will be excavated, lined, and used as the first area for refuse disposal outside the existing 67-acre footprint (Phase 1A).

ROLE OF THE IWMB

The IWMB must ensure that solid waste facilities (SWFs) meet required state standards for the protection of public health, safety, and the environment. The Board implements this goal through programs such as: permit oversight for solid waste facilities; certification and evaluation of Local Enforcement Agencies (LEA) which administer specific provisions of Assembly Bill (AB) 939, otherwise known as the Integrated Waste Management Act of 1989; review of environmental documents for proposed, new or expanded solid waste facilities for compliance with California Environmental Quality Act (CEQA); enforcement of state standards for SWFs; corrective action programs for facilities out of compliance with state standards; and research and development for special waste management issues.

California Environmental Quality Act Review

CEQA compliance is required for the establishment, expansion, or change in operation(s) of a SWF requiring the issuance or revision of a SWFP. IWMB staff's review of the draft EIR is 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 statute and guidelines. In order for IWMB staff to ascertain that the draft EIR is complete and adequate for our use in the SWFP permitting process, the proposed project should be described in sufficient detail and the potential environmental impacts must be identified clearly in the environmental assessment/Initial Study Section of the draft EIR. Mitigating measures to reduce potentially significant environmental impacts should be incorporated into the project, when feasible, in order to avoid potentially significant effects upon project implementation. When a potential significant environmental effect is identified and an argument is made as to why no mitigation is necessary, the discussion/analysis should be in sufficient detail that the reviewer/decision-maker can understand the lead agency's reasoning for their determination. In order to expedite

document preparation and minimize redundancy - supporting documentation and/or studies would be helpful and should be incorporated by referenced in the draft EIR.

ERS STAFF'S COMMENTS

Since the IWMB would be a responsible agency involved in the discretionary approval process for the SWF design and operational aspects of the project proposals, ERS staff will need to perform an environmental review and analysis for this project using the EIR developed by the lead agency as required in CEQA Guidelines, California Code of Regulations (CCR) Section 15096. To assist ERS staff's analysis and evaluation of this project, and aid ERS staff in the determination of the adequacy of the EIR and related CEQA document(s) for IWMB SWFP concurrence purposes, we request that the following comments and questions be addressed in the draft EIR under preparation by the lead agency prior to circulation of the document. If these have already been addressed in an existing document (e.g. Report of Facility Information, Closure Plans, previous environmental documents), please indicate the document, page number(s) and section(s), and provide copies to the State Clearinghouse and IWMB along with the draft EIR.

Typical Considerations for Landfill SWFPs

The following is a list of typical considerations that ERS staff recommends for inclusion in the draft EIR in order to help evaluate the scope and content of the EIR for consideration in the issuance of revised SWFPs and proposed changes at the RELOOC facilities:

- Describe in detail the excavation plans for the proposed landfill expansions of the subject facilities. Exactly what areas of the landfill expansion will be directly over buried refuse that does not have the benefit of a composite liner system and/or a leachate collection and removal system (LCRS)?

- What are the proposed hours and days of operation for the landfill facilities?

- What are the proposed types of waste (e.g. residential : MSW; industrial : ash, asbestos; etc.) to be disposed at the Landfill?

- What provisions are made in the design or operations of the facility to prevent project related impacts from litter, odor, dust, noise, glare, vectors, vehicle queuing, drainage, and health and safety?

- What special circumstance provisions will be required for the handling, processing, transport and storage of special wastes, if any? Are Class II wastes proposed to be accepted?

The draft EIR must detail all provisions for landfill design and operation in order to indicate the ability of the facility to meet State Minimum Standards for environmental protection (see CCR Title 27, §§ 20005, et. seq.). The following internet link accesses checklists developed by Board

staff as a guide to lead agencies in the preparation of EIR for landfills, transfer stations, material recovery facilities, and composting facilities:

http://www.ciwmb.ca.gov/PermitToolbox/CheckItems/CEQA/default.htm#Guidelines.

Project Phases

It is not clear in the project description in the NOP what all three proposed phases of this project will be. The draft EIR should have a complete and detailed description for each phase of this proposed project. Please describe the proposed design(s) of the proposed leachate containment and removal systems (LCRS), composite liner system, landfill gas collection system, and surface water control system for the landfill in the draft EIR. If the current portion of the unlined landfill is scheduled for closure, please describe in detail in the draft EIR. An updated closure and post closure plan will be required for any portions of the landfill that may be closed during phasing of the proposed project.

Increase in Final Fill Elevation

Please provide a detailed description of the proposed final grading plan configuration for each landfill expansion phase. Describe the final elevation, slopes and contours of the landfill, and if the highest vista of the landfill (including final cap) will be at or above any existing ridgelines or in direct line-of-sight from a scenic viewpoint. Please provide photos showing views of the area from the east, south, west and north prior to, and digital representations of the views after the proposed increase in elevation.

As required by CCR Title 14, §§ 15126.2, 15126.4 and 15126.6, ERS staff requests that the draft EIR contain detailed considerations and discussions of the significant effects, mitigation measures and alternatives for the proposed project. This should include an analysis of the significant aesthetic effects on the surrounding community from the proposed increase in landfill heights within the existing and expansion 'footprints'. ERS staff request that one of the project alternative project proposals include an assessment as to whether the County's basic objectives would be feasibly attained, and significant effects avoided or lessened by the implementation of the proposed projects, without the vertical expansion of the landfill sites.

Household Hazardous Waste (HHW) Storage/Collection Facility

If a household hazardous waste (HHW) storage/collection facility is proposed as a part of the project, then the draft EIR should describe in detail the design and operational features of the HHW facilities, especially those features that will allow the facility to comply with all local, state, and federal requirements for the transportation, storage, and disposal of HHW material. Furthermore, the following issues should be addressed in the draft EIR:

- Please provide a complete description of the operation of the proposed HHW facilities including a description of the operations immediately adjacent to the HHW facility.
- Describe any potential impacts of on-site and off-site traffic generated from the HHW materials facility with the operations immediately adjacent to the HHW facility. Will the

traffic from each facility be kept separate? If so, what methods will be used? Please provide any supporting traffic study information prepared for the proposed project.

- Estimate the volume and weight during a specified time frame (month, quarterly, annually) for the various types of HHW anticipated or proposed to be collected at the HHW facilities. Discussion should include the proposed facility's capability to accept, temporarily store, and transport off-site the quantities accepted as well as any associated environmental impacts.

ERS STAFF'S IMPACT ASSESSMENT RECOMMENDATIONS

Potentially Significant Environmental Impacts

Potentially significant environmental impacts must be described and discussed in the draft EIR. Most potentially significant project related impacts may be reduced to less than significant levels by project features and designs and/or mitigation measures. It may be that one or more potentially significant environmental impacts cannot be avoided if the project as proposed in this NOP is implemented.

Cumulative Impacts

It is important that the draft EIR address the cumulative impacts resulting from the individual/proposed project(s) and the combined projects as well as those incremental impacts resulting from the proposed projects' implementation.

Land Use Compatibility

The draft EIR should identify the proposed facilities' surrounding land use with a description of the density of the occupancy for commercial and residential areas. The draft EIR should be specific regarding the distance to the nearest sensitive receptor(s).

The project's surrounding land use must be designated as compatible with the proposed/current land uses at the project sites. The local government, in whose jurisdiction the facilities will be located, must make a finding that the facility is consistent with the General Plan (Public Resources Code Section 50000) and is identified in the most recent County Integrated/Solid Waste Management Plan (Public Resources Code Section 50001).

Traffic and Related Transportation System Impacts

Construction traffic volumes should be considered and analyzed for in the draft EIR. On site traffic circulation for the construction related traffic should also be discussed in the draft EIR.

Air Quality

Local and regional impacts on air quality from construction related vehicles, trucks, and equipment emission sources should be analyzed in detail, including emissions from construction vehicles and equipment and potential dust generation during construction of the various phases of the proposed landfill expansion. Dust particulates (PM_{10}) and ozone precursors may be of particular concern if the regional air basin is 'non-attainment' for PM_{10} and ozone precursors. If

the proposed projects are located within a 'non-attainment' air basin, cumulative impacts affecting the projected federal 'attainment' dates may be significant and unavoidable.

The distance to the nearest residential and/or commercial odor receptors, as well as the direction of the prevailing wind should be identified in the draft EIR. Mitigation measures, which will be employed to address impacts for the proposed facility, should be incorporated into the draft EIR with a description of the 'attainment' plan for the air basin(s) air quality. The local Air Pollution Control District should be contacted regarding air pollution discharge permits, which may be required to ensure compliance with ambient air quality standards.

Noise

Activities associated with construction vehicles and equipment and the use of heavy equipment to process or remove materials may result in significant on-site and off-site noise levels. A noise study may be necessary if local receptors are impacted, and should be included in the draft EIR. Appropriate noise-attenuating mitigation measures, which can be implemented to reduce noise levels, should be incorporated into the draft EIR. Short-term and cumulative impacts should be assessed as well as operations related noise.

Risk of Upset/Human Health

In the event of an accident, explosion, fire, or the release of hazardous substances due to upset conditions or mechanical malfunctions, an Emergency Response Preparedness Plan should be prepared and available at the proposed Victorville Sanitary Landfill. Personnel should be properly trained to handle emergency situations, including identification, location and use of fire suppression equipment, procedures for evacuation of the premises, and noticing for contacting the appropriate authorities in the event of such an occurrence. What is the response time for the nearest City/County Fire Department location? ERS staff request that such a plan be briefly described or referenced in the draft EIR with the appropriate mitigation measures in the event of such an occurrence. The plan should include such information as: existing and/or proposed hygienic facilities on site as well as first aid equipment accessibility and employee training. What is the distance to the nearest hospital? What will be the provisions for the permanent water supply? This information can be referenced in supporting documentation.

Please include in the draft EIR a map drawn to scale with a description of the security on and around the Victorville Landfill, including fencing, lighting, gates and access roads.

Please be aware that the CCR Title 8, §§ CCR Section 3203 requires all employers in the State to implement and maintain an effective Injury Prevention Program (IPP). The Labor and Penal Codes have been amended to provide administrative, civil, and criminal penalties for failure to comply and/or for injuries or deaths occurring due to the absence of an effective IPP.

Expansion Area Biota

Undisturbed land within the proposed landfill expansions area may contain unique habitat for flora and/or fauna. Sensitive, threatened or endangered species of flora and/or fauna should be

identified by a qualified biologist during a biological survey. Wetland habitat areas of are of particular concern for identification and preservation.

Surface Drainage

The draft EIR should include drainage plans along with the proposed final grading plans for the separate facilities. Site plans should identify the paved and exposed surfaces where the projects' proposed operations may take place. The plans should identify surface water runoff, including, but not limited to creeks, rivers, and/or diversion channels in areas adjacent to the project area. Indicate on a map drawn to scale the location of all project proposals to be carried out over buried landfill refuse. Identify on this site map any diversion berm(s) that will redirect flow away from/around the facility proposals and any drainage basins to keep drainage on-site. Will the proposed facilities be able to handle a 100-year, 24-hour storm event? IWMB staff recommends that the Regional Water Quality Control Board (RWQCB) be contacted to determine if a Report of Waste Discharge (ROWD) or National Pollution Discharge Elimination System (NPDES) permits are required for the RELOOC facilities.

Landfill Geology and Hydrogeology

Proposed physical changes for landfill development require site preparation which would involve the excavation and grading of the soil and rock in order to construct a landfill base liner. The draft EIR should include a site assessment and feasibility survey that includes soil [and rock] borings to determine the types of landfill waste management units that might be feasibly constructed and to what depth they might be considered. Unique geological features and valuable groundwater resources should be identified both on and adjacent to the proposed regional landfill site. The depth to the groundwater aquifer should be identified as well as the groundwater quality as a drinking or agricultural source. Any perched groundwater discovered during site borings should be disclosed. The amount of clay soil material that can be expected to be excavated during landfill development as well as the clay's general hydraulic conductivity could be very important issues in the development of a regional landfill and should be disclosed in the draft EIR.

Earthquake Faulting and Seismic Stress

Identify in the draft EIR any known earthquake faults in the vicinity of the proposed facility and the frequency of seismic activity as well as a range of most probable earthquake (MPE) magnitudes and maximum ground acceleration (MGA). How will the MPE MGA(s) affect the proposed slope stabilities at the Victorville Sanitary Landfill? How will the proposed RELOOC facilities landfill design structures stand up to the MPE MGA(s) considering that the facility structures and/or landfill equipment may be located over buried landfill refuse? Please include a map of historic epicenters within a radius of ten miles of the facility.

Mitigation Reporting or Monitoring Program (MRMP)

As required by Public Resources Code (PRC) Section 21081.6, the Lead Agency should submit a MRMP at the time of local certification of the EIR. This should identify the environmental impacts associated with the proposed project, identify mitigation measures to reduce impacts to a

less than significant level, identify agencies responsible for ensuring the implementation of the proposed mitigations, and specify a monitoring/tracking mechanism. PRC Section 21080 (c)(2) requires that mitigation measures "...avoid the effects or mitigate the effects to the point where clearly no significant effects on the environment would occur." The MRMP is also required to be made a condition of project approval. Changes to this Section 21081.6(b) also requires that "A public Agency shall provide that measures to mitigate or avoid significant effects on the environment are fully enforceable through permit conditions, agreements, or other measures." The MRMP should also indicate that agencies designated to enforce mitigation measures in the draft EIR have reviewed the MRMP and agreed that they have the authority and means to accomplish the designated enforcement responsibilities.

REGULATIONS which MAY AFFECT ASPECTS of the PROJECT PROPOSAL

Consideration for Construction and Location of Ancillary Buildings at a Landfill

Please be aware of the following regulations which may apply to the project proposal:

Title 27, CCR, Section 21190 – Postclosure Land Use.

(a) Proposed postclosure land uses shall be designed and maintained to:

(3) prevent landfill gas explosions.

(g) All on site construction within 1,000 feet of the boundary of any disposal area shall be designed and constructed in accordance with the following, or in accordance with an equivalent design which will prevent gas migration into the building, unless an exemption has been issued:

(1) a geomembrane or equivalent system with low permeability to landfill gas shall be installed between the concrete floor slab of the building and subgrade;

(2) a permeable layer of open graded material of clean aggregate with a minimum thickness of 12 inches shall be installed between the geomembrane and the subgrade or slab;

(3) a geotextile filter shall be utilized to prevent the introduction of fines into the permeable layer;

(4) perforated venting pipes shall be installed within the permeable layer, and shall be designed to operate without clogging;

(5) the venting pipe shall be constructed with the ability to be connected to an induced draft exhaust system;

(6) automatic methane gas sensors shall be installed within the permeable gas layer, and inside the building to trigger an audible alarm when methane gas concentrations are detected; and

(7) periodic methane gas monitoring shall be conducted inside all buildings and underground utilities in accordance with Article 6, of Subchapter 4 of this chapter (section 20920 et seq.).

You may contact Scott Walker of the Remediation, Closure, and Technical Services Branch at (916) 341-6319, or e-mail at swalker@ciwmb.ca.gov for technical assistance on the regulatory requirements for post closure land use at the RELOOC facilities.

Title 14, CCR, Section 17407.5. Hazardous, Liquid, and Special Wastes.

(a) An operation or facility shall not intentionally accept or store hazardous wastes, including batteries, oil, paint, and special wastes, unless it has been approved to handle the particular waste by the appropriate regulatory agencies. Such approvals shall be placed in the operating record.

(b) At operations and facilities where unauthorized hazardous wastes are discovered, control measures as are necessary to protect public health, safety and the environment, such as elimination or control of dusts, fumes, mists, vapors or gases shall be taken prior to isolation or removal from the operation or facility,

(c) Liquid wastes and sludges shall not be accepted or stored at an operation or facility unless the operator has written approval to accept such wastes from the appropriate agencies and the EA. The EA shall authorize acceptance of these wastes only if the operation, facility, and the transfer vehicles are properly equipped to handle such wastes in a manner to protect public health, safety, and the environment.

Note:

Authority cited:
Sections 40502, 43020, and 43021 of the Public Resources Code.

Reference:
Sections 40053, 43020 and 43021 of the Public Resources Code.

CONCLUSION

ERS staff requests copies of any subsequent or revised environmental documents (EDs) in addition to the draft and final EIRs. Any subsequent or revised EDs should be circulated through the State Clearinghouse as required in Section 15205(a) of the CEQA Guidelines. The IWMB be noticed of the date, time and location of any public hearings regarding the project proposal at least ten days in advance.

ERS staff have no further comments on the project as proposed at this time. Thank you for the opportunity to comment on this project in the early planning stages. If you have any questions regarding these comments, please contact me at (916) 341-6730 or e-mail me at Shooper@ciwmb.ca.gov

Sincerely,

Steven L. Hooper, Integrated Waste Management Specialist (IWMS)
Permitting and Inspection Branch
Permitting and Enforcement Division
California Integrated Waste Management Board

cc: Dianne Ohiosumua, IWMS
Permitting and Inspection Branch, Region 3
Permitting and Enforcement Division
IWMB

Suzanne Hambleton, Supervisor
Permitting and Inspection Branch, Region 3
Permitting and Enforcement Division
CIWMB

Sue O'Leary, Supervisor
Environmental Review Section
Permitting and Inspection Branch
Permitting and Enforcement Division
CIWMB

County of San Bernardino
Division of Environmental Health Services
385 North Arrowhead Avenue
San Bernardion, CA 92415-0160

Becky Frank
State Clearinghouse
P.O. Box 3044
Sacramento, CA 95812-3044

THE CITY OF
BARSTOW
CROSSROADS OF OPPORTUNITY

November 12, 2002

San Bernardino County
Land Use Services Department
Planning Division
385 North Arrowhead Avenue
San Bernardino, CA 92415
Attention: Matthew Slowik

RE: Response Notice of Preparation of Environmental Impact Report for the proposed Victorville landfill expansion.

Dear Mr. Slowik:

In response to your notice of preparation of an environmental impact report for the above-mentioned project, the City of Barstow offers these comments on the initial study:

- The topographic map (Figure 4) is incorrect. Contour intervals are established at 20ft but after 2880 the contour labels jump to 3000ft. Please correct map.
- The last reported update of the schedule of milestones for the Barstow Landfill expansion indicates the project is being slipped by 24 months. This greatly concerns the City inasmuch as this landfill also provides capacity for four (4) area transfer stations, including the recent addition of Big Bear. With a 3.7% growth rate factored into the equation, volumetric capacity is projected to be reached before the expansion and lined cell is completed. What is the status of the landfill expansion for the Barstow Landfill and could you please provide this office with a current milestone chart.

Thank you for the opportunity to comment on this environmental documentation. We look forward to reviewing the Environmental Impact Report when it is circulated for comments. If you have any questions or need clarification on the comments I can be contacted at (760) 256-3531 extension 3294.

Sincerely,

Jennifer Riley
Environmental Analyst

RECEIVED
NOV 15 2002
LAND USE SERVICES DEPT.
ADVANCE PLANNING DIVISION

cc: Belinda Barbour, Contract/Project Coordinator, Solid Waste

220 Mountain View Street, Suite A • Barstow, California 92311-2888
Ph: 760.256-3531 • Fax: 760.256-1750 • www.barstowca.org

APPENDIX B
SOLID WASTE FACILITIES PERMIT

DEPARTMENT OF PUBLIC HEALTH

COUNTY OF SAN BERNARDINO

ENVIRONMENTAL HEALTH SERVICES
[illegible]5 North Arrowhead Avenue • San Bernardino, CA 92415-0160 • (909) 884-4056
[illegible]20 East "D" Street • Ontario, CA 91764 • (909) 391-7570
15505 Civic Drive • Victorville, CA 92392 • (760) 243-8141
17830 Arrow Boulevard • Fontana, CA 92335 • (909) 829-6244
San Bernardino County Vector Control Program
2355 East Fifth Street • San Bernardino, CA 92415-0064 • (909) 388-4600

THOMAS J. PRENDERGAST, JR., MD, MPH
Director of Public Health

PAMELLA V. BENNETT, REHS, MPA
Director of Environmental Health

Also serving the cities of:

Adelanto	Montclair
Apple Valley	Needles
Barstow	Ontario
Big Bear Lake	Rancho Cucamonga
Chino	Redlands
Chino Hills	Rialto
Colton	San Bernardino
Fontana	Twentynine Palms
Grand Terrace	Upland
Hesperia	Victorville
Highland	Yucaipa
Loma Linda	Yucca Valley

August 13, 1998

AUG 1998
RECEIVED
Waste System
Division

Gerry Newcombe, Contract Administrator
Waste System Division
222 West Hospitality Lane, Second Floor
San Bernardino, CA 92415-0017

Dear Mr. Newcombe:

The San Bernardino County Division of Environmental Health Services Local Enforcement Agency is issuing the official copy of the revised Solid Waste Facilities Permit for the Victorville Solid Waste Disposal Facility (#36-AA-0045). The proposed permit was concurred upon by the California Integrated Waste Management Board (CIWMB) on July 29, 1998. We have enclosed a copy of the official permit.

Each permit has its unique requirements with respect to information reporting and items to be completed and forwarded to the LEA. These are delineated under the Self-Monitoring and Terms and Conditions sections of the permits. We are anticipating your Division's diligence in adhering to these requirements and submitting all obligatory documents on or before they are due.

Please call either Jim Trujillo or Christopher Ravenstein at (909) 387-4655, if you have any questions about this permit and its conditions.

Sincerely,

Pamella V. Bennett, Director
Division of Environmental Health Services

PVB:CAR:ar

Enclosures

cc: Don Dier Jr., CIWMB
Paul Glass, WSD
Paul Willman, CIWMB
Christopher Ravenstein, DEHS

cc: ~~Art R.~~
~~Russ Kennan~~, Normal
8/14/98

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STATE OF CALIFORNIA
SOLID WASTE FACILITIES PERMIT

1. Facility/Permit Number:
Victorville Landfill
36-AA-0045

2. Name and Street Address of Facility:
VICTORVILLE
SOLID WASTE DISPOSAL SITE
COUNTY OF SAN BERNARDINO
WASTE SYSTEM DIVISION
NW OF STODDARD WELLS ROAD
N OF CITY OF VICTORVILLE

3. Name and Mailing Address of Operator:
COUNTY OF SAN BERNARDINO
WASTE SYSTEM DIVISION
222 E. HOSPITALITY LN, 2ND FLOOR
SAN BERNARDINO, CA 92415-0017

4. Name and Mailing Address of Owner:
U S DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT (BLM)
BARSTOW RESOURCE AREA
150 COOLWATER LANE
BARSTOW, CA. 92311-3221

5. Specifications:

a. Permitted Operations:

[ ] Composting Facility (mixed wastes)
[ ] Composting Facility (yard waste)
[X] Landfill Disposal Site
[ ] Material Recovery Facility
[ ] Processing Facility
[ ] Transfer Station
[ ] Transformation Facility
[X] Liquid Septic Waste Class II Surface Impoundments (Drying Ponds)

b. Permitted Hours/Days Open to the Public*: 8:00 am to 5:00 pm - Monday through Sunday - 358 days/year - Site closed New Year's Day, Easter, Fourth of July, Labor Day, Memorial Day, Thanksgiving Day and Christmas Day

Permitted Hours of Site Activities: 7:00 am to 9:00 pm

* The LEA may modify these hours at the request of the operator. The operator shall make the request in writing at least 30 days in advance of implementation.

c. Permitted Tons per Operating Day — Total: PEAK DAILY LOADING 1600 Tons/Day

Non-Hazardous – General	ANY WITHIN TOTAL 1600 Tons/Day
Non-Hazardous - Liquid Septic Waste	12 TONS/DAY (WITHIN TOTAL 1600) Tons/Day
Non-Hazardous - Other	(NONE) Tons/Day
Designated	(NONE) Tons/Day
Hazardous	(NONE) Tons/Day

d. Permitted Traffic Volume: UP TO 600 Vehicles/Day

Incoming vehicles with waste materials	ANY WITHIN TOTAL 600 Vehicles/Day
Incoming vehicles with imported soil	ANY WITHIN TOTAL 600 Vehicles/Day
Outgoing vehicles	ANY WITHIN TOTAL 600 Vehicles/Day

e. Key Design Parameters

	Total	Disposal Footprint	Transfer	MRF	Composting	Transformation
Permitted Area (in acres)	80	67 ACRES	NONE	NONE	NONE	NONE
Design Capacity		7.7 MILLION CUBIC YARDS	NONE	NONE	NONE	NONE
Max. Elevation (Ft. MSL)		3130				
Max. Depth (Ft. MSL)		2900				
Estimated Closure Date		2005				

The permit is granted to the operator named above. Upon a change of operator, this permit is subject to review. The attached permit findings and conditions are integral parts of this permit and supersede the conditions of any previously issued Solid Waste Facilities Permits. Nothing in this permit is preventing the operator from complying with any federal, state, and local requirements and enactments including all mitigation and monitoring measures developed in accordance with any certified environmental document filed pursuant to Public Resources Code (PRC) Section 21081.6. Nothing in these requirements shall be construed as relieving any operator/owner, or designee from the obligation of obtaining all required permits, licenses, or other clearances and complying with all orders, laws, regulations, or other requirements of other regulatory or enforcement agencies.

6. Approval:
Approving Officer Signature
PAMELLA V. BENNETT, DIRECTOR

7. Enforcement Agency Name and Address:
DIVISION OF ENVIRONMENTAL
HEALTH SERVICES - LEA -
COUNTY OF SAN BERNARDINO
385 NORTH ARROWHEAD AVE.
SAN BERNARDINO, CA 92415-0160

8. Received by CIWMB:
JUN 3 1998

9. CIWMB Concurrence Date:
JUL 29 1998

10. Permit Review Due Date:
Aug. 13, 2003

11. Permit Issued Date:
Aug. 13, 1998

PROPOSED

STATE OF CALIFORNIA
SOLID WASTE FACILITIES PERMIT

Facility/Permit Number:
Victorville Landfill
36-AA-0045

Legal Description of Facility:
PORTIONS OF SE1/4 OF NW1/4 AND NE1/4 OF SW1/4 OF SECTION 23, T6N, R4W, SAN BERNARDINO BASELINE & MERIDIAN

13. Findings:

a. The LEA certifies that the operator has made a finding pursuant to PRC §50001 (a)(1) that this facility is identified in the countywide siting element, which has been approved pursuant to PRC §41721, of the County Integrated Waste Management Plan which has been approved by the California Integrated Waste Management Board.

b. This permit is consistent with standards adopted by the CIWMB pursuant to PRC §44010 and all applicable Resource Conservation and Recovery Act (RCRA) Subtitle D requirements.

c. The design and operation of the facility is in compliance with State Minimum Standards for Solid Waste Handling and Disposal as determined by the LEA.

d. The local fire protection district, the San Bernardino County Fire Department, has (pursuant to PRC §44151 - re: PRC §4371 et. seq.) determined that the facility is in conformance with applicable fire standards.

e. The LEA finds that the applicant is in compliance with all WDRs and that there are no enforcement orders pending with regard to this site. There were no public comments received regarding this application.

f. The authorized agent of the local governing body, the San Bernardino County Planning Department has [pursuant to PRC §50000.5(a)] determined that proposed changes are consistent with and designated in the applicable general plan.

g. The authorized agent of the local governing body, the San Bernardino County Planning Department has [pursuant to PRC §50000.5(b)] found surrounding land use compatible with proposed changes at the facility.

h. The LEA certifies that pursuant to Title 27 CCR §21650 (f)(3) that the permit application package is complete and correct. The RFI meets the requirements of 27 CCR §21600.

i. The LEA certifies that pursuant to Title 27 CCR §21650 (f)(7) that the proposed permit is consistent with and is supported by existing CEQA analysis.

Prohibitions: The permittee is prohibited from accepting any non-hazard waste requiring special handling, designated waste, or hazardous waste unless such waste is specifically listed below, and unless the acceptance of such waste is authorized by all applicable permits:

1. Liquid septic waste for drying in the designated Class II surface impoundments (drying ponds).
2. Temporary storage of hazardous waste (detected in the hazardous waste screening/exclusion program) in the designated hazardous waste temporary storage shed. (end of list)

The permittee is additionally prohibited from: accepting friable or nonfriable asbestos, sewage or septage sludge (except that from on-site septage ponds), and burying whole tires or metallic discards (as defined by AB1760 - effective January 1, 1994) and from allowing any open burning or scavenging.

15. The following documents also describe and/or restrict the operation of this facility:

[X] Periodic Site Review	11/96	[X] State Department of Fish & Game Streambed Alteration Permit	01/19/9
[X] Waste Discharge Requirements	11/14/85, 09/09/93 (Blanket) & 09/14/95	[X] Planning Department Consistency Findings (County General Plan)	07/1
[X] Contract Operator Documents	09/25/89	[X] Planning Department Compatibility Findings (Surrounding Land Use)	07/1
[X] Notice of Determination - OPR Filing	7/7/98	[X] BLM Facility Site Lease Agreement	02/28/6
[X] Mitigation Monitoring/Reporting (Compliance) Program	6/8/98	[X] BLM Amendment Letter Extending Lease	06/22/94
[X] BLM Borrow Area Lease Agreement	06/16/94	[X] NPDES (Stormwater) Permit - Notice of Intent	05/02/94
[X] Fire Protection District Findings	09/09/93	[X] USEPA Generator ID CAD982495848	08/06/9
[X] Preliminary Closure & Preliminary PostClosure Maintenance Plans	Deemed Complete 09	[X] Certificate of Self-Insurance for operating liability claims	12/17/92
[X] Subtitle D "Footprint" Documentation	10/04/93	[X] County Hazardous Waste Generator Permit	6/17/9
[X] County Operating Procedures Manual for County Sanitary Landfills	June, 1983	[X] County Hazardous Waste Handler Permit	6/17/9
[X] Mojave Desert AQMD Clearance letter	12/17/93	[X] County (DEHS/SWMD) Indemnification Contract	08/15/94

STATE OF CALIFORNIA
SOLID WASTE FACILITIES PERMIT

Facility/Permit Number:
Victorville Landfill
36-AA-0045

16. Self Monitoring: In addition to self-monitoring programs and the California Environmental Quality Act (CEQA) mitigation monitoring and reporting program described in other documents controlling this facility, the following programs shall be reported to the LEA and others as follows:

Program	Reporting Frequency	Agency Reported To
Summary of daily records (in tons/day) per: solid waste received, liquid septic waste received.	Quarterly*	LEA*
Summary of daily motor vehicle counts (in vehicles/day) per vehicles: entering with solid waste, entering with liquid septic waste, entering with imported soil, leaving with recovered materials.	Quarterly*	LEA*
Summary of public complaints received, regulatory notices received, and the operator's responses/corrective actions taken.	Quarterly*	LEA*
Summary of entries in Log of Special/Unusual Occurrences and operator's responses/corrective actions taken.	Quarterly*	LEA*
Summary of record keeping specified in the Hazardous/ PCB/ Prohibited Waste Screening/ Exclusion Program including: quantities/ types of materials discovered, responses/corrective actions taken, interim/final disposition of materials and public education activities.	(per County-Haz-Mat*)	LEA, County Haz-Mat*
Vector inspection/control program (as may be specified in the RDSI).	(per SBCVCP*)	LEA, San Bernardino County Vector Control Program (SBCVCP)*
Water quality control of contaminants - monitoring, reporting, remediation and related programs including: Waste Discharge Requirements, water SWATs, Clean-up & Abatement Orders/ Workplans/ Remediation Schedules, NPDES Permits.	(per local CRWQCB*)	LEA, local California Regional Water Quality Control Board (CRWQCB)*
Air quality management of emissions - monitoring, reporting, remediation and related programs including: fugitive dust (PM_{10}) control, LFG monitoring/control, air SWATs, AQMD equipment permits.	(per local AQMD*)	LEA, local Air Quality Management District (AQMD)*
	(* = Reporting due by the 15th of the month following the end of the reporting period, OR else when due as specified by the controlling regulatory authority.)	(* = Plus reporting to all other local, state and federal regulatory authority with jurisdiction at the facility.)

STATE OF CALIFORNIA
SOLID WASTE FACILITIES PERMIT

Facility/Permit Number:
Victorville Landfill
36-AA-0045

17. LEA Conditions:

[NOTE: LEA conditions listed here shall be in addition to conditions of other documents controlling operation of this facility.]

1. The operator shall comply with all State Minimum Standards for Solid Waste Handling and Disposal as specified in Title 27 California Code of Regulations (CCR). The operator shall not operate this facility without possession of all required permits/regulatory approvals. The operator shall inspect the site at least once each day of operation to ensure compliance with all applicable standards/conditions/mitigations/permits/regulations.

2. The operator shall comply with all federal, state, and local requirements and enactments including all mitigation and monitoring measures developed in accordance with any certified environmental document filed pursuant to Public Resources Code Section (PRC) §21081.6, and all administrative/enforcement orders of all regulatory agencies with jurisdiction at this facility.

3. The operator shall maintain a complete copy of this Solid Waste Facilities Permit (SWFP), of all other required regulatory permits and of all regulatory inspection reports, at the facility or other approved location readily accessible to facility personnel, LEA staff and other regulatory personnel.

4. As outlined in Section 16, the operator shall maintain at the facility, or other approved location, accurate daily records of the tonnage/day and number of vehicles/day per: incoming solid waste, incoming liquid septic waste. Such records shall be readily accessible at the facility to the LEA/other regulatory personnel. A written summary of such tons/day per category, vehicles/day per category, and estimates/day per category, shall be furnished quarterly to the LEA within fifteen (15) days of the end of each quarter.

5. As outlined in Section 16, the operator shall furnish a written summary of all written complaints (including all regulatory notices such as: Notices of Violation, Notice and Orders, Clean-up & Abatement Orders) concerning the facility received by the operator during a quarter, and the operator's responses/corrective actions taken, to the LEA within fifteen (15) days of the end of each quarter.

6. As outlined in Section 16, the operator shall maintain at the facility, or other approved location, a log of special/unusual occurrences (S/U O). The log shall include, but not be limited to: fires, explosions, discharges of unusual waste, significant incidents of personal injury, accidents and/or property damage. Each log entry shall be accompanied by a summary of the responses/corrective actions taken by the operator to mitigate any negative impacts of each occurrence. Days without incidents of S/U O shall be noted with an appropriate negative entry for such days such as: "No S/U O today". The operator shall maintain this log at the facility or other approved location in a manner readily accessible to facility personnel and to the LEA/other regulatory personnel. A written summary of the log entries during a quarter shall be furnished to the LEA within fifteen (15) days of the end of each quarter.

7. The operator shall comply with the requirements of all applicable laws pertaining to employee health and safety including maintaining an up-to-date written CAL-OSHA Injury Illness Prevention Program (IIPP) - (pursuant to Title 8 CCR), on-site and readily available for review by all facility personnel and by the LEA staff and other regulatory personnel. The IIPP shall include a comprehensive training plan, availability of all necessary on-site work/protection/safety equipment, and adequate on-site first aid supplies. Whenever personnel are at the facility they shall have immediate radio and/or telephone access to a 911 emergency dispatcher.

8. The operator shall use all reasonable measures to avoid "takings" of threatened, endangered, rare, and/or sensitive species, including use of tortoise-proof fencing and authorized raven monitoring/control measures in accordance with all measures, remediation, and compensations incorporated into any Cooperative Agreement (CA) with the U. S. Department of Interior - Bureau of Land Management (BLM), U. S. Fish and Wildlife Service (USF&WS), and the California Department of Fish & Game (CDF&G).

9. In conjunction with the Bureau of Land Management (BLM), U.S. Fish and Wildlife Service (USF&WS), California Department of Fish and Game (CDFG), and qualified biologist, the Solid Waste Management Department (SWMD) will implement a raven monitoring program and develop appropriate measures to reduce and/or eliminate existing use of the disposal site as a habitat for ravens. This program will be submitted to the LEA within nine months of a re-permit concurrence and implemented within year of the re-permitting date of record.

10. "Hours of Site Activities" includes the "Hours Open to the Public," and also includes stated extra hours before and/or after the "Hours Open to the Public" during which site activities such as operating equipment, daily and intermediate cover, or maintenance will occur. Except for emergencies, site activities do not occur outside of these specific hours. Significant projects that involve or require site activities to occur outside of these specific hours shall be evaluated under CEQA, described, and defined in the RDSI.

APPENDIX C
AIR QUALITY ASSUMPTIONS AND DATA

Mojave Desert AQMD

14306 Park Avenue, Victorville, CA 92392-2310 (760) 245-1661

AUTHORITY TO CONSTRUCT

C008239

If construction is not completed by the expiration date of this permit, it may be renewed for one additional year upon payment of applicable fees. Any additional extension will require the written approval of the Air Pollution Control Officer. This Authority to Construct may serve as a temporary Permit to Operate provided the APCO is given prior notice of intent to operate and the Permit to Operate is not specifically denied.

EXPIRES LAST DAY OF: JUNE 2002

OWNER OR OPERATOR (1021)
SBCo Solid Waste Management
222 West Hospitality Lane, 2nd Floor
San Bernardino, CA 924150017

EQUIPMENT LOCATION: (02443
SBCo - Landfill/Victorville
18600 Stoddard Wells Road
Victorville, CA 92392

DESCRIPTION:

LANDFILL GAS EXTRACTION AND FLARING SYSTEM consisting of:

Capacity	Equipment Descriptio
	Landfill Gas Knockout Vessel/Fuel Filter (V-1)
	Blower (75 hp) and VFD (250 to 2000 scfm)
	Landfill Gas Flare (5.4 to 54 MMBtu/hr)
	Flame Arrestor (FA-1)
	Flow Element Pitot (FE-1)
	Air Compressor Assembly (CMP-1A/B with spare, 88 scfm at 125 psi)
	Primary Condensate Holding Tank (5000 gallon)
	Secondary Condensate Holding Tank (6600 gallon)
	Landfill Gas headers and laterals
	Landfill Gas Extraction Well complex (at least 35 wells)
	Condensate Pneumatic Pump Stations

RECEIVED
NOV - 2 2001
Solid Waste Management Division

CONDITIONS:

1. Operation of this equipment shall be in strict compliance with all the information submitted with the application for which this permit has been issued, unless specifically exempted hereunder.
2. All landfill gas collected from this landfill shall be directed to the flare for combustion.

Fee Schedule: 11() Rating: 1.0 SIC: 9511 SCC: 50200601 Location/UTM(Km): 475E/3825N

This permit does not authorize the emission of air contaminants in excess of those allowed by law, including Division 26 of the Health and Safety Code of the State of California and the Rules and Regulations of the District. This permit cannot be construed as permission to violate existing laws, ordinances, statutes or regulations of this or other governmental agencies. This permit must be renewed by the expiration date above. If billing for renewal fee required by Rule 301(c) is not received by expiration date above, please contact the District.

SBCo Solid Waste Management
222 West Hospitality Lane, 2nd Floor
San Bernardino, CA 92415

BY: _____
For: Charles L. Fryxell
Air Pollution Control Officer

DATE: 10/24/2001

3. A sufficient number of sight glass windows shall be maintained in the flare to allow visual inspection of the flare flame at all times. Adequate and safe access shall be provided to all sight glass windows.

4. The owner/operator (o/o) shall provide sampling ports necessary to perform source tests required to verify compliance with District rules, regulations and permit conditions. The location of these ports and platforms shall be subject to District approval.

5. A sampling port shall be maintained at the landfill gas inlet line to allow the collection of a landfill gas sample.

6. The flare shall be equipped with at least four thermocouples and recorder which measures and records the gas temperature in the flare stack. The termperature indicator and recorder shall operate whenever the flare is in operation.

7. At least one of the thermocouples used to measure the flare temperature shall be above the flame and at least four feet below the top of the flare shroud and at least 0.6 seconds downstream of the burner.

8. Whenever the flare is in operation, a temperature of at least 1400 degrees Fahrenheit, as measured by the temperature indicator and recorder, shall be maintained in the flare stack 0.6 seconds downstream of the burner, except during flare start-up for a time period not to exceed 30 minutes in length.

9. The landfill gas flow rate to the flare shall be continuously monitored by a flow indicator and recorder.

10. A pressure differential indicator shall be maintained across each flame arrester.

11. Oxides of nitrogen emissions from the flare shall not exceed 0.06 pounds per MMBtu of heat input.

12. The o/o shall conduct all required compliance/certification tests in accordance with a District-approved test plan. Thirty (30) days prior to the compliance/certification tests the operator shall provide a written test plan for District review and approval. Written notice of the test shall be provided to the District ten (10) days prior to the tests so that an observer may be present. A written report with the results of such tests shall be submitted to the District within forty-five (45) days after testing.

13. The o/o shall perform the following compliance tests annually in accordance with the MDAQMD Compliance Test Procedural Manual. The test report shall be submitted to the District no later than six weeks prior to the expiration date of this permit. The following compliance tests are required at the maximum achievable flow rates at the time of the test (inlet refers to flare landfill gas inlet and exhaust refers to flare exhaust):
    a. Non-methane hydrocarbons in lbs/hr (inlet and exhaust)
    b. Oxides of Nitrogen in lbs/MMBtu (exhaust)
    c. PM10 in lbs/hr (exhaust)
    d. Hydrogen sulfide in lbs/hr (inlet and exhaust)
    e. Carbon dioxide as percent by weight (inlet and exhaust)
    f. Oxygen as percent by weight (inlet and exhaust)
    g. Moisture content as percent by weight (inlet and exhaust)
    h. Temperature in Fahrenheit (inlet and exhaust)
    i. Flow rate in scfm (inlet and exhaust)

14. This equipment shall achieve at least a 98% destruction efficiency for non-methane hydrocarbons, measured from landfill gas inlet to flare exhaust.

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15. The o/o shall submit an application to modify this permit should additional flares or other gas control equipment be required for this landfill.

16. All information gathered by monitoring equipment specified in these conditions shall be maintained in a current, on-site (or at a separate site as approved by the District) log for five (5) years. This log shall be provided to District staff upon request. The o/o shall prepare and submit to the District a quarterly report within 30 days of each quarterly sampling that contains the results of the quarterly sampling, each monthly monitoring report, all corrective actions taken during the past quarter, and a summary of all other logged information from the quarter.

17. The gas collection header shall have a pressure tap at each individual well. Pressure readings shall be taken and logged monthly. Any and all positive pressure readings are to be corrected within five (5) days. If not corrected within 15 days the gas collection must be expanded within 120 days of the first positive reading. [40 CFR 60.755(a)(3)]

18. Each well shall be equipped with one or more sampling ports or taps to allow the measurement of temperature, and either nitrogen content or oxygen content. These measurements shall be taken and logged monthly. The temperature shall be less than 131 degrees Fahrenheit (55 C), and the nitrogen level less than 20 percent or the oxygen level less than 5 percent. Any and all readings above these levels are to be corrected within 5 days. If not corrected within 15 days the gas collection system must be expanded within 120 days of the first excess reading. [40 CFR 60.753(a)(1)(C) and 755(a)(5)]

19. The o/o shall monitor the landfill surface for methane on a quarterly basis. The surface monitoring shall be performed in accordance with a District-approved monitoring plan. The entire perimeter and surface shall be monitored using a serpentine pattern spaced at 30 meters. Any point with a methane concentration of 500 ppm or more above background shall be recorded and the point marked (flagged). Corrective action shall be taken and the point re-monitored within 10 days. If another excess reading is taken, a new well or other collection device shall be installed within 120 calendar days of the initial exceedance. [40 CFR 60.755(b)]

20. This equipment and the associated landfill shall be operated in compliance with Rule 1126 and NSPS Subpart WWW - Standards of Performance for Municipal Solid Waste Landfills (40 CFR 60.750).

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APPENDIX C
VICTORVILLE LANDFILL EXPANSION

DUST EMISSION ESTIMATES AND BACKGROUND

Dozing

Dozing Emission Factor = 5.38 lbs/hour (uncontrolled)
Dozing Emission Factor = 0.57 lbs/hour (controlled with water spraying)

Source: MDAQMD Emission Inventory Guidance for Mineral Handling, Section D

EF (PM10) = $2.76 * (s)^{1.5}/M^{1.4} * 0.35$ lb/hr

Silt content (s) = 6%
Moisture content (M) = 2% Dry 10% Wet
K (PM10) = 0.35

EF (PM10) = $2.76 * (s)^{1.5}/M^{1.4} * 0.35$ lb/hr
= $2.76 * 6^{1.5}/2^{1.4} * 0.35$ lb/hr
= 5.38 lbs/hr (uncontrolled)

EF (PM10) = $2.76 * (s)^{1.5}/M^{1.4} * 0.35$ lb/hr
= $2.76 * 6^{1.5}/10^{1.4} * 0.35$ lb/hr
= 0.57 lbs/hr (controlled)

Grading

Grading Emission Factor = 0.28 lbs/ton
Source: AP-42, Section 11.9, Table 11.9-1

EF (PM10) = $0.051 * (s)^2 * J$ lbs/vmt

s = mean vehicle speed = 3 mph
J = (PM10) fraction = 0.6

EF (PM10) = 0.28 lbs/vmt

Scraping

Scraping of Material

Source: AP-42, Section 11.9, Table 11.9-4
EF = 0.058 lb/ton or 20.2 lb/vmt

Dumping of Scraped Material

Source: AP-42, Section 11.9, Table 11.9-4
EF = 0.04 lb/ton

ONSITE ACCESS ROAD DUST

1. <u>Unpaved Access Road – Customer Vehicles, Refuse Trucks, and Haul Trucks</u>

PM_{10} Emission Factor = 2.73 lbs/vehicle mile traveled (VMT)
Source: MDAQMD Emission Inventory Guidance for Mineral Handling, Section K

Distance = 0.3 miles one way

Emission Factor (PM_{10}) = $K * (s/12)^{0.8} * (W/3)^{0.4}$ lbs/vmt

s (silt content) = 6 %
W (ave. wt) = 13.6 tons (average of all vehicles based on loaded/unloaded weight and number of trips)
K for PM10 = 2.6

EF (PM_{10}) = $2.6 * (6/12)^{0.8} * (13.6/3)^{0.4}$
= 2.73 lbs/VMT

2. <u>Unpaved Roads for Scrapers</u>

PM_{10} Emission Factor = 4.78 lbs/vehicle mile traveled (VMT)
Source: MDAQMD Emission Inventory Guidance for Mineral Handling, Section K

Distance varies but starts out at 0.6 miles round trip

Emission Factor (PM_{10}) = $K (s/12)^{0.8} (W/3)^{0.4}$ lbs/vmt

s (silt content) = 6 %
W (ave. wt) = 55 tons (average of scraper loaded/unloaded)
K for PM10 = 2.6

EF (PM_{10}) = $2.6 \times (6/12)^{0.8} (55/3)^{0.4}$
= 4.78 lbs/vmt

3. <u>Paved Access Road (from Stoddard Wells Rd. to scale house)</u>

Source: AP-42, Section 13.2.1, Paved Roads (10-02)
Emission Factor (PM_{10}) = $K * (sl/2)^{0.65} * (W/3)^{1.5}$

Distance varies slightly with scenario but starts out at 0.7 miles roundtrip
Silt loading (sl) = 7%
W = vehicle weight

Passenger cars/Pickups:	3.75 tons
Refuse Truck:	28 tons
Haul Trucks:	30 tons

K = 0.016 (PM10)

EF for passenger cars/ pickups =	0.05 lb/VMT
EF for refuse trucks =	1.03 lb/VMT
EF for haul trucks =	1.14 lb/VMT

WIND EROSION

Stockpiles

Source: MDAQMD Emission Inventory Guidance for Mineral Handling, Section G

EF = J * 1.7 *(sl/1.5) * (365-P)/235 * (I/15) lbs/day/acre

J = 0.5 (PM10)
sl (silt content) = 6 %
P (days of precipitation per year) = 20
I (time wind speed >12 mph) = 15% (George AFB data)

EF = 1.7 *6/1.5 * 345/365 * 15/15
EF = 5 lbs/day/acre

Disturbed Areas

Source: MDAQMD Emission Inventory Guidance for Mineral Handling, Section L

$EF = 2.814 * (1-V) *(U/U_T)^3 * C(X) * K$

V = vegetative cover = 0
U = mean wind speed = 3.8 meters/second (Source: George AFB data)
K for PM10 = 0.5
$U_T = 3.9$
C(X) = correction factor = $0.866 * U_T/U = 0.866 * 3.9/3.8 = 0.89$
C(0.89) = 1.7 (MDAQMD Emission Inventory Guidance, Section L)

$EF = 2.814 * (1-0) * 3.8/3.9)^3 * 1.7 * 0.5$
EF = 2.59 tons/year/acre
= 14 lbs/day/acre

Table C-1
Victorville Landfill Expansion
Existing Conditions (2003) Mobile Source Exhaust Emissions Inventory From Landfill Operation (500 tpd)

Operation		Emission Factor	Units	Equation Variables 1	Equation Variables 2	Emissions PM-10 lbs/day	ROC lbs/day	CO lbs/day	NOX lbs/day	SOX lbs/day
Customer Vehicle Emissions (Onsite)				# of trips per day	vmt					N/A
PM-10	Private	0.000112	pounds/mile	114	1.3	0.02				
	Commercial	0.001	pounds/mile	61	1.3	0.08				
	Transfer	0.001	pounds/mile	15	1.3	0.02				
ROC	Private	0.001935	pounds/mile	114	1.3		0.29			
	Commercial	0.003362	pounds/mile	61	1.3		0.27			
	Transfer	0.003362	pounds/mile	15	1.3		0.07			
CO	Private	0.018150	pounds/mile	114	1.3			2.69		
	Commercial	0.025508	pounds/mile	61	1.3			2.02		
	Transfer	0.025508	pounds/mile	15	1.3			0.50		
NOX	Private	0.002014	pounds/mile	114	1.3				0.30	
	Commercial	0.031208	pounds/mile	61	1.3				2.47	
	Transfer	0.031208	pounds/mile	15	1.3				0.61	
					Sub-total	0.12	0.62	5.21	3.38	----
Landfill Equipment Exhaust Emissions				Pieces of Equipment	Operating Hours					
PM-10	Bulldozers	0.112	lbs/hr	2	7	1.6				
	Scrapers	0.410	lbs/hr	1	6	2.5				
	Water truck	0.260	lbs/hr	1	6	1.6				
	Compactor	0.112	lbs/hr	1	10	1.1				
	Tractor	0.140	lbs/hr	1	1	0.1				
	Graders	0.061	lbs/hr	1	2	0.1				
ROC	Bulldozers	0.120	lbs/hr	2	7		1.7			
	Scrapers	0.270	lbs/hr	1	6		1.6			
	Water truck	0.190	lbs/hr	1	6		1.1			
	Compactor	0.120	lbs/hr	1	10		1.2			
	Tractor	0.180	lbs/hr	1	1		0.2			
	Graders	0.039	lbs/hr	1	2		0.1			
CO	Bulldozers	0.201	lbs/hr	2	7			2.8		
	Scrapers	1.250	lbs/hr	1	6			7.5		
	Water truck	0.680	lbs/hr	1	6			4.1		
	Compactor	0.201	lbs/hr	1	10			2.0		
	Tractor	0.201	lbs/hr	1	1			0.2		
	Graders	0.151	lbs/hr	1	2			0.3		
NOX	Bulldozers	1.260	lbs/hr	2	7				17.6	
	Scrapers	3.840	lbs/hr	1	6				23.0	
	Water truck	4.170	lbs/hr	1	6				25.0	
	Compactor	1.260	lbs/hr	1	10				12.6	
	Tractor	1.270	lbs/hr	1	1				1.3	
	Graders	0.713	lbs/hr	1	2				1.4	
SOX	Bulldozers	0.140	lbs/hr	2	7					2.0
	Scrapers	0.460	lbs/hr	1	6					2.8
	Water truck	0.450	lbs/hr	1	6					2.7
	Compactor	0.140	lbs/hr	1	10					1.4
	Tractor	0.090	lbs/hr	1	1					0.1
	Graders	0.086	lbs/hr	1	2					0.2
					Sub-total	6.97	5.90	16.91	81.00	9.08
					Total	7.09	6.52	22.12	84.38	9.08

Sources - Highway Vehicles: EMFAC 2002, Scenario Year 2003
Onsite Equipment: URBEMIS2001, EMFAC 2002

Table C-2
Victorville Landfill Expansion
Existing Conditions Fugitive Dust (PM10) Emissions Inventory

Operation	Emission Factor	Units	Equation Variables 1	Equation Variables 2	Emissions PM-10 lbs/day Unmitigated	Emissions PM-10 lbs/day Mitigated
Bulldozing			Pieces of Equipment	Operating Hours		
Landfilling operations	21.27	lbs/hr	1	6	127.62	
(Controlled with water spray)	2.23	lbs/hr	1	6		13.38
Grading Roads at the Landfill			Pieces of Equipment	VMT		
Onsite road maintenance	0.28	lbs/vmt	1	6	1.68	0.84
Wind Erosion			Acres			
Active Excavation Areas	14.00	lbs/acre	10		140.00	49.00
Stockpiles	5.00	lbs/acre	2		10.00	3.50
Scrapers			Pieces of Equipment	VMT		
Scraper loading	0.28	lb/vmt	1	1	0.28	0.14
Scraper unloading	0.04	lb/vmt	1	1	0.04	0.02
Scraper Road Dust	4.78	lb/vmt	1	11	52.58	18.40
Customer Vehicle Travel on Access Roads			# of trips per day	VMT		
Group 1						
Access Roads (paved)	0.05	lbs/vmt	114	0.70	3.99	2.00
On-site Roads (unpaved)	2.73	lbs/vmt	114	0.60	186.73	65.36
Group 2						
Access Roads (paved)	1.03	lbs/vmt	61	0.70	43.98	21.99
On-site Roads (unpaved)	2.73	lbs/vmt	61	0.60	99.92	34.97
Group 3						
Access Roads (paved)	1.14	lbs/vmt	15	0.70	11.97	5.99
On-site Roads (unpaved)	2.73	lbs/vmt	15	0.60	24.57	8.60
Customer Vehicle Travel on Access Roads Sub-total					371.16	138.90
				Total	703.36	224.18

Notes: Assume one dozer utilized for borrow area and pushing cover material.
Minimal dust expected with moving and compacting refuse.
Exisiting dust control measures estimated to reduce emissions by 65 percent on unpaved roads and 50 percent on paved roads and grading/scraping.

Table C-3
Victorville Landfill Expansion
Existing Conditions (2003) Landfill Gas Emissions Inventory (500 tpd)

Total Uncontrolled Landfill Gas Generation

LFG_t=[(C)(2000 lbs/ton)(E)]/[(60 min/yr)(24 hrs/day)(365 days/yr)]

Parameter	Variable	Units
C = Refuse in-place	2,000,000	tons
E = Unit Generation Rate	0.07	cf/lb/yr

Source: BAS, 2001, MDAQMD Rule 1126.

	scfm	MMcf/day
LFG_t=	533	0.8

Gas Characteristics	scfm	MMcf/day
Total Methane Generation (45%)=	240	0.3
Total Carbon Dioxide Generation (36.8 %)=	196	0.3
Total Nitrogen Generation (18.2%)=	97	0.1
Amount Collected (Controlled)	400	0.6
Methane	180	0.3
Carbon Dioxide	147	0.2
Nitrogen	73	0.1
Amount Uncollected (Fugitive)	133	0.2
Methane	60	0.1
Carbon Dioxide	49	0.1
Nitrogen	24	0.0

Source:

Collection Efficiency assumed to be 75% (BAS, 2001).

Horizon Air Measurement Services, Inc. Emissions Test of a Landfill Gas Flare, Mid-Valley Landfill, August 1995.

Controlled Flare Exhaust Emissions	Emissions lbs/in place tonnage	Emissions lbs/day
PM10	1.64E-06	3.3
ROC	1.83E-06	3.7
CO	6.91E-05	138.1
NOX	3.68E-06	7.4
SOX	1.62E-06	3.2

Source of Emission Factors: Horizon Air Measurement Services, Inc. Emissions Test of a Landfill Gas Flare, Mid-Valley Landfill, August 1995.

Note: Source testing is required for Victorville Landfill site upon completion of LFG collection and flare system.

Table C-4
Victorville Landfill Expansion
Scenario 1 - Mobile Source Exhaust Emissions Inventory From Landfill Operation (1,100 tpd)

Operation		Emission Factor	Units	Equation Variables 1	Equation Variables 2	Emissions PM-10 lbs/day	Emissions ROC lbs/day	Emissions CO lbs/day	Emissions NOX lbs/day	Emissions SOX lbs/day
Customer Vehicle Emissions (Onsite)				# of trips per day	vmt					N/A
PM-10	Private	0.000122	pounds/mile	252	1.3	0.04				
	Commercial	0.000496	pounds/mile	134	1.3	0.09				
	Transfer	0.000496	pounds/mile	34	1.3	0.02				
ROC	Private	0.000759	pounds/mile	252	1.3		0.25			
	Commercial	0.001635	pounds/mile	134	1.3		0.28			
	Transfer	0.001635	pounds/mile	34	1.3		0.07			
CO	Private	0.006611	pounds/mile	252	1.3			2.17		
	Commercial	0.008582	pounds/mile	134	1.3			1.49		
	Transfer	0.008582	pounds/mile	34	1.3			0.38		
NOX	Private	0.000659	pounds/mile	252	1.3				0.22	
	Commercial	0.011160	pounds/mile	134	1.3				1.94	
	Transfer	0.011160	pounds/mile	34	1.3				0.49	
					Sub-total	0.15	0.61	4.04	2.65	----
Landfill Equipment Exhaust Emissions				Pieces of Equipment	Operating Hours					
PM-10	Bulldozers	0.112	lbs/hr	3	7	2.35				
	Scrapers	0.410	lbs/hr	2	6	4.92				
	Water truck	0.260	lbs/hr	1	8	2.08				
	Compactor	0.112	lbs/hr	1	10	1.12				
	Tractor	0.140	lbs/hr	1	2	0.28				
	Graders	0.061	lbs/hr	1	4	0.24				
ROC	Bulldozers	0.120	lbs/hr	3	7		2.52			
	Scrapers	0.270	lbs/hr	2	6		3.24			
	Water truck	0.190	lbs/hr	1	8		1.52			
	Compactor	0.120	lbs/hr	1	10		1.20			
	Tractor	0.180	lbs/hr	1	2		0.36			
	Graders	0.039	lbs/hr	1	4		0.16			
CO	Bulldozers	0.201	lbs/hr	3	7			4.22		
	Scrapers	1.250	lbs/hr	2	6			15.00		
	Water truck	0.680	lbs/hr	1	8			5.44		
	Compactor	0.201	lbs/hr	1	10			2.01		
	Tractor	0.201	lbs/hr	1	2			0.40		
	Graders	0.151	lbs/hr	1	4			0.60		
NOX	Bulldozers	1.260	lbs/hr	3	7				26.46	
	Scrapers	3.840	lbs/hr	2	6				46.08	
	Water truck	4.170	lbs/hr	1	8				33.36	
	Compactor	1.260	lbs/hr	1	10				12.60	
	Tractor	1.270	lbs/hr	1	2				2.54	
	Graders	0.713	lbs/hr	1	4				2.85	
SOX	Bulldozers	0.140	lbs/hr	3	7					2.94
	Scrapers	0.460	lbs/hr	2	6					5.52
	Water truck	0.450	lbs/hr	1	8					3.60
	Compactor	0.140	lbs/hr	1	10					1.40
	Tractor	0.090	lbs/hr	1	2					0.18
	Graders	0.086	lbs/hr	1	4					0.34
					Sub-total	11.00	9.00	27.68	123.89	13.98
					Total	11.14	9.60	31.72	126.55	13.98

Sources - Highway Vehicles: EMFAC 2002 - Scenario Year 2015
Onsite Equipment: URBEMIS2001, EMFAC 2002

Table C-5
Victorville Landfill Expansion
Scenario 1 - Fugitive Dust (PM10) Emissions Inventory (1,100 tpd)

Operation	Emission Factor	Units	Equation Variables 1	Equation Variables 2	Emissions PM-10 lbs/day Unmitigated	Emissions PM-10 lbs/day Mitigated
Bulldozing Operations			Pieces of Equipment	Operating Hours		
Landfill operations	21.27	lbs/hr	1	8	170.16	
(Controlled with water spray)	2.23	lbs/hr	1	8		17.84
Grading Roads at the Landfill			Pieces of Equipment	VMT		
Onsite road maintenance	0.28	lbs/vmt	1	6	1.68	0.84
Wind Erosion			Acres			
Active Excavation Areas	14.00	lbs/acre	10		140.00	28.00
Stockpiles	5.00	lbs/acre	2		10.00	2.00
Scrapers			Pieces of Equipment	VMT		
Scraper loading	0.28	lb/vmt	2	1.5	0.84	0.42
Scraper unloading	0.04	lb/vmt	2	1.5	0.12	0.06
Scraper Road Dust	4.78	lb/vmt	2	16	152.96	15.30
Customer Vehicle Travel on Access Roads			# of trips per day	VMT		
Group 1						
Access Roads (paved)	0.05	lbs/vmt	252	0.70	8.82	0.88
On-site Roads (unpaved)	2.73	lbs/vmt	252	0.60	412.78	41.28
Group 2						
Access Roads (paved)	1.03	lbs/vmt	134	0.70	96.61	9.66
On-site Roads (unpaved)	2.73	lbs/vmt	134	0.60	219.49	21.95
Group 3						
Access Roads (paved)	1.14	lbs/vmt	34	0.70	27.13	2.71
On-site Roads (unpaved)	2.73	lbs/vmt	34	0.60	55.69	5.57
Customer Vehicle Travel on Access Roads Sub-total					820.53	82.05
				Total	1296.29	146.51

Note: Assume one dozer involved in ripping borrow area and pushing interim/final daily cover.
Minimal dust expected with moving and compacting refuse.
PM10 mitigation estimated to reduce emissions by 90 percent on unpaved roads and paved roads.

Table C-6
Victorville Landfill Expansion
Scenario 1 - Landfill Gas Emissions Inventory (1,100 tpd)

Total Uncontrolled Landfill Gas Generation

LFG_t=[(C)(2000 lbs/ton)(E)]/[(60 min/yr)(24 hrs/day)(365 days/yr)]

Parameter	Variable	Units
C = Refuse in-place	3,600,000	tons
E = Unit Generation Rate	0.07	cf/lb/yr

Source: BAS, 2001; MDAQMD Rule 1126.

	scfm	MMcf/day
LFG_t=	959	1.4

Gas Characteristics	scfm	MMcf/day
Total Methane Generation (45%)=	432	0.6
Total Carbon Dioxide Generation (36.8 %)=	353	0.5
Total Nitrogen Generation (18.2%)=	175	0.3
Amount Collected (Controlled)	719	1.0
Methane	323	0.5
Carbon Dioxide	265	0.4
Nitrogen	131	0.2
Amount Uncollected (Fugitive)	240	0.3
Methane	108	0.2
Carbon Dioxide	88	0.1
Nitrogen	44	0.1

Source:

Collection Efficiency assumed to be 75% (BAS, 2001).

Horizon Air Measurement Services, Inc. Emissions Test of a Landfill Gas Flare, Mid-Valley Landfill, August 1995.

Controlled Flare Exhaust Emissions	Emissions lbs/in place tonnage	Emissions lbs/day
PM10	1.64E-06	5.9
ROC	1.83E-06	6.6
CO	6.91E-05	248.7
NOX	3.68E-06	13.2
SOX	1.62E-06	5.8

Source of Emission Factors: Horizon Air Measurement Services, Inc. Emissions Test of a Landfill Gas Flare, Mid-Valley Landfill, August 1995.

Note: Source testing is required for Victorville Landfill site upon completion of LFG collection and flare system.

Table C-7
Victorville Landfill Expansion
Scenario 2 - Mobile Source Exhaust Emissions Inventory From Landfill Operation (1,600 tpd)

Operation		Emission Factor	Units	Equation Variables 1	Equation Variables 2	Emissions PM-10 lbs/day	ROC lbs/day	CO lbs/day	NOX lbs/day	SOX lbs/day
Customer Vehicle Emissions (Onsite)				# of trips per day	vmt					N/A
PM-10	Private	0.000125	pounds/mile	360	1.9	0.09				
	Commercial	0.000358	pounds/mile	192	1.9	0.13				
	Transfer	0.000358	pounds/mile	48	1.9	0.03				
ROC	Private	0.000433	pounds/mile	360	1.9		0.30			
	Commercial	0.00114	pounds/mile	192	1.9		0.42			
	Transfer	0.00114	pounds/mile	48	1.9		0.10			
CO	Private	0.003216	pounds/mile	360	1.9			2.20		
	Commercial	0.004958	pounds/mile	192	1.9			1.81		
	Transfer	0.004938	pounds/mile	48	1.9			0.45		
NOX	Private	0.000304	pounds/mile	360	1.9				0.21	
	Commercial	0.004983	pounds/mile	192	1.9				1.82	
	Transfer	0.004983	pounds/mile	48	1.9				0.45	
					Sub-total	0.25	0.82	4.46	2.48	---
Landfill Equipment Exhaust Emissions				Pieces of Equipment	Operating Hours					
PM-10	Bulldozers	0.112	lbs/hr	3	8	2.69				
	Scrapers	0.410	lbs/hr	2	8	6.56				
	Water truck	0.260	lbs/hr	1	10	2.60				
	Compactor	0.112	lbs/hr	1	10	1.12				
	Tractor	0.140	lbs/hr	1	3	0.42				
	Graders	0.061	lbs/hr	1	6	0.37				
ROC	Bulldozers	0.120	lbs/hr	3	8		2.88			
	Scrapers	0.270	lbs/hr	2	8		4.32			
	Water truck	0.190	lbs/hr	1	10		1.90			
	Compactor	0.120	lbs/hr	1	10		1.20			
	Tractor	0.180	lbs/hr	1	3		0.54			
	Graders	0.039	lbs/hr	1	6		0.23			
CO	Bulldozers	0.201	lbs/hr	3	8			4.82		
	Scrapers	1.250	lbs/hr	2	8			20.00		
	Water truck	0.680	lbs/hr	1	10			6.80		
	Compactor	0.201	lbs/hr	1	10			2.01		
	Tractor	0.201	lbs/hr	1	3			0.60		
	Graders	0.151	lbs/hr	1	6			0.91		
NOX	Bulldozers	1.260	lbs/hr	3	8				30.24	
	Scrapers	3.840	lbs/hr	2	8				61.44	
	Water truck	4.170	lbs/hr	1	10				41.70	
	Compactor	1.260	lbs/hr	1	10				12.60	
	Tractor	1.270	lbs/hr	1	3				3.81	
	Graders	0.713	lbs/hr	1	6				4.28	
SOX	Bulldozers	0.140	lbs/hr	3	8					3.36
	Scrapers	0.460	lbs/hr	2	8					7.36
	Water truck	0.450	lbs/hr	1	10					4.50
	Compactor	0.140	lbs/hr	1	10					1.40
	Tractor	0.090	lbs/hr	1	3					0.27
	Graders	0.086	lbs/hr	1	6					0.52
					Sub-total	13.75	11.07	35.14	154.07	17.41
					Total	14.00	11.89	39.60	156.55	17.41

Sources - Highway Vehicles: EMFAC 2002 - Scenario Year 2025
Onsite Equipment: URBEMIS2001, EMFAC 2002

Table C-8
Victorville Landfill Expansion
Scenario 2 - Fugitive Dust (PM10) Emissions Inventory (1,600 tpd)

Operation	Emission Factor	Units	Equation Variables 1	Equation Variables 2	Emissions PM-10 lbs/day Unmitigated	Emissions PM-10 lbs/day Mitigated
Bulldozing Operations			Pieces of Equipment	Operating Hours		
Landfilling operations	21.27	lbs/hr	1	10	212.70	
(Controlled with water spray)	2.23	lbs/hr	1	10		22.30
Grading Roads at the Landfill			Pieces of Equipment	VMT		
Onsite road maintenance	0.28	lbs/vmt	1	4	1.12	0.56
Wind Erosion			Acres			
Active Excavation Areas	14.00	lbs/acre	10		140.00	28.00
Stockpiles	5.00	lbs/acre	2		10.00	2.00
Scrapers			Pieces of Equipment	VMT		
Scraper Loading	0.28	lb/vmt	2	2.1	1.18	0.59
Scraper Unloading	0.04	lb/vmt	2	2.1	0.17	0.08
Scraper Road Dust	4.78	lb/vmt	2	18	172.08	60.23
Customer Vehicle Travel on Access Roads			# of trips per day	VMT		
Group 1						
Access Roads (paved)	0.05	lbs/vmt	360	0.75	13.50	1.35
On-site Roads (unpaved)	2.73	lbs/vmt	360	1.15	1130.22	113.02
Group 2						
Access Roads (paved)	1.03	lbs/vmt	192	0.75	148.32	14.83
On-site Roads (unpaved)	2.73	lbs/vmt	192	1.15	602.78	60.28
Group 3						
Access Roads (paved)	1.140	lbs/vmt	48	0.75	41.04	4.10
On-site Roads (unpaved)	2.73	lbs/vmt	48	1.15	150.70	15.07
Customer Vehicle Travel on Access Roads Sub-total					2086.56	208.66
				Total	2623.80	322.42

Note: Assume one dozer involved in ripping borrow area and pushing interim/final daily cover.
Minimal dust expected with moving and compacting refuse.
PM10 mitigation estimated to reduce emissions by 90 percent on unpaved roads and paved roads.

Table C-9
Victorville Landfill Expansion
Scenario 2 - Landfill Gas Emissions Inventory (1,600 tpd)

Total Uncontrolled Landfill Gas Generation

LFG_t=[(C)(2000 lbs/ton)(E)]/[(60 min/yr)(24 hrs/day)(365 days/yr)]

Parameter	Variable	Units
C = Refuse in-place	12,954,000	tons
E = Unit Generation Rate	0.07	cf/lb/yr

Collection Efficiency assumed to be 75% (BAS, 2001).

	scfm	MMcf/day
LFG_t=	3450	5.0

Gas Characteristics	scfm	MMcf/day
Total Methane Generation (45%)=	1553	2.2
Total Carbon Dioxide Generation (36.8%)	1270	1.8
Total Nitrogen Generation (18.2%)=	628	0.9
Amount Collected (Controlled)	2415	3.5
Methane	1087	1.6
Carbon Dioxide	889	1.3
Nitrogen	440	0.6
Amount Uncollected (Fugitive)	1035	1.5
Methane	466	0.7
Carbon Dioxide	381	0.5
Nitrogen	188	0.3

Source:

Collection Efficiency assumed to be 75% (BAS, 2001).

Horizon Air Measurement Services, Inc. Emissions Test of a Landfill Gas Flare, Mid-Valley Landfill, August 1995.

Controlled Flare Exhaust Emissions	Emissions lbs/in place tonnage	Emissions lbs/day
PM10	1.64E-06	21.2
ROC	1.83E-06	23.7
CO	6.91E-05	894.8
NOX	3.68E-06	47.6
SOX	1.62E-06	21.0

Source of Emission Factors: Horizon Air Measurement Services, Inc. Emissions Test of a Landfill Gas Flare, Mid-Valley Landfill, August 1995.

Note: Source testing is required for Victorville Landfill site upon completion of LFG collection and flare system.

Table C-10
Victorville Landfill Expansion
Scenario 3 - Mobile Source Exhaust Emissions Inventory From Landfill Operations (3,000 tpd)

Operation		Emission Factor	Units	Equation Variables 1	Equation Variables 2	Emissions PM-10 lbs/day	ROC lbs/day	CO lbs/day	NOX lbs/day	SOX lbs/day
Customer Vehicle Emissions (Onsite)				# of trips per day	vmt					N/A
PM-10	Private	0.000125	pounds/mile	687	1.5	0.13				
	Commercial	0.000358	pounds/mile	366	1.5	0.20				
	Transfer	0.000358	pounds/mile	92	1.5	0.05				
ROC	Private	0.000433	pounds/mile	687	1.5		0.45			
	Commercial	0.00114	pounds/mile	386	1.5		0.66			
	Transfer	0.00114	pounds/mile	92	1.5		0.16			
CO	Private	0.003216	pounds/mile	687	1.5			3.31		
	Commercial	0.004958	pounds/mile	366	1.5			2.72		
	Transfer	0.004958	pounds/mile	92	1.5			0.68		
NOX	Private	0.000304	pounds/mile	360	1.5				0.16	
	Commercial	0.004983	pounds/mile	192	1.5				1.44	
	Transfer	0.004938	pounds/mile	48	1.5				0.36	
					Sub-total	0.37	1.26	6.72	1.95	---
Landfill Equipment Exhaust Emissions				Pieces of Equipment	Operating Hours					
PM-10	Bulldozers	0.112	lbs/hr	4	8	3.58				
	Scrapers	0.410	lbs/hr	3	8	9.84				
	Water truck	0.260	lbs/hr	1	10	2.60				
	Compactor	0.112	lbs/hr	2	10	2.24				
	Tractor	0.140	lbs/hr	1	6	0.84				
	Graders	0.061	lbs/hr	1	8	0.49				
ROC	Bulldozers	0.120	lbs/hr	4	8		3.84			
	Scrapers	0.270	lbs/hr	3	8		6.48			
	Water truck	0.190	lbs/hr	1	10		1.90			
	Compactor	0.120	lbs/hr	2	10		2.40			
	Tractor	0.180	lbs/hr	1	6		1.08			
	Graders	0.039	lbs/hr	1	8		0.31			
CO	Bulldozers	0.201	lbs/hr	4	8			6.43		
	Scrapers	1.250	lbs/hr	3	8			30.00		
	Water truck	0.680	lbs/hr	1	10			6.80		
	Compactor	0.201	lbs/hr	2	10			4.02		
	Tractor	0.201	lbs/hr	1	6			1.21		
	Graders	0.151	lbs/hr	1	8			1.21		
NOX	Bulldozers	1.260	lbs/hr	4	8				40.32	
	Scrapers	3.840	lbs/hr	3	8				92.16	
	Water truck	4.170	lbs/hr	1	10				41.70	
	Compactor	1.260	lbs/hr	2	10				25.20	
	Tractor	1.270	lbs/hr	1	6				7.62	
	Graders	0.713	lbs/hr	1	8				5.70	
SOX	Bulldozers	0.140	lbs/hr	4	8					4.48
	Scrapers	0.460	lbs/hr	3	8					11.04
	Water truck	0.450	lbs/hr	1	10					4.50
	Compactor	0.140	lbs/hr	2	10					2.80
	Tractor	0.090	lbs/hr	1	6					0.54
	Graders	0.086	lbs/hr	1	8					0.69
					Sub-total	19.59	16.01	49.67	212.70	24.05
					Total	19.97	17.28	56.39	214.66	24.05

Sources - Highway Vehicles: EMFAC 2002 - Scenario Year 2025
Onsite Equipment: URBEMIS2001, EMFAC 2002

Table C-11
Victorville Landfill Expansion
Scenario 3 - Fugitive Dust (PM10) Emissions Inventory (3,000 tpd)

Operation	Emission Factor	Units	Equation Variables 1	Equation Variables 2	Emissions PM-10 lbs/day Unmitigated	Emissions PM-10 lbs/day Mitigated
Bulldozing Operations			Pieces of Equipment	Operating Hours		
Landfilling operations	21.27	lbs/hr	2	8	340.32	
(Controlled with water spray)	2.23	lbs/hr	2	8		35.68
Grading Roads at the Landfill			Pieces of Equipment	VMT		
Onsite road maintenance	0.28	lbs/vmt	1	8	2.24	1.12
Wind Erosion			Acres			
Active Excavation Areas	14.00	lbs/acre	10		140.00	28.00
Stockpiles	5.00	lbs/acre	60		300.00	60.00
Scrapers			Pieces of Equipment	VMT		
Scraper Loading	0.28	lb/vmt	3	2.3	1.93	0.97
Scraper Unloading	0.04	lb/vmt	3	2.3	0.28	0.14
Scraper Road Dust	4.78	lb/vmt	3	14	200.76	70.27
Customer Vehicle Travel on Access Roads			# of trips per day	VMT		
Group 1						
Access Roads (paved)	0.05	lbs/vmt	387	0.70	13.55	1.49
On-site Roads (unpaved)	2.73	lbs/vmt	687	0.80	1500.41	150.04
Group 2						
Access Roads (paved)	1.03	lbs/vmt	366	0.70	263.89	26.39
On-site Roads (unpaved)	2.73	lbs/vmt	366	0.80	799.34	79.93
Group 3						
Access Roads (paved)	1.14	lbs/vmt	92	0.70	73.42	7.34
On-site Roads (unpaved)	2.73	lbs/vmt	92	0.80	200.93	20.09
Customer Vehicle Travel on Access Roads Sub-total					2851.53	285.29
				Total	3837.06	481.46

Note: Assume two dozers involved in ripping borrow area and pushing interim/final daily cover.
Minimal dust expected with moving and compacting refuse.
PM10 mitigation estimated to reduce emissions by 90 percent on unpaved roads and paved roads.

Table C - 12
Victorville Landfill Expansion
Scenario 3 - Landfill Gas Emissions Inventory (3,000 tpd)

Total Uncontrolled Landfill Gas Generation

LFG_t=[(C)(2000 lbs/ton)(E)]/[(60 min/yr)(24 hrs/day)(365 days/yr)]

Parameter	Variable	Units
C = Refuse in-place	31,929,000	tons
E = Unit Generation Rate	0.07	cf/lb/yr

Source: BAS, 2001; MDAQMD Rule 1126.

	scfm	MMcf/day
LFG_t=	8505	12.2

Gas Characteristics	scfm	MMcf/day
Total Methane Generation (45%)=	3827	5.5
Total Carbon Dioxide Generation (36.8 %)	3130	4.5
Total Nitrogen Generation (18.2%)=	1548	2.2
Amount Collected (Controlled)	5953	8.6
Methane	2679	3.9
Carbon Dioxide	2191	3.2
Nitrogen	1083	1.6
Amount Uncollected (Fugitive)	2551	3.7
Methane	1148	1.7
Carbon Dioxide	939	1.4
Nitrogen	464	0.7

Source:

Collection Efficiency assumed to be 75% (BAS, 2001).

Horizon Air Measurement Services, Inc. Emissions Test of a Landfill Gas Flare, Mid-Valley Landfill, August 1995.

Controlled Flare Exhaust Emissions	Emissions lbs/in place tonnage	Emissions lbs/day
PM10	1.64E-06	52.2
ROC	1.83E-06	58.3
CO	6.91E-05	2205.4
NOX	3.68E-06	117.4
SOX	1.62E-06	51.7

Source of Emission Factors: Horizon Air Measurement Services, Inc. Emissions Test of a Landfill Gas Flare, Mid-Valley Landfill, August 1995.

Note: Source testing is required for Victorville Landfill site upon completion of LFG collection and flare system.

Table C-13
Victorville Landfill Offsite Vehicle Emissions

Existing Conditions

Operation		Emission Factor	Units	Equation Variables 1	Equation Variables 2	Emissions PM-10 lbs/day	Emissions ROC lbs/day	Emissions CO lbs/day	Emissions NOX lbs/day
Customer Vehicle Emissions (Offsite)				# of trips per day	vmt				
PM-10	Private	0.000112	lbs/mile	114	12	0.15			
	Commercial	0.001003	lbs/mile	61	16	0.98			
	Transfer	0.001003	lbs/mile	15	40	0.60			
ROC	Private	0.001935	lbs/mile	114	12		2.65		
	Commercial	0.003362	lbs/mile	61	16		3.28		
	Transfer	0.003362	lbs/mile	14	40		1.88		
CO	Private	0.018150	lbs/mile	114	12			24.83	
	Commercial	0.025508	lbs/mile	61	16			24.90	
	Transfer	0.025508	lbs/mile	15	40			15.30	
NOX	Private	0.002014	lbs/mile	114	12				2.76
	Commercial	0.031208	lbs/mile	61	16				30.46
	Transfer	0.031208	lbs/mile	14	40				17.48
					Total	1.73	7.81	65.03	50.69

Source: EMFAC 2002, Scenario Year 2003

Phase 2 - 1,100 tpd

Operation		Emission Factor	Units	Equation Variables 1	Equation Variables 2	Emissions PM-10 lbs/day	Emissions ROC lbs/day	Emissions CO lbs/day	Emissions NOX lbs/day
Customer Vehicle Emissions (Offsite)				# of trips per day	vmt				
PM-10	Private	0.000112	lbs/mile	252	12	0.34			
	Commercial	0.000496	lbs/mile	134	16	1.06			
	Transfer	0.000496	lbs/mile	34	40	0.67			
ROC	Private	0.000759	lbs/mile	252	12		2.30		
	Commercial	0.001635	lbs/mile	134	16		3.51		
	Transfer	0.001635	lbs/mile	34	40		2.22		
CO	Private	0.006611	lbs/mile	252	12			19.99	
	Commercial	0.008582	lbs/mile	134	16			18.40	
	Transfer	0.008582	lbs/mile	34	40			11.67	
NOX	Private	0.000659	lbs/mile	252	12				1.99
	Commercial	0.011160	lbs/mile	134	16				23.93
	Transfer	0.01116	lbs/mile	34	40				15.18
					Total	2.08	8.02	50.06	41.10

Source: EMFAC 2002, Scenario Year 2015

Phase 3 (1,600 tpd)

Operation		Emission Factor	Units	Equation Variables 1	Equation Variables 2	Emissions PM-10 lbs/day	Emissions ROC lbs/day	Emissions CO lbs/day	Emissions NOX lbs/day
Customer Vehicle Emissions (Offsite)				# of trips per day	vmt				
PM-10	Private	0.000125	lbs/mile	360	12	0.54			
	Commercial	0.000358	lbs/mile	192	16	1.10			
	Transfer	0.000358	lbs/mile	48	40	0.69			
ROC	Private	0.000433	lbs/mile	360	12		1.87		
	Commercial	0.00114	lbs/mile	192	16		3.50		
	Transfer	0.00114	lbs/mile	48	40		2.19		
CO	Private	0.003216	lbs/mile	360	12			13.89	
	Commercial	0.004958	lbs/mile	192	16			15.23	
	Transfer	0.004958	lbs/mile	48	40			9.52	
NOX	Private	0.000304	lbs/mile	360	12				1.31
	Commercial	0.004938	lbs/mile	192	16				15.17
	Transfer	0.004938	lbs/mile	48	40				9.48
					Total	2.33	7.56	38.64	16.48

Source: EMFAC 2002, Scenario Year 2025

Final Phase - 3,000 tpd

Operation		Emission Factor	Units	Equation Variables 1	Equation Variables 2	Emissions PM-10 lbs/day	Emissions ROC lbs/day	Emissions CO lbs/day	Emissions NOX lbs/day
Customer Vehicle Emissions (Offsite)				# of trips per day	vmt				
PM-10	Private	0.000125	lbs/mile	687	12	1.03			
	Commercial	0.000358	lbs/mile	366	16	2.10			
	Transfer	0.000358	lbs/mile	92	40	1.32			
ROC	Private	0.000433	lbs/mile	687	12		3.57		
	Commercial	0.00114	lbs/mile	366	16		6.68		
	Transfer	0.00114	lbs/mile	92	40		4.20		
CO	Private	0.003216	lbs/mile	687	12			26.51	
	Commercial	0.004958	lbs/mile	366	16			29.03	
	Transfer	0.004958	lbs/mile	92	40			18.25	
NOX	Private	0.000304	lbs/mile	687	12				2.51
	Commercial	0.004983	lbs/mile	366	16				29.18
	Transfer	0.004983	lbs/mile	92	40				18.34
					Total	4.44	14.44	73.79	50.02

Source: EMFAC 2002, Scenario Year 2025

Table C-14
Victorville Landfill Expansion
Liner Construction Exhaust Emissions

Operation		Emission Factor	Units	Equation Variables 1	Equation Variables 2	Emissions PM-10 lbs/day	ROC lbs/day	CO lbs/day	NOX lbs/day	SOX lbs/day
Truck Emissions				# of trips per day	vmt					N/A
PM-10	Employee Vehicles	0.000112	pounds/mile	10	1.5	0.00				
	Trucks	0.001	pounds/mile	60	1.5	0.09				
						0.00				
ROC	Employee Vehicles	0.001935	pounds/mile	10	1.5		0.03			
	Trucks	0.003362	pounds/mile	60	1.5		0.30			
							0.00			
CO	Employee Vehicles	0.018150	pounds/mile	10	1.5			0.27		
	Trucks	0.025508	pounds/mile	60	1.5			2.30		
								0.00		
NOX	Employee Vehicles	0.002014	pounds/mile	10	1.5				0.03	
	Trucks	0.031208	pounds/mile	60	1.5				2.81	
									0.00	
					Sub-total	0.09	0.33	2.57	2.84	----
Construction Equipment Exhaust Emissions				Pieces of Equipment	Operating Hours					
PM-10	Bulldozers	0.112	lbs/hr	1	8	0.9				
	Scrapers	0.410	lbs/hr	2	6	4.9				
	Water truck	0.260	lbs/hr	1	8	2.1				
	Compactor	0.112	lbs/hr	1	8	0.9				
	Forklift	0.930	lbs/hr	1	8	7.4				
	Graders	0.061	lbs/hr	1	8	0.5				
ROC	Bulldozers	0.120	lbs/hr	1	8		1.0			
	Scrapers	0.270	lbs/hr	2	6		3.2			
	Water truck	0.190	lbs/hr	1	8		1.5			
	Compactor	0.120	lbs/hr	1	8		1.0			
	Forklift	0.170	lbs/hr	1	8		1.4			
	Graders	0.039	lbs/hr	1	8		0.3			
CO	Bulldozers	0.201	lbs/hr	1	8			1.6		
	Scrapers	1.250	lbs/hr	2	6			15.0		
	Water truck	0.680	lbs/hr	1	8			5.4		
	Compactor	0.201	lbs/hr	1	8			1.6		
	Forklift	0.201	lbs/hr	1	8			1.6		
	Graders	0.151	lbs/hr	1	8			1.2		
NOX	Bulldozers	1.260	lbs/hr	1	8				10.1	
	Scrapers	3.840	lbs/hr	2	6				46.1	
	Water truck	4.170	lbs/hr	1	8				33.4	
	Compactor	1.260	lbs/hr	1	8				10.1	
	Forklift	1.540	lbs/hr	1	8				12.3	
	Graders	0.713	lbs/hr	1	8				5.7	
SOX	Bulldozers	0.140	lbs/hr	1	8					1.1
	Scrapers	0.460	lbs/hr	2	6					5.5
	Water truck	0.450	lbs/hr	1	8					3.6
	Compactor	0.140	lbs/hr	1	8					1.1
	Forklift	0.090	lbs/hr	1	8					0.7
	Graders	0.086	lbs/hr	1	8					0.7
					Sub-total	16.72	8.35	26.47	117.62	12.77
					Total	16.81	8.68	29.04	120.46	12.77

Sources - Highway Vehicles: EMFAC7
Onsite Equipment: URBEMIS2001, EMFAC7

Table C-15
Victorville Landfill Expansion
Liner Construction Fugitive Dust (PM10) Emissions Inventory

Operation	Emission Factor	Units	Equation Variables 1	Equation Variables 2	Emissions PM-10 lbs/day Unmitigated	Emissions PM-10 lbs/day Mitigated
Bulldozing			Pieces of Equipment	Operating Hours		
Dozing	21.27	lbs/hr	1	8	170.16	
(Controlled with water spray)	2.23	lbs/hr	1	8		17.84
Grading			Pieces of Equipment	VMT		
Grading material	0.28	lbs/vmt	1	10	2.80	1.40
Wind Erosion			Acres			
Construction Area (Half of Site)	14.00	lbs/acre	10		140.00	14.00
Scrapers			Pieces of Equipment	VMT		
Scraper loading	0.28	lb/vmt	2	1	0.56	0.28
Scraper unloading	0.04	lb/vmt	2	1	0.08	0.04
Scraper Road Dust	4.78	lb/vmt	2	10	95.60	9.56
Truck Travel on Access Roads			# of trips per day	VMT		
Access Roads (paved)	1.14	lbs/vmt	60	0.75	51.30	5.13
On-site Roads (unpaved)	2.73	lbs/vmt	60	0.75	122.85	12.29
Truck Travel Sub-total					174.15	17.42
				Total	583.35	60.54

Notes:
Required dust control measures estimated to reduce emissions by 90 percent on roads and 50 percent for grading/scraping.

Table C-16
Victorville Landfill Expansion
Phase 3 Mass Excavation Exhaust Emissions

						PM-10	ROC	CO	NOX	SOX
Construction Equipment Exhaust Emissions				Pieces of Equipment	Operating Hours	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day
PM-10	Bulldozers	0.112	lbs/hr	3	8	2.69				
	Scrapers	0.410	lbs/hr	10	8	32.80				
	Water truck	0.260	lbs/hr	2	8	4.16				
	Loader	0.170	lbs/hr	1	8	1.36				
	Back Drag	0.140	lbs/hr	1	8	1.12				
	Graders	0.061	lbs/hr	1	8	0.49				
ROC	Bulldozers	0.120	lbs/hr	3	8		2.88			
	Scrapers	0.270	lbs/hr	10	8		21.60			
	Water truck	0.190	lbs/hr	2	8		3.04			
	Loader	0.230	lbs/hr	1	8		1.84			
	Back Drag	0.120	lbs/hr	1	8		0.96			
	Graders	0.039	lbs/hr	1	8		0.31			
CO	Bulldozers	0.201	lbs/hr	3	8			4.82		
	Scrapers	1.250	lbs/hr	10	8			100.00		
	Water truck	0.680	lbs/hr	2	8			10.88		
	Loader	0.201	lbs/hr	1	8			1.61		
	Back Drag	0.201	lbs/hr	1	8			1.61		
	Graders	0.151	lbs/hr	1	8			1.21		
NOX	Bulldozers	1.260	lbs/hr	3	8				30.24	
	Scrapers	3.840	lbs/hr	10	8				307.20	
	Water truck	4.170	lbs/hr	2	8				66.72	
	Loader	1.900	lbs/hr	1	8				15.20	
	Back Drag	1.260	lbs/hr	1	8				10.08	
	Graders	0.713	lbs/hr	1	8				5.70	
SOX	Bulldozers	0.140	lbs/hr	3	8					3.36
	Scrapers	0.460	lbs/hr	10	8					36.80
	Water truck	0.450	lbs/hr	2	8					7.20
	Loader	0.182	lbs/hr	1	8					1.46
	Back Drag	0.140	lbs/hr	1	8					1.12
	Graders	0.086	lbs/hr	1	8					0.69
					Total	42.62	30.63	120.13	435.14	50.62

Sources - Highway Vehicles: EMFAC 2002
Onsite Equipment: URBEMIS2001, EMFAC 2002

Table C-17
Victorville Landfill Expansion
Phase 3 Mass Excavation Fugitive Dust (PM10) Emissions Inventory

Operation	Emission Factor	Units	Equation Variables 1	Equation Variables 2	Emissions PM-10 lbs/day Unmitigated	Emissions PM-10 lbs/day Mitigated
Bulldozing			Pieces of Equipment	Operating Hours		
Dozing	21.27	lbs/hr	3	8	510.48	
(Controlled with water spray)	2.23	lbs/hr	3	8		53.52
Grading			Pieces of Equipment	VMT		
Grading	0.28	lbs/vmt	1	24	6.72	3.36
Wind Erosion			Acres			
Active Excavation Areas	14.00	lbs/acre	22		308.00	61.60
Scrapers			Pieces of Equipment	VMT		
Scraper loading	0.28	lb/vmt	10	2.7	7.56	3.78
Scraper unloading	0.04	lb/vmt	10	2.7	1.08	0.54
Scraper Road Dust	4.78	lb/vmt	10	28	1338.40	133.84
				Total	2172.24	256.64

Notes: Dust control measures estimated to reduce emissions by 90 percent on active areas and roads and 50 percent for grading/scraping.

VICTORVILLE SANITARY LANDFILL
LANDFILL EXPANSION

PHASE	WASTE AIRSPACE (CY)	WASTE AIRSPACE (TONS)	EXPECTED DATE CAPACITY IS REACHED
Permit	2,993,000	1,795,800	Jan 2010
1A	1,657,513	994,508	Dec 2013
1B	16,940,334	10,164,200	Jul 2040
2	31,623,885	18,974,331	Aug 2065
3	30,802,936	18,481,762	Feb 2081
TOTAL	**84,017,668**	**50,410,601**	

ANTICIPATED YEAR INCOMING TONNAGE WILL EXCEED 1,600 TPD = YEAR 2055

VICTORVILLE SANITARY LANDFILL
DIMINISHING CAPACITY (PHASED LANDFILL EXPANSION)

INITIAL AVERAGE TPD:	400	MAXIMUM AVERAGE TPD:	5,000	**REMAINING AIRSPACE**	
WORKING DAYS PER YEAR:	358			PERMITTED FOOTPRINT (CY):	2,993,000
COVER RATIO:	3:1			EXPANSION AREA (CY):	81,024,668
IN-PLACE DENSITY:	1,200			INITIAL AIRSPACE (CY):	84,017,668
TONNAGE GROWTH OF:	2.7%	STARTING	1/1/02	TOPO DATE:	7/1/2001
INITIAL AVERAGE TPD TRANSFERED:		0			

NOTE: See Phased Landfill Expansion - Soil Volume Summary calc. sheet (L:\SanBern SWMD\2000.003\JTD Engr\Calcs\Excavation Quantities \Excava & Fill. Xls - Summary).
Permitted Remaining Airspace is higher on expansion calculation due to final cover volume.

YEAR	SOLID WASTE (TONS)	SOLID WASTE TS (TONS)	TOTAL WASTE (TONS)	TOTAL WASTE (TPD)	TOTAL WASTE (CY)	DAILY COVER (CY)	TOTAL VOLUME (CY)	CUMULATIVE VOLUME (CY)	REMAINING CAPACITY (CY)	PHASE
2001									84,017,668	Permit
2002	143,200	0	143,200	400	238,667	79,556	318,222	318,222	83,699,446	
2003	147,066	0	147,066	411	245,111	81,704	326,814	645,036	83,372,632	
2004	151,037	0	151,037	422	251,729	83,910	335,638	980,675	83,036,993	
2005	155,115	0	155,115	433	258,525	86,175	344,700	1,325,375	82,692,293	
2006	159,303	0	159,303	445	265,506	88,502	354,007	1,679,382	82,338,286	
2007	163,604	0	163,604	457	272,674	90,891	363,566	2,042,948	81,974,720	
2008	168,022	0	168,022	469	280,036	93,345	373,382	2,416,330	81,601,338	
2009	172,558	0	172,558	482	287,597	95,866	383,463	2,799,793	81,217,875	Jan 2010
2010	177,217	0	177,217	495	295,362	98,454	393,817	3,193,610	80,824,058	Phase 1A
2011	182,002	0	182,002	508	303,337	101,112	404,450	3,598,059	80,419,609	
2012	186,916	0	186,916	522	311,527	103,842	415,370	4,013,429	80,004,239	
2013	191,963	0	191,963	536	319,939	106,646	426,585	4,440,014	79,577,654	Dec 2013
2014	197,146	0	197,146	551	328,577	109,526	438,103	4,878,116	79,139,552	Phase 1B
2015	202,469	0	202,469	566	337,449	112,483	449,931	5,328,048	78,689,620	
2016	207,936	0	207,936	581	346,560	115,520	462,080	5,790,127	78,227,541	
2017	213,550	0	213,550	597	355,917	118,639	474,556	6,264,683	77,752,985	
2018	219,316	0	219,316	613	365,526	121,842	487,369	6,752,052	77,265,616	
2019	225,237	0	225,237	629	375,396	125,132	500,528	7,252,579	76,765,089	
2020	231,319	0	231,319	646	385,531	128,510	514,042	7,766,621	76,251,047	
2021	237,564	0	237,564	664	395,941	131,980	527,921	8,294,542	75,723,126	
2022	243,979	0	243,979	682	406,631	135,544	542,175	8,836,717	75,180,951	
2023	250,566	0	250,566	700	417,610	139,203	556,814	9,393,531	74,624,137	
2024	257,331	0	257,331	719	428,886	142,962	571,848	9,965,378	74,052,290	
2025	264,279	0	264,279	738	440,466	146,822	587,287	10,552,666	73,465,002	
2026	271,415	0	271,415	758	452,358	150,786	603,144	11,155,810	72,861,858	
2027	278,743	0	278,743	779	464,572	154,857	619,429	11,775,239	72,242,429	
2028	286,269	0	286,269	800	477,115	159,038	636,154	12,411,393	71,606,275	
2029	293,998	0	293,998	821	489,997	163,332	653,330	13,064,722	70,952,946	
2030	301,936	0	301,936	843	503,227	167,742	670,970	13,735,692	70,281,976	
2031	310,089	0	310,089	866	516,814	172,271	689,086	14,424,778	69,592,890	
2032	318,461	0	318,461	890	530,768	176,923	707,691	15,132,469	68,885,199	
2033	327,060	0	327,060	914	545,099	181,700	726,799	15,859,268	68,158,400	
2034	335,890	0	335,890	938	559,817	186,606	746,422	16,605,691	67,411,977	

VICTORVILLE SANITARY LANDFILL
DEMINISHING CAPACITY (PHASED LANDFILL EXPANSION)

INITIAL AVERAGE TPD:	400	MAXIMUM AVERAGE TPD:	5,000	**REMAINING AIRSPACE**	
WORKING DAYS PER YEAR:	358			PERMITTED FOOTPRINT (CY):	2,993,000
COVER RATIO: 3:1				EXPANSION AREA (CY):	81,024,668
IN-PLACE DENSITY:	1,200			INITIAL AIRSPACE (CY):	84,017,668
TONNAGE GROWTH OF:	2.7%	STARTING	1/1/02	TOPO DATE:	7/1/2001
INITIAL AVERAGE TPD TRANSFERED:		0			

NOTE: See Phased Landfill Expansion - Soil Volume Summary calc. sheet (L:\SanBern SWMD\2000.003\JTD Engr\Calcs\Excavation Quantities \Excava & Fill. Xls - Summary).
Permitted Remaining Airspace is higher on expansion calculation due to final cover volume.

YEAR	SOLID WASTE (TONS)	SOLID WASTE TS (TONS)	TOTAL WASTE (TONS)	TOTAL WASTE (TPD)	TOTAL WASTE (CY)	DAILY COVER (CY)	TOTAL VOLUME (CY)	CUMULATIVE VOLUME (CY)	REMAINING CAPACITY (CY)	PHASE
2035	344,959	0	344,959	964	574,932	191,644	766,576	17,372,266	66,645,402	
2036	354,273	0	354,273	990	590,455	196,818	787,273	18,159,540	65,858,128	
2037	363,838	0	363,838	1,016	606,397	202,132	808,530	18,968,070	65,049,598	
2038	373,662	0	373,662	1,044	622,770	207,590	830,360	19,798,430	64,219,238	
2039	383,751	0	383,751	1,072	639,585	213,195	852,780	20,651,210	63,366,458	
2040	394,112	0	394,112	1,101	656,854	218,951	875,805	21,527,014	62,490,654	Jul 2040
2041	404,753	0	404,753	1,131	674,589	224,863	899,452	22,426,466	61,591,202	Phase 2
2042	415,682	0	415,682	1,161	692,803	230,934	923,737	23,350,203	60,667,465	
2043	426,905	0	426,905	1,192	711,508	237,169	948,678	24,298,881	59,718,787	
2044	438,431	0	438,431	1,225	730,719	243,573	974,292	25,273,173	58,744,495	
2045	450,269	0	450,269	1,258	750,448	250,149	1,000,598	26,273,770	57,743,898	
2046	462,426	0	462,426	1,292	770,711	256,904	1,027,614	27,301,384	56,716,284	
2047	474,912	0	474,912	1,327	791,520	263,840	1,055,360	28,356,744	55,660,924	
2048	487,734	0	487,734	1,362	812,891	270,964	1,083,854	29,440,598	54,577,070	
2049	500,903	0	500,903	1,399	834,839	278,280	1,113,118	30,553,717	53,463,951	
2050	514,428	0	514,428	1,437	857,379	285,793	1,143,173	31,696,889	52,320,779	
2051	528,317	0	528,317	1,476	880,529	293,510	1,174,038	32,870,928	51,146,740	
2052	542,582	0	542,582	1,516	904,303	301,434	1,205,737	34,076,665	49,941,003	
2053	557,231	0	557,231	1,557	928,719	309,573	1,238,292	35,314,957	48,702,711	
2054	572,277	0	572,277	1,599	953,795	317,932	1,271,726	36,586,683	47,430,985	
2055	587,728	0	587,728	1,642	979,547	326,516	1,306,063	37,892,746	46,124,922	
2056	603,597	0	603,597	1,686	1,005,995	335,332	1,341,326	39,234,072	44,783,596	
2057	619,894	0	619,894	1,732	1,033,157	344,386	1,377,542	40,611,614	43,406,054	
2058	636,631	0	636,631	1,778	1,061,052	353,684	1,414,736	42,026,350	41,991,318	
2059	653,820	0	653,820	1,826	1,089,700	363,233	1,452,934	43,479,284	40,538,384	
2060	671,473	0	671,473	1,876	1,119,122	373,041	1,492,163	44,971,447	39,046,221	
2061	689,603	0	689,603	1,926	1,149,338	383,113	1,532,451	46,503,898	37,513,770	
2062	708,222	0	708,222	1,978	1,180,371	393,457	1,573,827	48,077,725	35,939,943	
2063	727,344	0	727,344	2,032	1,212,241	404,080	1,616,321	49,694,046	34,323,622	
2064	746,983	0	746,983	2,087	1,244,971	414,990	1,659,961	51,354,008	32,663,660	
2065	767,151	0	767,151	2,143	1,278,585	426,195	1,704,780	53,058,788	30,958,880	Aug 2065
2066	787,864	0	787,864	2,201	1,313,107	437,702	1,750,809	54,809,598	29,208,070	Phase 3
2067	809,137	0	809,137	2,260	1,348,561	449,520	1,798,081	56,607,679	27,409,989	
2068	830,983	0	830,983	2,321	1,384,972	461,657	1,846,630	58,454,308	25,563,360	

VICTORVILLE SANITARY LANDFILL
DIMINISHING CAPACITY (PHASED LANDFILL EXPANSION)

INITIAL AVERAGE TPD:	400	MAXIMUM AVERAGE TPD:	5,000	**REMAINING AIRSPACE**	
WORKING DAYS PER YEAR:	358			PERMITTED FOOTPRINT (CY):	2,993,000
COVER RATIO:	3:1			EXPANSION AREA (CY):	81,024,668
IN-PLACE DENSITY:	1,200			INITIAL AIRSPACE (CY):	84,017,668
TONNAGE GROWTH OF:	2.7%	STARTING	1/1/02	TOPO DATE:	7/1/2001
INITIAL AVERAGE TPD TRANSFERED:		0			

NOTE: See Phased Landfill Expansion - Soil Volume Summary calc. sheet (L:\SanBern SWMD\2000.003\JTD Engr\Calcs\Excavation Quantities \Excava & Fill. Xls - Summary).
Permitted Remaining Airspace is higher on expansion calculation due to final cover volume.

YEAR	SOLID WASTE (TONS)	SOLID WASTE TS (TONS)	TOTAL WASTE (TONS)	TOTAL WASTE (TPD)	TOTAL WASTE (CY)	DAILY COVER (CY)	TOTAL VOLUME (CY)	CUMULATIVE VOLUME (CY)	REMAINING CAPACITY (CY)	PHASE
2069	853,420	0	853,420	2,384	1,422,366	474,122	1,896,489	60,350,797	23,666,871	
2070	876,462	0	876,462	2,448	1,460,770	486,923	1,947,694	62,298,491	21,719,177	
2071	900,127	0	900,127	2,514	1,500,211	500,070	2,000,281	64,298,772	19,718,896	
2072	924,430	0	924,430	2,582	1,540,717	513,572	2,054,289	66,353,061	17,664,607	
2073	949,390	0	949,390	2,652	1,582,316	527,439	2,109,755	68,462,816	15,554,852	
2074	975,023	0	975,023	2,724	1,625,039	541,680	2,166,718	70,629,534	13,388,134	
2075	1,001,349	0	1,001,349	2,797	1,668,915	556,305	2,225,220	72,854,754	11,162,914	
2076	1,028,385	0	1,028,385	2,873	1,713,975	571,325	2,285,301	75,140,055	8,877,613	
2077	1,056,152	0	1,056,152	2,950	1,760,253	586,751	2,347,004	77,487,058	6,530,610	
2078	1,084,668	0	1,084,668	3,030	1,807,780	602,593	2,410,373	79,897,431	4,120,237	
2079	1,113,954	0	1,113,954	3,112	1,856,590	618,863	2,475,453	82,372,884	1,644,784	
2080	740,153	0	740,153	2,067	1,233,588	411,196	1,644,784	84,017,668	0	Feb 2081

February 2081

APPENDIX D
BASELINE BIOLOGICAL ASSESSMENT

A BASELINE BIOLOGICAL SURVEY OF THE VICTORVILLE SANITARY LANDFILL SAN BERNARDINO COUNTY, CALIFORNIA

Prepared For:

COUNTY OF SAN BERNARDINO
WASTE SYSTEM DIVISION
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JUNE 1997
REVISED JULY 15, 1998

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APPENDIX

Appendix A: Species Lists
List 1: Vascular Plants Observed at the Victorville Sanitary Landfill
List 2: Vertebrates Observed or Detected at the Victorville Sanitary Landfill
Appendix B: CNDDB Printout for Victorville Quadrangle
Appendix C: CNPS Report for the Victorville Quadrangle

SUMMARY

The Victorville Sanitary Landfill and surrounding expansion areas are located in an unincorporated area of San Bernardino County, approximately 4 miles north of the City of Victorville and west of Interstate Highway 15 (I-15). The project area contains a total of 490 acres; consisting of the landfill footprint, a borrow area and the proposed expansion area. This baseline biological survey was conducted on the relatively undisturbed portion of the site (372.5 acres). The survey was conducted by Mr. Nathan T. Moorhatch of the Lilburn Corporation; and Ms. Alice Karl, Mr. Dave Roddy, and Mr. Theodore A. Rado (subconsultants to the Lilburn Corporation). The purpose of the survey was to evaluate any biological resources present on-site and to provide recommendations to mitigate potential impacts to sensitive plant and vertebrate species (and habitats) from future expansions or other changes at the landfill.

The project site was surveyed by walking 30-foot wide transects over the undeveloped areas of the project site. All plant and vertebrate species observed were recorded and are listed in Appendix A.

Seventy-nine plant taxa were identified during the field survey. These taxa probably represent most of the species present on the site that germinated this year or were present as dried remains from last year. The majority of the expansion areas are vegetated with Mojave Creosote Bush Scrub and Joshua Tree Woodland elements. Representative plant species observed in these areas included: creosote bush (*Larrea tridentata*), burrobush (*Ambrosia dumosa*), brittlebush (*Encelia farinosa*), Joshua tree (*Yucca brevifolia*), and peach thorn (*Lycium cooperi*).

The survey area is dissected by numerous dry washes and drainages which lead to Bell Mountain Wash which crosses through the southeast portion of the site. The segment of Bell Mountain Wash which crosses the project area has been heavily impacted by off-highway vehicle (OHV) use, but still supports some Desert Saltbush Scrub elements. Representative plant species present in this area include: fourwing saltbush (*Atriplex canescens*), allscale (*Atriplex polycarpa*), rubber rabbitbrush (*Chrysothamnus nauseosus*), and cheesebush (*Hymenoclea salsola*). No sensitive plant species were observed on the site.

Twenty-four vertebrate species including seven reptile, eleven bird and six mammal species were identified on and adjacent to the survey area. These represent common species often observed in the Mojave Desert such as side-blotched lizard (*Uta stansburiana*), western whiptail (*Cnemidophorus tigris*), red-tailed hawk (*Buteo jamaicensis*), common raven (*Corvus corax*), black-throated sparrow (*Amphispiza bilineata*), desert cottontail (*Sylvilagus audubonii*), and white-tailed antelope squirrel (*Ammospermophilus leucurus*). More vertebrate species undoubtedly utilize the site than those recorded during this survey, but were not observed during the short duration of the survey effort. Two sensitive vertebrate species were observed during surveys of the site: desert tortoise (*Gopherus agassizii*) and loggerhead shrike (*Lanius ludovicianus*). The desert tortoise is a federal and state listed threatened species. The loggerhead shrike is considered a California Department of Fish and Game (CDFG) "Species of Special Concern" (CSC).

Desert tortoise sign consisted of 3 live tortoises, 7 carcasses, 45 burrows, 13 pallets (shallow temporary burrows), 16 scat, and one set of tracks, for a total of 85 sign observed. Total sign is corrected to eliminate redundant signs which have been left by the same tortoise. For example, a tortoise located in a burrow with fresh scat inside would represent three total signs, but only one corrected sign. The corrected sign present on site is 80. Consequently, the area surveyed (372.5 acres) is occupied desert tortoise habitat. The site has been previously surveyed (Circle Mountain Biological Consultants, 1996) for sensitive species and a portion was found to not contain desert tortoises or sign, however, that survey methodology consisted of transects at 50-foot intervals. Using the U.S. Fish and Wildlife Service (USFWS) protocol of 30-foot intervals, desert tortoise sign was found throughout the site.

Site development within the survey area would result in the loss of desert tortoise habitat, as well as potential loss of individual desert tortoise due to interactions with heavy equipment. "Take" (harming, harassing, pursuing, hunting, shooting, wounding, killing, trapping, capturing, collecting, or attempting to engage in any such conduct) of listed species or their habitat is prohibited under the federal Endangered Species Act of 1973 (ESA) and California Endangered Species Act (CESA) without explicit authorization. Because the site is owned by the federal government, the administering agency (Bureau of Land Management) is obligated to consult with the USFWS under Section 7 of the ESA whenever it considers the granting of an approval of an activity potentially affecting a listed species. The USFWS typically coordinates with the California Department of Fish and Game (CDFG) regarding the same issues pursuant to CESA. Through these consultation processes, authorization pursuant to ESA and CESA would be obtained.

1.0 INTRODUCTION

The Victorville Sanitary Landfill is located in an unincorporated area of San Bernardino County, approximately 4 miles north of the City of Victorville and west of I-15 (Figure 1). The entire site contains a total of 490 acres consisting of the landfill footprint, a borrow area and the proposed expansion area. Approximately 372.5 acres of the site is relatively undisturbed and was determined as the survey area for this biological assessment. The main access point to the site is a 1,500-foot dirt road from the southeast, off Stoddard Wells Road. The site is specifically located on Section 23, Township 6 North, Range 4 West, as shown on the USGS 7.5 Minute Victorville Quadrangle (Figure 2). Elevations on the site vary from 2,900 to 3,100 feet above sea level.

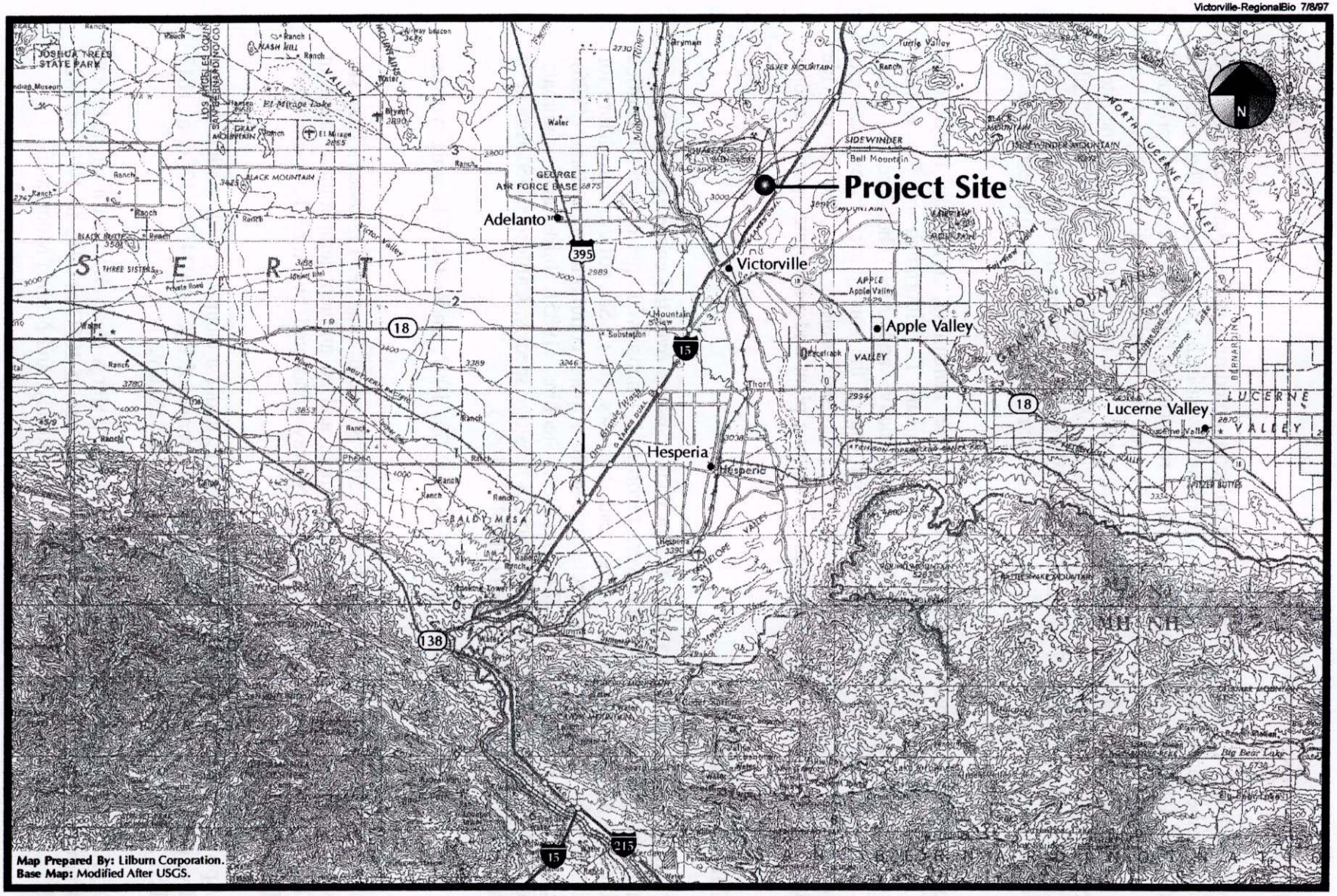
The baseline biological survey was conducted on the remaining, relatively undisturbed (372.5 acre). The survey was conducted by Mr. Nathan T. Moorhatch of the Lilburn Corporation; and Ms. Alice E. Karl, Mr. Dave Roddy, and Mr. Theodore A. Rado (subconsultants to the Lilburn Corporation). The purpose of the survey was to evaluate any biological resources that may be present on the proposed project site, and to provide recommendations to mitigate potential impacts to sensitive plant and vertebrate species, and/or habitats.

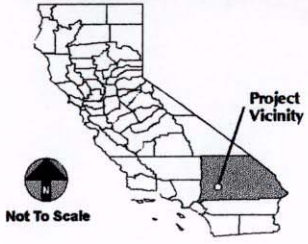
2.0 METHODOLOGY

The project site was surveyed by walking 30-foot wide transects over the entire expansion area. All plant and vertebrate species observed were recorded. Unobserved species were identified through indirect signs (i.e., scat, tracks, calls, nests, burrows, etc.). Scientific nomenclature for this report is from the following standard reference sources: plant communities, Holland (1986); flora, Hickman (1993) and Munz (1974); reptiles, Stebbins (1985); birds and mammals, Laudenslayer and Grenfell (1983); and distribution of sensitive species, California Department of Fish and Game Natural Diversity Data Base (CNDDB, 1997).

Surveys of the site were conducted on April 9-13, and 30, 1997, under the following weather conditions:

> April 9: between 1446 and 1801 hours Pacific Standard Time (PST), under a hazy sky with a wind of approximately 13 - 15 mph, and an ambient temperature range of 14°C at 1446 to 11°C at 1801 PST. Survey conducted by Alice Karl and Dave Roddy.
>
> April 10: between 0745 and 1817 hours PST; under a clear sky with a slight breeze from the north, and an ambient temperature range of 9°C at 0745 to 13°C at 1817 PST. Survey conducted by Alice Karl and Dave Roddy.
>
> April 11: between 0715 and 1825 hours PST; under a clear sky with a slight breeze from the south, and an ambient temperature range of 10°C at 0715 to 17°C at 1825 PST. Survey conducted by Alice Karl, Dave Roddy, and Nathan Moorhatch.





0 6 12

Scale: 1"=6 Miles

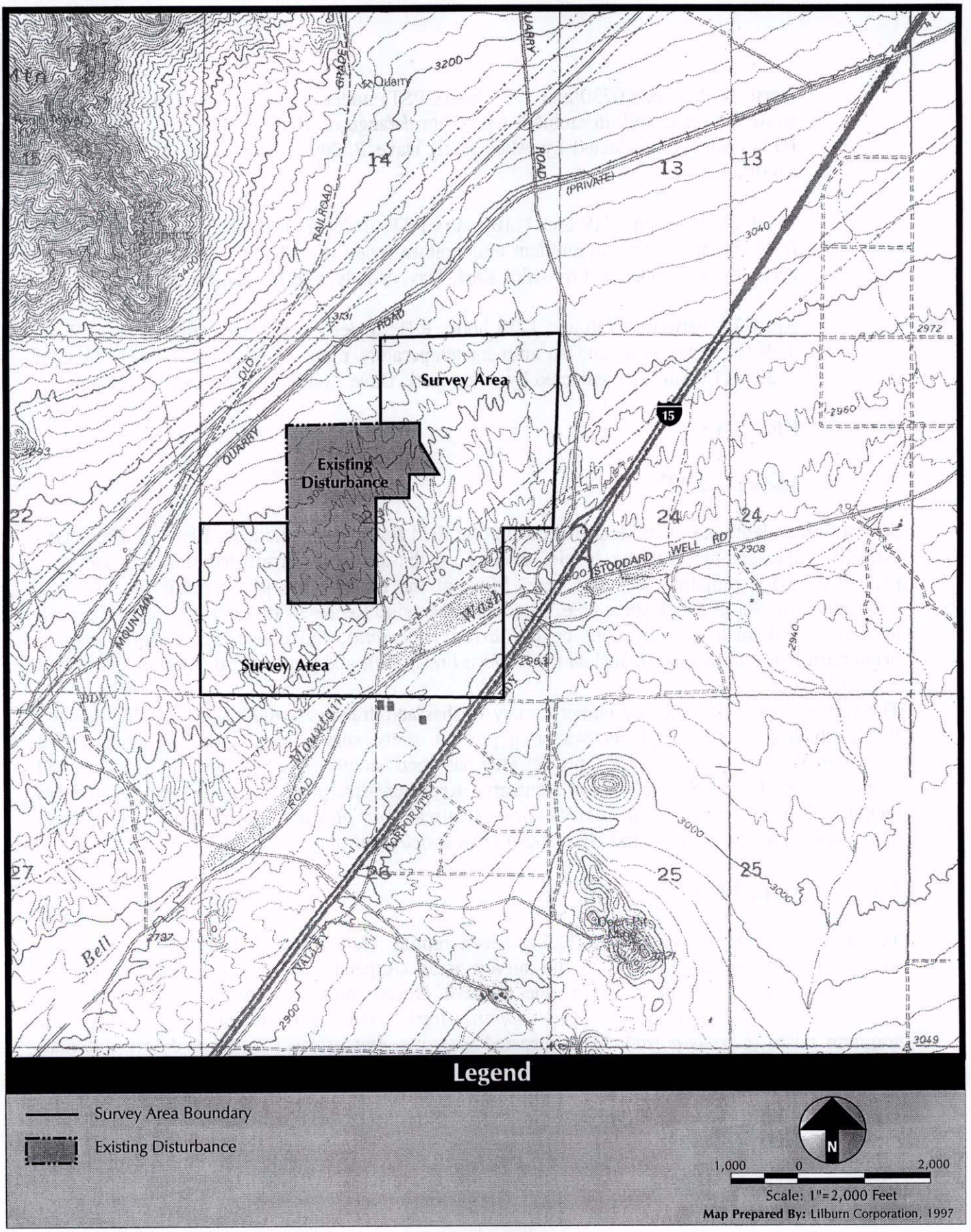
Regional Location Map

Victorville Sanitary Landfill

San Bernardino County, California

Figure 1

Victorville-VicinityBio 7/8/97



Legend

Survey Area Boundary

Existing Disturbance

N

1,000 0 2,000

Scale: 1"=2,000 Feet

Map Prepared By: Lilburn Corporation, 1997

Vicinity Map

Victorville Sanitary Landfill

San Bernardino County, California

Figure 2

April 12: between 0730 and 1736 hours PST; under a clear sky with a slight breeze from the west, and an ambient temperature range of 10°C at 0730 to 21°C at 1736 PST. Survey conducted by Alice Karl, Dave Roddy, Theodore Rado, and Nathan Moorhatch.

April 13: between 0719 and 1810 hours PST; under a clear sky with a slight breeze from the north, and an ambient temperature range of 11°C at 0719 to 21°C at 1810 PST. Survey conducted by Alice Karl, Dave Roddy, and Nathan Moorhatch.

April 30: between 0736 and 1728 hours PST; under a clear sky with a wind of 2 - 6 mph from the west, and an ambient temperature range of 18°C at 0736 to 24°C at 1728 PST. Survey conducted by Alice Karl, Dave Roddy, and Nathan Moorhatch.

3.0 RESULTS

3.1 VEGETATION

Seventy-nine plant taxa were identified during the field survey (Appendix A, List 1). These taxa probably represent most of the species present on the site that germinated this year or were present as dried remains from last year. Most of the survey area is vegetated with Mojave Creosote Bush Scrub and Joshua Tree Woodland elements. Representative plant species observed in these areas included: creosote bush (*Larrea tridentata*), burrobush (*Ambrosia dumosa*), brittlebush (*Encelia farinosa*), Joshua tree (*Yucca brevifolia*), and peach thorn (*Lycium cooperi*).

The survey area is dissected by numerous dry washes and drainages which lead to Bell Mountain Wash which crosses through the southeast portion of the survey area. The segment of Bell Mountain Wash which crosses the project area has been heavily impacted by OHV use, but still supports some Desert Saltbush Scrub elements. Representative plant species present in this area include: fourwing saltbush (*Atriplex canescens*), allscale (*Atriplex polycarpa*), rubber rabbitbrush (*Chrysothamnus nauseosus*), and cheesebush (*Hymenoclea salsola*).

3.2 WILDLIFE

Twenty-four vertebrate species, including seven reptile, eleven bird and six mammal species were identified on and adjacent to the survey areas (Appendix A, List 2). These represent common species often observed in the Mojave Desert such as side-blotched lizard (*Uta stansburiana*), western whiptail (*Cnemidophorus tigris*), red-tailed hawk (*Buteo jamaicensis*), common raven (*Corvus corax*), black-throated sparrow (*Amphispiza bilineata*), desert cottontail (*Sylvilagus audubonii*), and white-tailed antelope squirrel (*Ammospermophilus leucurus*).

3.3 SENSITIVE BIOLOGICAL RESOURCES

Sensitive Plants

Sensitive plant species include those species listed by the federal or state government as threatened or endangered, candidates for listing, and those listed by the California Native Plant Society (CNPS) (Skinner and Pavlik, 1994). Brief descriptions of sensitive plant species targeted in the survey effort known from the vicinity of the site is provided below (CNDDB). None of these species were found on-site.

Mojave monkeyflower (*Mimulus mohavensis*) - Figwort Family (*Scrophulariaceae*), CNPS List: 1B; R-E-D Code: 2-2-3; State/Federal Status: /Species of Concern. Mojave monkeyflower is a rare, small (up to six inches) annual plant distinguished by its reddish purple leaves and distinctive maroon and white flowers. This species is found in sandy and gravelly places in Mojave Creosote Bush Scrub and Joshua Tree Woodland at elevations between 2,000 and 3,000 feet ASL. This species blooms from April to June. Mojave monkeyflower is endemic (found nowhere else) to the Mojave desert, and is threatened by habitat loss due to mining, development, and OHV use; as well as competition from nonnative plant species. This plant is a federal Candidate species (enough data is on file to support listing as threatened or endangered) as well as a CNPS 1B species (plants rare, threatened, or endangered in California and elsewhere). Suitable habitat exists for this species on the project site, but no Mojave monkeyflowers were observed during the current survey.

Pygmy poppy (*Canbya candida*) - Poppy Family (*Papaveraceae*), CNPS List: 1B; R-E-D Code: 2-2-3; State/Federal Status: none. Pygmy poppy is a tiny, almost stemless, annual with linear fleshy leaves and a "tufted" growth habitat. This species grows in sandy areas between 2,000 and 4,000 feet ASL, in Creosote Bush Scrub and Joshua Tree Woodland habitats. Pygmy poppy blooms from April through May. Suitable habitat exists for this species on the project site, but no individuals of this species were observed during the current survey.

Southern skullcap (*Scutellaria bolanderi* ssp. *austromontana*) – Mint Family (*Lamiaceae*), CNPS List: 1B; R-E-D Code: 2-2-3; State/Federal Status: none. This perennial herb has been historically (1915) recorded from approximately 3.5 miles south of the site in the vicinity of Mojave Narrows. This species grows in damp areas within chaparral and lower coniferous forest, between 3,000 to 4,500 feet in elevation. Southern skullcap blooms June through August (June through July in Munz). The project site is too low in elevation for this species and does not support any suitable habitat for this plant.

Table 1
Status of Sensitive Species

FEDERAL LISTINGS	
FE =	Federally listed as endangered.
FT =	Federally listed as threatened.
C =	Candidate for Federal listing. Sufficient biological information available to support a proposal to list taxa as Endangered or Threatened.
STATE LISTINGS	
SE =	State listed as endangered.
ST =	State listed as threatened.
CSC =	CDFG "Species of Special Concern."
CNPS LISTS	
List 1B:	Plants rare, threatened or endangered in California and elsewhere.
List 2:	Plants rare, threatened or endangered in California, but more common elsewhere.
List 3:	Plants about which more information is needed – a review list.
List 4:	Plants of limited distribution – a watch list.
THE CNPS R-E-D- CODE	
R (Rarity)	
1 -	Rare, but found in sufficient numbers and distributed widely enough that the potential for extinction is low at this time.
2 -	Occurrence confined to several populations or to one extended population.
3 -	Occurrence limited to one or a few highly restricted populations, or present in such small numbers that it is seldom reported.
E (Endangerment)	
1 -	Not endangered.
2 -	Endangered in a portion of its range.
3 -	Endangered throughout its range.
D (Distribution)	
1 -	More or less widespread outside California.
2 -	Rare outside California.
3 -	Endemic to California.

Sensitive Wildlife

Two sensitive vertebrate species were observed during surveys of the site: desert tortoise (*Gopherus agassizii*) and loggerhead shrike (*Lanius ludovicianus*). The desert tortoise is a federal and state listed threatened species. The loggerhead shrike is a California "Species of Special Concern". Brief descriptions of these species are included below:

Desert tortoise (*Gopherus agassizii*) is a state and federally listed threatened species. The desert tortoise is widely distributed over portions of the Mojave, Sonoran and Colorado deserts of the western United States and northwestern Mexico. Habitats occupied include plains and valleys in the Mojave Desert, bajadas and low mountain slopes in the Sonoran Desert, and thorn scrub forest in Mexico. The desert tortoise is a highly adapted, adept digger. Burrows are constructed to escape harsh temperatures and to avoid predators, and can be constructed almost anywhere, including under boulders, shrubs, embankments, or in the open. Tortoises eat a variety of annual

flowers, perennial grasses, some half shrubs, and flowers of perennial shrubs. Desert tortoise populations have declined throughout their range as a consequence of several factors including: habitat loss and degradation due to urbanization; livestock grazing; off-highway vehicle (OHV) use; highway, utility, and pipeline corridor construction; mineral exploration and development; energy development; predation by common ravens; and disease outbreaks. Desert tortoises and their sign (scats, burrows, tracks, remains, etc.) were observed on the expansion areas during the survey.

Loggerhead shrike (*Lanius ludovicianus*) - The loggerhead shrike is a bird species that can be found in both open or brushy country, from desert to coastal habitats. This bird is often observed perched on some form of "lookout" (tree limbs, fence posts, telephone poles, etc.), from which it will dive on prey. Nesting loggerhead shrikes with young were observed on the western portion of the expansion area during the survey. The loggerhead shrike is a CDFG CSC.

A list of sensitive wildlife species which are known from the vicinity of the site but were not encountered during the site surveys are provided below. Distribution information and locality records for the above-mentioned species were obtained from the CDFG California Natural Diversity Data Base (CNDDB 1997, Appendix B).

San Diego horned lizard (*Phrynosoma coronatum blainvillei*) - The San Diego horned lizard is a CDFG CSC and a federal Species of Concern. This species frequents a variety of habitats ranging from Coastal Sage Scrub to coniferous forests, but is most common in lowland areas with sandy substrates. Distribution of this species is also dependent on the availability of ants, particularly harvester ants (*Pogonomyrmex*). This species has been historically recorded as occurring approximately 4.5 miles west of the project site (CNDDB, 1997). Only the desert horned lizard (*Phrynosoma platyrhinos*) was observed on the site during the survey.

Golden eagle (*Aquila chrysaetos*) - The golden eagle favors mountainous and hilly terrain with open country for foraging. This species feeds on a variety of mammals, snakes, other birds and carrion. Golden eagles are cliff-nesters and will occasionally nest in large trees. The golden eagle was not observed during the site survey, but could be expected as a "fly-over" species over the project area. Golden eagles probably only use the site for foraging, and would not be affected by development of the proposed project area. The golden eagle is a CSC and is protected under the Federal Eagle Act.

Prairie falcon (*Falco mexicanus*) - This medium-sized falcon is pale-brown above; creamy white and heavily spotted below. The crown is streaked and the facial markings are narrow. This falcon is a desert, cliff-nesting species, which inhabits dry, open country, and prairies. The prey of this species consists chiefly of birds and small mammals. It is uncommon to fairly common, and is a CSC. The prairie falcon can presumably occur as a "fly-over" species, although none were observed during this survey.

Le Conte's thrasher (*Toxostoma lecontei*) - Le Conte's thrasher is the palest of the thrasher species, with light grayish-brown upperparts, and has a dark beak, dark eyes and tail feathers. Le Conte's thrasher is a CDFG CSC. This species is found in sparsely vegetated open desert

habitats to desert wash areas, and prefers to run rather than fly when disturbed. Le Conte's thrasher has been recorded from approximately 3.5 miles south of the project site (CNDDS, 1997), but no thrasher species were observed on the site during the survey.

Mojave ground squirrel (*Spermophilus mohavensis*) - Mojave ground squirrel is a small, seasonally active diurnal (day active) species which is endemic to the Mojave Desert. This species lives in a variety of habitats including Mojave Creosote Bush Scrub, Joshua Tree Woodland, Desert Saltbush Scrub, and Shadscale Scrub with sandy to gravelly soils. Mojave ground squirrels are mainly active on the surface during the spring and early summer months. This species is state listed as a threatened species and is a federal Species of Concern. Mojave ground squirrels have been recorded as occurring approximately 1.5 miles southwest of the project site (CNDDB). The only squirrel species observed during the surveys was white-tailed antelope squirrel (*Ammospermophilus leucurus*).

Additionally, the CNDDB printout for the Victorville Quadrangle lists several species which are associated with riparian habitats found along the Mojave River. These species include: California red-legged frog (*Rana aurora draytonii*), Cooper's hawk (*Accipiter cooperii*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), willow flycatcher (*Empidonax traillii*), yellow-breasted chat (*Icteria virens*), summer tanager (*Piranga rubra*), Mojave vole (*Microtus californicus mohavensis*), southwestern pond turtle (*Clemmys marmorata pallida*), and least Bell's vireo (*Vireo bellii pusillus*). None of these species occur on the project site or surrounding areas due to lack of suitable habitat.

4.0 PROJECT IMPACTS

4.1 VEGETATION

Implementation of an expansion of facilities at the site would result in the corresponding loss of Mojave Creosote Bush Scrub and Joshua Tree Woodland habitats. The Bell Mountain wash area on the southeast portion of the site has already been heavily impacted by OHV use and does not support a fully developed riparian community. Mojave Creosote Bush Scrub is a common and widespread habitat and is not in danger of being lost at this time.

4.2 WILDLIFE

Wildlife species currently inhabiting the undeveloped portions of the project site are expected to be displaced to adjacent areas of habitat as a result of project activities, with some small grounddwelling species potentially lost during construction activities. Many species (particularly birds) will only be affected by loss of foraging habitat.

4.3 SENSITIVE BIOLOGICAL RESOURCES

Sensitive Plants

No sensitive plant species were identified during the survey.

All yucca and cacti species with stems 2 inches or greater are protected by County Code (Division 9, Chapter 4 of the County Development Code) which requires protection of Desert Native Plants. The operator/construction contractor should remove all yucca and cacti deemed suitable for transplanting by a qualified botanist. These plants should be used in landscaping on-site or to be held in an on-site nursery area for future revegetation efforts.

Sensitive Wildlife

Tortoise sign observed on the proposed expansion areas during the survey consisted of 3 live tortoises, 7 carcasses or remains, 45 burrows, 13 pallets (shallow temporary burrows), 16 scat, and one set of tracks. This data represents 85 total sign, with "total sign" referring to the total number of tortoise sign (scats, burrows, pallets, carcasses, etc.) found. "Corrected sign" is a way of correcting total sign to eliminate redundant signs which have been definitely left by one tortoise. For example, a tortoise located in a burrow with fresh scat inside would represent three total signs, but only one corrected sign. The corrected sign present on the project site would therefore number 80 (all the tortoises, scat and tracks located within a burrow or pallet were subtracted from the total).

Development of the proposed expansion areas would result in the loss of habitat for this species, as well as potential loss of individual tortoises due to interactions with heavy equipment. "Take" (harming, harassing, pursuing, hunting, shooting, wounding, killing, trapping, capturing, collecting, or attempting to engage in any such conduct) of listed species or their habitat is illegal under ESA and CESA.

The loggerhead shrike is resident on the site (a nesting pair was observed on the western expansion area), and would be impacted by loss of foraging and nesting habitat. It is expected that this species would be displaced to adjacent areas of habitat (which are numerous in the immediate area).

Sensitive Communities

Although no sensitive plant communities are present on the site, the Mojave Creosote Bush Scrub present on-site is occupied desert tortoise habitat and is protected under the ESA and CESA.

5.0 RECOMMENDATIONS

Prior to development of the site, an Incidental Take Permit under Section 7 or 10A of the ESA and a Memorandum of Understanding (MOU) under CESA must be obtained. These permits will require a Habitat Conservation Plan (HCP) which mitigates for the loss of the tortoises and their habitat. The preparation of the HCP prior to the need for any expanded facilities at the site is recommended. The HCP would include habitat compensation (land or funds) and the measures discussed below.

- Worker Education

Prior to the onset of construction activities in desert tortoise habitat, a qualified biologist should conduct a worker education program to brief the employees on the tortoise, its legal protection, procedures and policies to be followed when working in tortoise habitat, and the means by which individual employees can facilitate this process.

- Tortoise Barriers

The project area should be fenced to exclude tortoises from re-entering a working area. The fences could be constructed during the winter when the tortoise is inactive and in its burrow to lessen any possible tortoise-heavy equipment interaction. Any tortoises found to occupy the fenced areas would be removed from the site, and either be relocated off-site or turned over to the USFWS for disposition elsewhere.

After a fence is constructed, the area enclosed within the fence will be cleared of tortoises. All possible burrow sites will be cleared and any tortoise present will be handled as above. By enclosing and clearing the expansion area early, future developments within the fences should have no effect on tortoise individuals or the population as a whole.

- Monitoring

All construction work prior to the clearance of tortoises from the site should be monitored by qualified biologists, who will be empowered to stop construction/clearing work to protect desert tortoises or burrows and prevent mortality or injury of tortoises. The monitors should also conduct daily inspections of work areas before construction begins during the period that the tortoises are active (typically late February or early March to the end of October).

- Equipment Storage or Parking

Prior to and during expansion, all equipment storage and parking should be confined to previously disturbed areas that have been cleared of tortoises.

- Vehicular Travel

All project-related vehicle traffic should be restricted to established roads and previously disturbed areas with 15 mph speed limits. Off-road traffic outside of designated project areas should be prohibited. Until the project area is clear of tortoises, no heavy equipment or motorized vehicles should be operated except on existing roads.

- Tortoise Predators

To reduce the possible indirect effects that the expansion operations might have on the tortoise population in the surrounding areas, all edible materials should be disposed of in such a way as to avoid providing food for ravens, kit fox, coyotes or badgers.

In addition, it is recommended that a qualified arborist survey all proposed expansion areas just prior to surface disturbance. The County or their contractors should remove all yucca and cacti deemed suitable for transplanting by a qualified botanist to be used in landscaping on-site or to be held in an on-site nursery area for future revegetation efforts.

Paul Kielhold for

Nathan T. Moorhatch
Associate Biologist

6.0 REFERENCES

California Department of Fish and Game. 1997.
Natural Diversity Data Base.

Hickman James C., Editor. 1993.
The Jepson manual: Higher Plants of California. University of California Press, Berkeley. 1400 pp.

Holland, Robert F. 1986.
Preliminary Descriptions of the Terrestrial Natural Communities of California. State of California. The Resource Agency. Department of Fish and Game.

Ingles, Lloyd G. 1965.
Mammals of the Pacific States. Stanford University Press, Stanford. 506 pp.

Laudenslayer, William F. Jr. and William E. Grenfell Jr. 1983.
A list of amphibians, reptiles, birds and mammals of California. *Outdoor California* Vol. 44: No. 1: 5-14.

Munz, Philip A. 1974.
A Flora of Southern California. University of California Press, Berkeley. 1086 pp.

National Geographic Society. 1987.
Field Guide to the Birds of North America. National Geographic Society, Washington D.C. 464 pp.

Skinner, Mark W. and Bruce M. Pavlik. 1994.
Inventory of Rare and Endangered Vascular Plants of California. CNPS Special Publication No. 1 (Fifth Edition), Sacramento. 338 pp.

Stebbins, Robert C. 1985.
A Field Guide to Western Reptiles and Amphibians. Houghton Mifflin Company, Boston. 336 pp.

Appendix A: Species Lists
Biological Compendium

LIST 1
Vascular Plants Observed on the Victorville Sanitary Landfill Expansion Areas, San Bernardino County, California

Gymnospermae	**Cone Bearing Plants**
Ephedraceae	**Ephedra Family**
Ephedra nevadensis	Nevada joint-fir
Angiospermae	Flowering Plants
Dicotyledoneae	Dicots
Asteraceae	**Sunflower Family**
Acamptopappus sphaerocephalus	goldenhead
Adenophyllum cooperi	Cooper's dyssodia
Ambrosia acanthicarpa	annual bur-sage
A. dumosa	burrobush
Chaenactis fremontii	desert pincushion
Chrysothamnus nauseosus	rubber rabbitbrush
Dicoria canescens	bugseed
Encelia actoni	Acton's encelia
E. Farinosa	brittlebush
Ericameria cooperi	Cooper goldenbush
Eriophyllum wallacei	Wallace's woolly sunflower
Heterotheca grandiflora	telegraph weed
Hymenoclea salsola	cheesebush
Lessingia lemmonii	lessingia
Malacothrix glabrata	desert dandelion
Stephanomeria parryi	stephanomeria
S. pauciflora	wire-lettuce
Tetradymia spinosa	cotton-thorn
Xylorhiza tortifolia var. *tortifolia*	Mojave-aster
Boraginaceae	**Borage Family**
Amsinckia tessellata	checker fiddleneck
Cryptantha micrantha	purpleroot cryptantha
C. nevadensis	Nevada cryptantha
C. pterocarya	wing-nut cryptantha
Plagiobothrys arizonicus	Arizona popcornflower

LIST 1
Vascular Plants Observed on the Barstow Landfill Expansion Area, San Bernardino County, California
(Continued)

Brassicaceae	**Mustard Family**
* *Brassica nigra*	black mustard
Descurainia pinnata	tansy mustard
* *Hirschfeldia incana*	short-pod mustard
Lepidium flavum	yellow peppergrass
L. fremontii	desert alyssum
L. lasiocarpum var. *lasiocarpum*	sand peppergrass
* *Sisymbrium irio*	London rocket
Cactaceae	**Cactus Family**
Echinocactus polycephalus var. *polycephalus*	cottontop cactus
Opuntia basilaris var. *basilaris*	beavertail cactus
O. echinocarpa	golden cholla
O. ramosissima	diamond cholla
Chenopodiaceae	**Goosefoot Family**
Atriplex canescens	fourwing saltbush
A. polycarpa	allscale
Grayia spinosa	hop-sage
Krascheninnikovia lanata	winter fat
* *Salsola tragus*	Russian thistle
Cucurbitaceae	**Gourd Family**
Cucurbita palmata	coyote melon
Euphorbiaceae	**Spurge Family**
Chamaesyce albomarginata	rattlesnake weed
C. polycarpa	small-seeded sandmat
Stillingia paucidentata	few-toothed stillingia
Fabaceae	**Pea Family**
Astragalus layneae	locoweed
Psorothamnus fremontii	indigo bush
Senna armata	spiny senna

* non-native species

LIST 1
Vascular Plants Observed on the Barstow Landfill Expansion Area, San Bernardino County, California
(Continued)

Geraniaceae	**Geranium Family**
* *Erodium cicutarium*	red-stem filaree
Hydrophyllaceae	**Waterleaf Family**
Phacelia tanacetifolia	phacelia
Lamiaceae	**Mint Family**
* *Marrubium vulgare*	horehound
Salazaria mexicana	bladdersage
Loassaceae	**Loasa Family**
Mentzelia albicaulis	blazing-star
Petalonyx thurberi	sandpaper plant
Nyctaginaceae	**Four O'Clock Family**
Mirabilis bigelovii	wishbone bush
Papaveraceae	**Poppy Family**
Eschscholzia minutiflora	little gold poppy
Plantaginaceae	**Plantain Family**
* *Plantago ovata*	woolly plantain
Polemoniaceae	**Phlox Family**
Eriastrum diffusum	miniature woolly-star
Loeseliastrum schottii	Schott's gilia
Polygonaceae	**Buckwheat Family**
Chorizanthe brevicornu	brittle spineflower
C. rigida	spiny-herb
Eriogonum deflexum	skeleton weed
E. fasciculatum	California buckwheat
E. gracillimum	buckwheat
E. inflatum	desert trumpet

* non-native species

Rutaceae	**Rue Family**
Thamnosma montana	turpentine-broom
Solanaceae	**Nightshade Family**
Datura wrightii	Jimson weed
Lycium andersonii	Anderson desert thorn
L. cooperi	peach thorn
Tamaricaceae	**Tamarisk Family**
* *Tamarix* sp.	tamarisk
Zygophyllaceae	**Caltrop Family**
Larrea tridentata	creosote bush
Monocotyledoneae	
Liliaceae	**Lily Family**
Yucca brevifolia	Joshua tree
Y. schidigera	Mojave yucca
Poaceae	**Grass Family**
Achnatherum hymenoides	Indian ricegrass
A. speciosum	desert needlegrass
* *Bromus madritensis* ssp. *rubens*	red brome
* *B. tectorum*	downy brome
Erioneuron pulchellum	fluff grass
* *Schismus barbatus*	Mediterranean schismus

* non-native species

LIST 2
Vertebrates Observed on the Barstow Landfill Expansion Area,
San Bernardino County, California

Reptiles

desert tortoise	*Gopherus agassizii*
zebra-tailed lizard	*Callisaurus draconoides*
side-blotched lizard	*Uta stansburiana*
desert horned lizard	*Phrynosoma platyrhinos*
western whiptail	*Cnemidophorus tigris*
night snake	*Hypsiglena torquata*
sidewinder	*Crotalus cerastes*

Birds

red-tailed hawk	*Buteo jamaicensis*
ring-billed gull	*Larus delawarensis*
mourning dove	*Zenaida macroura*
ladder-backed woodpecker	*Picoides scalaris*
ash-throated flycatcher	*Myiarchus cinerascens*
horned lark	*Eremophila alpestris*
common raven	*Corvus corax*
verdin	*Auriparus flaviceps*
northern mockingbird	*Minus polyglottos*
loggerhead shrike	*Lanius ludovicianus*
black-throated sparrow	*Amphispiza bilineata*

Mammals

Desert cottontail	*Sylvilagus audubonii*
black-tailed jackrabbit	*Lepus californicus*
white-tailed antelope squirrel	*Ammospermophilus leucurus*
desert woodrat (nests)	*Neotoma lepida*
coyote (scat)	*Canis latrans*
desert kit fox (scat, dens)	*Vulpes macrotis arcipes*

Appendix B: California Department of Fish and Game Natural Diversity Data Base

** California Department of Fish and Game ***** Natural Diversity Data Base **

RANA AURORA DRAYTONII
California Red-legged Frog

---------Status---------- NDDB Element Ranks --------Other Lists---------
Federal: Threatened Global: G4T2T3 CDFG: Special Concern
State: None State: S2S3 Audubon:
CNPS List:
---Habitat Associations--- CNPS RED Code:
General: MOSTLY IN LOWLANDS AND FOOTHILLS IN/NEAR PERMANENT SOURCES OF DEEP WATER, BUT WILL DISPERSE FAR DURING AND AFTER RAIN.
Microhabitat: PREFERS SHORELINES WITH EXTENSIVE VEGETATION. REQUIRE 11-20 WEEKS OF PERMANENT WATER FOR LARVAL DEVELOPMENT.
*** Element ID: AAABH01022 **********

Occurrence Number: 13 --Dates Last Seen--
Quality: Unknown Element: XXXX/XX/XX
Type: Natural/Native occurrence Site: XXXX/XX/XX
Presence: Presumed Extant
Trend: Unknown
Main Info Source: BLM DPS, 1980 (PERS)

Quad Summary: Victorville (3411753)
County(ies): San Bernardino

Location: VICTORVILLE.

Lat/Long: 34d 31m 51s / 117d 17m 01s Township: 05N
UTM: Zone-11 N3820863 E473900 Range: 04W
Mapping Precision: NON-SPECIFIC (0 Mile) Section: 10 XX Qtr
Symbol Type: POLYGON Meridian: S
Group Number: More Information? N Acres: 2163
Map Index Number: 25141 More Map Detail? N Elevation: 2750 ft

Threats:

Comments: General Notes - CAS #42848. HISTORICAL LOCATION; OBSERVATION DATE UNKNOWN. Owner/Manager - UNKNOWN

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** California Department of Fish and Game *****  Natural Diversity Data Base **
*                                                                            *
*  ACCIPITER COOPERII                                                        *
*  Coopers Hawk                                                              *
*                                                                            *
*  ---------Status----------  NDDB Element Ranks --------Other Lists--------- *
*  Federal: None                Global: G4              CDFG: Special Concern *
*    State: None                 State: S3           Audubon: Blue List       *
*                                                   CNPS List:                *
*  ---Habitat Associations---                    CNPS RED Code:               *
*      General: WOODLAND, CHIEFLY OF OPEN, INTERRUPTED OR MARGINAL TYPE.      *
* Microhabitat: NEST SITES MAINLY IN RIPARIAN GROWTHS OF DECIDUOUS TREES, AS  *
*               IN CANYON BOTTOMS ON RIVER FLOOD-PLAINS; ALSO, LIVE OAKS.     *
*** Element ID: ABNKC12040 ***************************************************

Occurrence Number: 5                                        --Dates Last Seen--
          Quality: Unknown                                 Element: 1921/09/24
             Type: Natural/Native occurrence                  Site: 1921/09/24
         Presence: Presumed Extant
            Trend: Unknown
 Main Info Source: BLM DPS, 1980 (PERS)

Quad Summary: Victorville (3411753)
 County(ies): San Bernardino

    Location: VICTORVILLE.

                 Lat/Long: 34d 32m 09s / 117d 17m 39s     Township: 05N
                     UTM: Zone-11 N3821441 E472983           Range: 04W
       Mapping Precision: NON-SPECIFIC (1   Mile)          Section: 10 E  Qtr
             Symbol Type: POINT                            Meridian: S
            Group Number: 03434    More Information? Y       Acres: 0
         Map Index Number: 03434     More Map Detail? N  Elevation: 2860  ft

       Threats:

      Comments: Distribution Notes - SECTIONS 9 AND 10.  General Notes - UCLA
                #J1321.  Owner/Manager - UNKNOWN
```

** California Department of Fish and Game ***** Natural Diversity Data Base **

COCCYZUS AMERICANUS OCCIDENTALIS
Western Yellow Billed Cuckoo

---------Status---------- NDDB Element Ranks --------Other Lists---------
Federal: None Global: G5T2T3 CDFG:
State: Endangered State: S1 Audubon: Blue List
CNPS List:
---Habitat Associations--- CNPS RED Code:
General: RIPARIAN FOREST NESTER, ALONG THE BROAD, LOWER FLOOD-BOTTOMS OF LARGER RIVER SYSTEMS.
Microhabitat: NESTS IN RIPARIAN JUNGLES OF WILLOW, OFTEN MIXED WITH COTTONWOODS, W/ LOWER STORY OF BLACKBERRY, NETTLES, OR WILD GRAPE.
*** Element ID: ABNRB02022 **********

Occurrence Number: 138 --Dates Last Seen--
Quality: Unknown Element: 1978/06/30
Type: Natural/Native occurrence Site: 1978/06/30
Presence: Presumed Extant
Trend: Unknown
Main Info Source: BLM DPS, 1980 (PERS)

Quad Summary: Victorville (3411753)
County(ies): San Bernardino

Location: "UPPER NARROWS" AREA SE OF VICTORVILLE, MOJAVE RIVER

Lat/Long: 34d 30m 50s / 117d 15m 49s Township: 05N
UTM: Zone-11 N3818972 E475803 Range: 04W
Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: 23 NE Qtr
Symbol Type: POINT Meridian: S
Group Number: 03489 More Information? N Acres: 0
Map Index Number: 03489 More Map Detail? N Elevation: 2800 ft

Threats:

Comments: Ecological Notes - HABITAT CONSISTS OF EXTENSIVE AND DENSE WILLOW AND COTTONWOOD FOREST BORDERING BOTH SIDES OF THE RIVER AND COVERING NEARLY TWO SECTIONS; THE FOREST IS BORDERED BY GRAZED MEADOWS. General Notes - ONE CUCKOO OBSERVED DURING THE 1978 BLM SURVEY. Owner/Manager - UNKNOWN

```
** California Department of Fish and Game *****  Natural Diversity Data Base **
*                                                                            *
*  EMPIDONAX TRAILLII                                                        *
*  Willow Flycatcher                                                         *
*                                                                            *
*  ---------Status----------  NDDB Element Ranks --------Other Lists--------- *
*  Federal: None                Global: G5              CDFG:                *
*    State: Endangered           State: S3           Audubon: Special Concern *
*                                                   CNPS List:                *
*  ---Habitat Associations---                  CNPS RED Code:                *
*      General: INHABIT EXTENSIVE THICKETS OF LOW, DENSE WILLOWS ON EDGE OF   *
*               WET MEADOWS, PONDS, OR BACKWATERS; 2000-8000 ELEV.            *
* Microhabitat: REQUIRE DENSE WILLOW THICKETS FOR NESTING/ROOSTING. LOW,      *
*               EXPOSED BRANCHES ARE USED FOR SINGING POSTS/HUNTING PERCHES.  *
*** Element ID: ABPAE33040 ***************************************************

Occurrence Number: 11                                      --Dates Last Seen--
          Quality: Unknown                                 Element: 1921/09/28
             Type: Natural/Native occurrence                  Site: 1921/09/28
         Presence: Presumed Extant
            Trend: Unknown
 Main Info Source: BLM DPS, 1980 (PERS)

Quad Summary: Victorville (3411753)
 County(ies): San Bernardino

    Location: VICTORVILLE.

                  Lat/Long: 34d 31m 53s / 117d 17m 34s     Township: 05N
                       UTM: Zone-11 N3820920 E473131          Range: 04W
         Mapping Precision: NON-SPECIFIC (1/5 Mile)         Section: 10 SW Qtr
               Symbol Type: POINT                          Meridian: S
              Group Number: 03438    More Information? N      Acres: 0
          Map Index Number: 03438     More Map Detail? N  Elevation: 2800  ft

       Threats:

      Comments: General Notes - UCLA #J-1364.  Owner/Manager - UNKNOWN
```

** California Department of Fish and Game ***** Natural Diversity Data Base **

EMPIDONAX TRAILLII
Willow Flycatcher

---------Status---------- NDDB Element Ranks --------Other Lists---------
Federal: None Global: G5 CDFG:
State: Endangered State: S3 Audubon: Special Concern
CNPS List:
---Habitat Associations--- CNPS RED Code:
General: INHABIT EXTENSIVE THICKETS OF LOW, DENSE WILLOWS ON EDGE OF WET MEADOWS, PONDS, OR BACKWATERS; 2000-8000 ELEV.
Microhabitat: REQUIRE DENSE WILLOW THICKETS FOR NESTING/ROOSTING. LOW, EXPOSED BRANCHES ARE USED FOR SINGING POSTS/HUNTING PERCHES.
*** Element ID: ABPAE33040 **********

Occurrence Number: 90 --Dates Last Seen--
Quality: Good Element: 1990/07/08
Type: Natural/Native occurrence Site: 1990/07/08
Presence: Presumed Extant
Trend: Unknown
Main Info Source: MYERS, S.J. 1990 (OBS)

Quad Summary: Victorville (3411753)
County(ies): San Bernardino

Location: IN THE MOJAVE RIVER CHANNEL, 0.65 MI SE OF INTERSECTION OF H WY. 18 AND ATCHISON, TOPEKA, AND SANTE FE RAILROAD.

Lat/Long: 34d 31m 40s / 117d 16m 44s Township: 05N
UTM: Zone-11 N3820503 E474408 Range: 04W
Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: 15 NE Qtr
Symbol Type: POINT Meridian: S
Group Number: More Information? N Acres: 0
Map Index Number: 20259 More Map Detail? N Elevation: 2740 ft

Threats: OFF-ROAD VEHICLES, BROWN-HEADED COWBIRDS (NEST PARASITISM).

Comments: Ecological Notes - SOUTHERN RIPARIAN SCRUB IN MOJAVE RIVER CHANNEL. General Notes - ONE SINGING INDIVIDUAL OBSERVED, AND POSSIBLY ON SITE FROM 16 JUNE - 8 JULY, 1990. Owner/Manager - SBD COUNTY

```
** California Department of Fish and Game *****  Natural Diversity Data Base **
*                                                                            *
*  TOXOSTOMA LECONTEI                                                        *
*  Le Contes Thrasher                                                        *
*                                                                            *
*  ---------Status----------  NDDB Element Ranks --------Other Lists--------- *
*  Federal: None                Global: G4              CDFG: Special Concern *
*    State: None                 State: S3           Audubon:                 *
*                                                  CNPS List:                 *
*  ---Habitat Associations---                   CNPS RED Code:                *
*      General: DESERT RESIDENT; PRIMARILY OF OPEN DESERT WASH, DESERT SCRUB, *
*               ALKALI DESERT SCRUB, AND DESERT SUCCULENT SCRUB HABITATS.     *
* Microhabitat: COMMONLY NESTS IN A DENSE, SPINY SHRUB OR DENSELY BRANCHED    *
*               CACTUS IN DESERT WASH HABITAT, USUALLY 2-8 FEET ABOVE GROUND. *
*** Element ID: ABPBK06100 ***************************************************

Occurrence Number: 21                                      --Dates Last Seen--
          Quality: Unknown                                 Element: 1921/09/27
             Type: Natural/Native occurrence                  Site: 1921/09/27
         Presence: Presumed Extant
            Trend: Unknown
 Main Info Source: BLM 1980 (PERS)

Quad Summary: Victorville (3411753)
 County(ies): San Bernardino

    Location: VICTORVILLE.

                  Lat/Long: 34d 32m 09s / 117d 17m 39s     Township: 05N
                       UTM: Zone-11 N3821441 E472983          Range: 04W
         Mapping Precision: NON-SPECIFIC (1   Mile)          Section: 10 SW Qtr
               Symbol Type: POINT                           Meridian: S
              Group Number: 03434    More Information? N      Acres: 0
          Map Index Number: 03434     More Map Detail? N  Elevation: 2750  ft

       Threats:

      Comments: General Notes - #J1357 UCLA (MUS)  Owner/Manager - UNKNOWN
```

** California Department of Fish and Game ***** Natural Diversity Data Base **

ICTERIA VIRENS
Yellow Breasted Chat

---------Status----------	NDDB Element Ranks	--------Other Lists---------
Federal: None	Global: G5	CDFG: Special Concern
State: None	State: S3	Audubon:
		CNPS List:
		CNPS RED Code:

---Habitat Associations---

General: SUMMER RESIDENT; INHABITS RIPARIAN THICKETS OF WILLOW AND OTHER BRUSHY TANGLES NEAR WATERCOURSES.

Microhabitat: NESTS IN LOW, DENSE RIPARIAN, CONSISTING OF WILLOW, BLACKBERRY, WILD GRAPE; FORAGE AND NEST W/IN 10 FT OF GROUND.

** Element ID: ABPBX24010 **********

Occurrence Number: 55
Quality: Good
Type: Natural/Native occurrence
Presence: Presumed Extant
Trend: Increasing
Main Info Source: MYERS, S. J. 1990 (OBS AND MAP)

--Dates Last Seen--
Element: 1990/07/08
Site: 1990/07/08

Quad Summary: Victorville (3411753)
County(ies): San Bernardino

Location: MOJAVE NARROWS REGIONAL PARK, JUST SE OF VICTORVILLE.

Lat/Long: 34d 31m 31s / 117d 16m 34s
UTM: Zone-11 N3820226 E474658
Mapping Precision: NON-SPECIFIC (0 Mile)
Symbol Type: POLYGON
Group Number: 03469 More Information? N
Map Index Number: 03469 More Map Detail? N

Township: 05N
Range: 04W
Section: 14 XX Qtr
Meridian: S
Acres: 117.9
Elevation: 2740 ft

Threats: MUCH OF PARK DEGRADED BY ORV USE IN RIVERBED AND ADJACENT RIPARIAN HABITAT. COWBIRDS VERY ABUNDANT IN 1990.

Comments: Distribution Notes - 1.5 MILE SECTION OF MOJAVE RIVER. Ecological Notes - MOJAVE RIPARIAN FOREST DOMINATED BY POPULUS FREMONTII AND SALIX EXIGUA. General Notes - 1987: ONE SINGING MALE OBSERVED HIGH IN POPULUS FREMONTII; 1990: 5 SINGING MALES OBSERVED THROUGHOUT BREEDING SEASON. Owner/Manager - SBD COUNTY

```
** California Department of Fish and Game *****  Natural Diversity Data Base **
*                                                                            *
*  PIRANGA RUBRA                                                             *
*  Summer Tanager                                                            *
*                                                                            *
*  ---------Status----------  NDDB Element Ranks --------Other Lists--------- *
*  Federal: None                Global: G5              CDFG: Special Concern *
*    State: None                 State: S2           Audubon:                *
*                                                  CNPS List:                *
*  ---Habitat Associations---                   CNPS RED Code:               *
*      General: SUMMER RESIDENT OF DESERT RIPARIAN HABITAT ALONG LOWER       *
*               COLORADO RIVER, AND LOCALLY ELSEWHERE IN CALIFORNIA DESERTS. *
* Microhabitat: REQUIRE COTTONWOOD-WILLOW RIPARIAN FOR NESTING AND FORAGING; *
*               PREFERS OLDER, DENSE STANDS ALONG STREAMS.                   *
*** Element ID: ABPBX45030 ***********************************************
```

Occurrence Number: 18
Quality: Unknown
Type: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Info Source: LAYMON & HALTERMAN, 1986 (OBS)

--Dates Last Seen--
Element: 1986/08/10
Site: 1986/08/10

Quad Summary: Victorville (3411753)
County(ies): San Bernardino

Location: EAST SIDE OF MOJAVE RIVER, 3.5 MI NW OF VICTORVILLE.

Lat/Long: 34d 34m 56s / 117d 20m 03s
UTM: Zone-11 N3826569 E469347
Mapping Precision: SPECIFIC (0 Mile)
Symbol Type: POLYGON
Group Number: 03367 More Information? N
Map Index Number: 03367 More Map Detail? N

Township: 06N
Range: 04W
Section: 30 E Qtr
Meridian: S
Acres: 225.3
Elevation: 2670 ft

Threats: ORV USE IN MOJAVE RIVER BED IS MAIN THREAT/DISTURBANCE. PROLONGED FLOODING & VEG REMOVAL ARE THREATS ALSO.

Comments: Distribution Notes - ONE OR TWO PAIRS OBSERVED. Ecological Notes - YOUNG COTTONWOOD/WILLOW FOREST CONTAINING LOTS OF SANDBAR WILLOW. Owner/Manager - UNKNOWN

** California Department of Fish and Game ***** Natural Diversity Data Base **

PIRANGA RUBRA
Summer Tanager

---------Status---------- NDDB Element Ranks --------Other Lists---------
Federal: None Global: G5 CDFG: Special Concern
State: None State: S2 Audubon:
CNPS List:
---Habitat Associations--- CNPS RED Code:
General: SUMMER RESIDENT OF DESERT RIPARIAN HABITAT ALONG LOWER COLORADO RIVER, AND LOCALLY ELSEWHERE IN CALIFORNIA DESERTS.
Microhabitat: REQUIRE COTTONWOOD-WILLOW RIPARIAN FOR NESTING AND FORAGING; PREFERS OLDER, DENSE STANDS ALONG STREAMS.
*** Element ID: ABPBX45030 **********

Occurrence Number: 19 --Dates Last Seen--
Quality: Unknown Element: 1987/05/30
Type: Natural/Native occurrence Site: 1987/05/30
Presence: Presumed Extant
Trend: Decreasing
Main Info Source: LAYMON & HALTERMAN, 1986 (OBS)

Quad Summary: Victorville (3411753)
County(ies): San Bernardino

Location: MOJAVE NARROWS REGIONAL PARK, 1.7 MI LENGTH OF MOJAVE RIVER,JUST SE OF VICTORVILLE.

Lat/Long: 34d 31m 13s / 117d 16m 10s Township: 05N
UTM: Zone-11 N3819670 E475278 Range: 04W
Mapping Precision: SPECIFIC (0 Mile) Section: 23 XX Qtr
Symbol Type: POLYGON Meridian: S
Group Number: 03487 More Information? N Acres: 384.7
Map Index Number: 03487 More Map Detail? Y Elevation: 2780 ft

Threats: MUCH OF AREA DEGRADED BY ORV USE IN RIVERBED AND ADJACENT RIPARIAN HABITAT.

Comments: Distribution Notes - 2-6 INDIVIDUALS OBS DURING 1986. 3 PAIRS OBS ALL SPRING DURING 1987 BREEDING BIRD ATLAS FIELD WORK. Ecological Notes - MOJAVE RIPARIAN FOREST DOMINATED BY POPULUS FREMONTII. Owner/Manager - SBD COUNTY

```
** California Department of Fish and Game *****  Natural Diversity Data Base **
*                                                                             *
*  SPERMOPHILUS MOHAVENSIS                                                    *
*  Mohave Ground Squirrel                                                     *
*                                                                             *
*  ---------Status----------  NDDB Element Ranks --------Other Lists--------- *
*  Federal: Sp of Concern (C2)  Global: G2              CDFG:                 *
*    State: Threatened           State: S2           Audubon:                 *
*                                                  CNPS List:                 *
*  ---Habitat Associations---                   CNPS RED Code:                *
*      General: OPEN DESERT SCRUB, ALKALI SCRUB & JOSHUA TREE WOODLAND.  ALSO *
*               FEED IN ANNUAL GRASSLANDS.  RESTRICTED TO MOHAVE DESERT.      *
* Microhabitat: PREFERS SANDY TO GRAVELLY SOILS, AVOIDS ROCKY AREAS.  USES    *
*               BURROWS AT BASE OF SHRUBS FOR COVER. NESTS ARE IN BURROWS.    *
*** Element ID: AMAFB05150 ***************************************************

Occurrence Number: 12                                        --Dates Last Seen--
          Quality: Unknown                                   Element: 1977/06/28
             Type: Natural/Native occurrence                    Site: 1977/06/28
         Presence: Presumed Extant
            Trend: Unknown
 Main Info Source: WESSMAN, E. V. 1977 (LIT)

Quad Summary: Victorville (3411753)
 County(ies): San Bernardino

    Location: 2.5 MI N AND 0.5 MI E OF VICTORVILLE.

                  Lat/Long: 34d 34m 28s / 117d 17m 25s     Township: 06N
                       UTM: Zone-11 N3825694 E473374          Range: 04W
         Mapping Precision: NON-SPECIFIC (1/5 Mile)          Section: 27 SW Qtr
               Symbol Type: POINT                           Meridian: S
              Group Number: 03440    More Information? N      Acres: 0
          Map Index Number: 03440     More Map Detail? N  Elevation: 2840  ft

       Threats: HOUSING DEVELOPMENT, AND ALFALFA AND WHEATGRASS FARMING.

      Comments: Ecological Notes - HABITAT IS MOJAVE CREOSOTE BUSH SCRUB;
                DOMINANTS: LARREA TRIDENTATA, AMBROSIA DUMOSA, HYMENOCLEA
                SALSOLA, AND LYCIUM ANDERSONII. MUCH SMALL ROCK AND LITTER.
                SOILS ARE SANDY AND FINE. 9% VEGETATION COVER.  General Notes -
                ONE SQUIRREL TRAPPED ON 28 JUN 1977. WESSMAN STUDY SITE NO. 31.
                D. CLARK #S: DC54 (CLA92U02).  Owner/Manager - UNKNOWN
```

** California Department of Fish and Game ***** Natural Diversity Data Base **

SPERMOPHILUS MOHAVENSIS
Mohave Ground Squirrel

---------Status---------- NDDB Element Ranks --------Other Lists---------
Federal: Sp of Concern (C2) Global: G2 CDFG:
State: Threatened State: S2 Audubon:
CNPS List:
---Habitat Associations--- CNPS RED Code:
General: OPEN DESERT SCRUB, ALKALI SCRUB & JOSHUA TREE WOODLAND. ALSO FEED IN ANNUAL GRASSLANDS. RESTRICTED TO MOHAVE DESERT.
Microhabitat: PREFERS SANDY TO GRAVELLY SOILS, AVOIDS ROCKY AREAS. USES BURROWS AT BASE OF SHRUBS FOR COVER. NESTS ARE IN BURROWS.
*** Element ID: AMAFB05150 **********

Occurrence Number: 22 --Dates Last Seen--
Quality: Unknown Element: 1920/05/24
Type: Natural/Native occurrence Site: 1920/05/24
Presence: Presumed Extant
Trend: Unknown
Main Info Source: CLARK, D. 1972 (PERS)

Quad Summary: Victorville (3411753)
County(ies): San Bernardino

Location: ORO GRANDE.

Lat/Long: 34d 36m 16s / 117d 19m 58s Township: 06N
UTM: Zone-11 N3829062 E469466 Range: 04W
Mapping Precision: NON-SPECIFIC (1 Mile) Section: 18 SE Qtr
Symbol Type: POINT Meridian: S
Group Number: 03372 More Information? N Acres: 0
Map Index Number: 03372 More Map Detail? N Elevation: 2700 ft

Threats: UNKNOWN.

Comments: Ecological Notes - NO HABITAT INFORMATION GIVEN. General Notes - ONE FEMALE COLLECTED ON 24 MAY 1920. UC BERKELEY MUSEUM OF VERTEBRATE ZOOLOGY #31515. Owner/Manager - UNKNOWN

```
** California Department of Fish and Game *****  Natural Diversity Data Base **
*                                                                             *
*  SPERMOPHILUS MOHAVENSIS                                                    *
*  Mohave Ground Squirrel                                                     *
*                                                                             *
*  ---------Status----------  NDDB Element Ranks --------Other Lists--------- *
*  Federal: Sp of Concern (C2)  Global: G2              CDFG:                 *
*    State: Threatened           State: S2           Audubon:                 *
*                                                  CNPS List:                 *
*  ---Habitat Associations---                   CNPS RED Code:                *
*      General: OPEN DESERT SCRUB, ALKALI SCRUB & JOSHUA TREE WOODLAND.  ALSO *
*               FEED IN ANNUAL GRASSLANDS.  RESTRICTED TO MOHAVE DESERT.      *
* Microhabitat: PREFERS SANDY TO GRAVELLY SOILS, AVOIDS ROCKY AREAS.  USES    *
*               BURROWS AT BASE OF SHRUBS FOR COVER. NESTS ARE IN BURROWS.    *
*** Element ID: AMAFB05150 ***************************************************

Occurrence Number: 47                                      --Dates Last Seen--
          Quality: Unknown                                 Element: 1919/03/02
             Type: Natural/Native occurrence                  Site: 1919/03/02
         Presence: Presumed Extant
            Trend: Unknown
 Main Info Source: CLARK, D. 1992 (PERS)

Quad Summary: Victorville (3411753)
 County(ies): San Bernardino

    Location: VICTORVILLE.

                  Lat/Long: 34d 32m 10s / 117d 18m 11s     Township: 05N
                       UTM: Zone-11 N3821454 E472186          Range: 04W
         Mapping Precision: NON-SPECIFIC (1   Mile)         Section: 09 XX Qtr
               Symbol Type: POINT                          Meridian: S
              Group Number:          More Information? N      Acres: 0
          Map Index Number: 22563     More Map Detail? N  Elevation: 2900  ft

      Threats:

     Comments: General Notes - ONE INDIVIDUAL COLLECTED (USNM - ACCESSION#
               UNKNOWN) BY J.E. BARRY, ON 2 MAR 1919.  Owner/Manager - UNKNOWN
```

** California Department of Fish and Game ***** Natural Diversity Data Base **

SPERMOPHILUS MOHAVENSIS
Mohave Ground Squirrel

---------Status---------- NDDB Element Ranks --------Other Lists---------
Federal: Sp of Concern (C2) Global: G2 CDFG:
State: Threatened State: S2 Audubon:
CNPS List:
---Habitat Associations--- CNPS RED Code:
General: OPEN DESERT SCRUB, ALKALI SCRUB & JOSHUA TREE WOODLAND. ALSO FEED IN ANNUAL GRASSLANDS. RESTRICTED TO MOHAVE DESERT.
Microhabitat: PREFERS SANDY TO GRAVELLY SOILS, AVOIDS ROCKY AREAS. USES BURROWS AT BASE OF SHRUBS FOR COVER. NESTS ARE IN BURROWS.
*** Element ID: AMAFB05150 **********

Occurrence Number: 283 --Dates Last Seen--
Quality: Unknown Element: 1980/06/03
Type: Natural/Native occurrence Site: 1980/06/03
Presence: Presumed Extant
Trend: Unknown
Main Info Source: CLARK, D. 1992 (PERS)

Quad Summary: Victorville (3411753)
County(ies): San Bernardino

Location: NEAR ADELANTO ROAD, WEST OF MOJAVE HEIGHTS.

Lat/Long: 34d 33m 56s / 117d 20m 02s Township: 06N
UTM: Zone-11 N3824734 E469337 Range: 04W
Mapping Precision: NON-SPECIFIC (1/5 Mile) Section: 31 XX Qtr
Symbol Type: POINT Meridian: S
Group Number: More Information? N Acres: 0
Map Index Number: 22843 More Map Detail? N Elevation: 2800 ft

Threats:

Comments: General Notes - TWO SQUIRRELS DETECTED BY MCKERNAN 3 JUN 1980 (DC264). Owner/Manager - UNKNOWN

```
** California Department of Fish and Game *****  Natural Diversity Data Base **
*                                                                            *
*  MICROTUS CALIFORNICUS MOHAVENSIS                                          *
*  Mohave Vole                                                               *
*                                                                            *
*  ---------Status----------  NDDB Element Ranks --------Other Lists--------- *
*  Federal: None                Global: G5T1            CDFG: Special Concern *
*    State: None                 State: S1            Audubon:               *
*                                                   CNPS List:               *
*  ---Habitat Associations---                    CNPS RED Code:              *
*      General: OCCURS ONLY IN WEEDY HERBACEOUS GROWTH IN WET AREAS ALONG THE *
*               MOHAVE RIVER.  MAY BE FOUND IN SOME IRRIGATED PASTURES.      *
* Microhabitat: BURROWS INTO SOFT SOIL.  FEEDS ON LEAFY PARTS OF GRASSES,     *
*               SEDGES AND HERBS. CLIPS GRASSES TO FORM RUNWAYS FROM BURROW. *
*** Element ID: AMAFF11031 ***************************************************

Occurrence Number: 1                                        --Dates Last Seen--
          Quality: Unknown                                 Element: 1967/07/16
             Type: Natural/Native occurrence                  Site: 1967/07/16
         Presence: Presumed Extant
            Trend: Unknown
 Main Info Source: BLM DPS, 1980 (PERS)

Quad Summary: Victorville (3411753)
 County(ies): San Bernardino

    Location: 1 MI SE OF VICTORVILLE.

                  Lat/Long: 34d 31m 22s / 117d 16m 37s     Township: 05N
                       UTM: Zone-11 N3819961 E474581          Range: 04W
        Mapping Precision: NON-SPECIFIC (1   Mile)         Section: 14 W  Qtr
              Symbol Type: POINT                           Meridian: S
             Group Number: 03459    More Information? N       Acres: 0
          Map Index Number: 03459     More Map Detail? N  Elevation: 2700  ft

       Threats:

      Comments: General Notes - CSULB #6405.  Owner/Manager - UNKNOWN
```

** California Department of Fish and Game ***** Natural Diversity Data Base **

MICROTUS CALIFORNICUS MOHAVENSIS
Mohave Vole

---------Status---------- NDDB Element Ranks --------Other Lists---------
Federal: None Global: G5T1 CDFG: Special Concern
State: None State: S1 Audubon:
CNPS List:
---Habitat Associations--- CNPS RED Code:
General: OCCURS ONLY IN WEEDY HERBACEOUS GROWTH IN WET AREAS ALONG THE MOHAVE RIVER. MAY BE FOUND IN SOME IRRIGATED PASTURES.
Microhabitat: BURROWS INTO SOFT SOIL. FEEDS ON LEAFY PARTS OF GRASSES, SEDGES AND HERBS. CLIPS GRASSES TO FORM RUNWAYS FROM BURROW.
*** Element ID: AMAFF11031 **********

Occurrence Number: 5 --Dates Last Seen--
Quality: Unknown Element: 1959/XX/XX
Type: Natural/Native occurrence Site: 1959/XX/XX
Presence: Presumed Extant
Trend: Unknown
Main Info Source: HALL, KELSON, 1959 (LIT)

Quad Summary: Victorville (3411753)
County(ies): San Bernardino

Location: ORO GRANDE, 5 MI N OF VICTORVILLE.

Lat/Long: 34d 35m 37s / 117d 20m 26s Township: 06N
UTM: Zone-11 N3827833 E468770 Range: 04W
Mapping Precision: NON-SPECIFIC (1 Mile) Section: 19 SE Qtr
Symbol Type: POINT Meridian: S
Group Number: 03354 More Information? N Acres: 0
Map Index Number: 03354 More Map Detail? N Elevation:

Threats:

Comments: Distribution Notes - KNOWN ONLY FROM THE MOIST BOTTOMLANDS OF THE MOHAVE RIVER. Owner/Manager - UNKNOWN

```
** California Department of Fish and Game *****  Natural Diversity Data Base **
*                                                                             *
*  CLEMMYS MARMORATA PALLIDA                                                  *
*  Southwestern Pond Turtle                                                   *
*                                                                             *
*  ---------Status----------  NDDB Element Ranks --------Other Lists--------- *
*  Federal: Sp of Concern (C2)  Global: G4T2T3          CDFG: Special Concern *
*    State: None                 State: S2S3         Audubon:                 *
*                                                   CNPS List:                *
*  ---Habitat Associations---                  CNPS RED Code:                 *
*      General: INHABITS PERMANENT OR NEARLY PERMANENT BODIES OF WATER IN     *
*               MANY HABITAT TYPES; BELOW 6000 FT ELEV.                       *
* Microhabitat: REQUIRE BASKING SITES SUCH AS PARTIALLY SUBMERGED LOGS,       *
*               VEGETATION MATS, OR OPEN MUD BANKS. NEED SUITABLE NESTING     *
*               SITES.                                                        *
*** Element ID: ARAAD02032 ***************************************************

Occurrence Number: 168                                      --Dates Last Seen--
          Quality: Good                                     Element: 1989/09/09
             Type: Natural/Native occurrence                   Site: 1989/09/09
         Presence: Presumed Extant
            Trend: Unknown
 Main Info Source: MYERS, S.J. 1989 (OBS)

Quad Summary: Victorville (3411753)
 County(ies): San Bernardino
* SENSITIVE *
    Location: Locational Information Supressed - Call Local California
              Department of Fish and Game Office for Details

                  Lat/Long:                                 Township:
                       UTM:                                    Range:
         Mapping Precision:                                  Section:       Qtr
               Symbol Type:                                 Meridian:
              Group Number:          More Information?         Acres: 0
          Map Index Number:           More Map Detail?     Elevation:

       Threats: HORSE GRAZING, BULLFROGS ARE COMMON IN MARSH.

      Comments: Locational Information Supressed - Call Local California
                Department of Fish and Game Office for Details
```

** California Department of Fish and Game ***** Natural Diversity Data Base **

XEROBATES AGASSIZII
Desert Tortoise

---------Status---------- NDDB Element Ranks --------Other Lists---------
Federal: Threatened Global: G3 CDFG:
State: Threatened State: S2 Audubon:
CNPS List:
---Habitat Associations--- CNPS RED Code:
General: MOST COMMON IN DESERT SCRUB, DESERT WASH, AND JOSHUA TREE HABITATS; OCCURS IN ALMOST EVERY DESERT HABITAT.
Microhabitat: REQUIRE FRIABLE SOIL FOR BURROW AND NEST CONSTRUCTION. CREOSOTE BUSH HABITAT WITH LG ANNUAL WILDFLOWER BLOOMS PREFERRED.
*** Element ID: ARAAF01010 **********

ccurrence Number: 1 --Dates Last Seen--
Quality: Good Element: 1987/XX/XX
Type: Natural/Native occurrence Site: 1987/XX/XX
Presence: Presumed Extant
Trend: Decreasing
Main Info Source: BERRY, K. H. ET AL. 1984 (LIT)

uad Summary: The Buttes (3511714), Hi Vista (3411767), Adobe Mountain (3411766), Shadow Mountains (3411765), Victorville NW (3411764), Helendale (3411763), Turtle Valley (3411762), Stoddard Well (3411761), West Ord Mountain (3411668), Rosamond Lake (3411871), 64 Additional Quad(s) NOT Listed
County(ies): Kern, Los Angeles, San Bernardino

Location: FREMONT-STODDARD; FREMONT VALLEY SOUTH TO THE VICINITY OF ADELANTO AND HWY 14 EAST TO CALICO MOUNTAINS, W MOJAVE DESERT.

Lat/Long: 35d 05m 56s / 117d 24m 51s Township: 11N
UTM: Zone-11 N3883877 E462246 Range: 06W
Mapping Precision: SPECIFIC (0 Mile) Section: 34 XX Qtr
Symbol Type: POLYGON Meridian: S
Group Number: 03129 More Information? Y Acres: 1782558
Map Index Number: 03129 More Map Detail? Y Elevation:

Threats: INCREASING HUMAN DISTURBANCE, DEVELOPMENT AND HABITAT FRAGMENTATION.

Comments: Distribution Notes - LARGEST OF 4 PRIMARY POPS IN CALIF. IN 1977, EST DENSITIES WERE 20 TO >250 TORTOISES/SQ MI. AS OF 1987, EVIDENCE SUGGESTS MAJOR DECLINES IN EST DENSITY IN MOST AREAS. Ecological Notes - AREA COVERS APPROX. 1700 SQ MILES, FROM 2000 TO >4000 FT ELEV W/SEVERAL VEG COMMUNITIES INCLUDED. Owner/Manager - BLM, PVT, DFG, DOD, STATE

```
** California Department of Fish and Game *****  Natural Diversity Data Base **
*                                                                             *
*  PHRYNOSOMA CORONATUM BLAINVILLEI                                           *
*  San Diego Horned Lizard                                                    *
*                                                                             *
*  ---------Status----------  NDDB Element Ranks --------Other Lists--------- *
*  Federal: Sp of Concern (C2)  Global: G4T3            CDFG: Special Concern *
*    State: None                 State: S2           Audubon:                 *
*                                                  CNPS List:                 *
*  ---Habitat Associations---                  CNPS RED Code:                 *
*      General: INHABITS COASTAL SAGE SCRUB AND CHAPARRAL IN ARID AND         *
*               SEMI-ARID CLIMATE CONDIT                                      *
* Microhabitat: PREFERS FRIABLE, ROCKY, OR SHALLOW SANDY SOILS.               *
*** Element ID: ARACF12021 ***************************************************

Occurrence Number: 215                                      --Dates Last Seen--
          Quality: Unknown                                  Element: XXXX/XX/XX
             Type: Natural/Native occurrence                   Site: XXXX/XX/XX
         Presence: Presumed Extant
            Trend: Unknown
 Main Info Source: BRODE, J. 1986 (PERS)

Quad Summary: Victorville (3411753)
 County(ies): San Bernardino

    Location: 0.5 MI W ORO GRANDE RR STATION.

                  Lat/Long: 34d 36m 04s / 117d 20m 51s     Township: 06N
                       UTM: Zone-11 N3828667 E468136          Range: 05W
         Mapping Precision: NON-SPECIFIC (1/5 Mile)         Section: 24 NE Qtr
               Symbol Type: POINT                          Meridian: S
              Group Number: 03335    More Information? N      Acres: 0
          Map Index Number: 03335     More Map Detail? N  Elevation: 2600  ft

       Threats:

      Comments: General Notes - LACM SPECIMEN; DATE OF COLLECTION UNKNOWN.
                Owner/Manager - UNKNOWN
```

** California Department of Fish and Game ***** Natural Diversity Data Base **

HELMINTHOGLYPTA MOHAVEANA
Victorville Shoulderband

---------Status---------- NDDB Element Ranks --------Other Lists---------

Federal: Sp of Concern (C2) Global: G1 CDFG:
State: None State: S1 Audubon:
CNPS List:
---Habitat Associations--- CNPS RED Code:
General: KNOWN ONLY FROM ALONG THE MOJAVE RIVER IN SAN BERNARDINO COUNTY.
Microhabitat: FOUND AMONG GRANITE BOULDERS AND AT THE BASE OF ROCKY CLIFFS.
** Element ID: IMGASC2340 **********

Occurrence Number: 1
Quality: Unknown
Type: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Info Source: PILSBRY, H. 1939 (LIT)

--Dates Last Seen--
Element: XXXX/XX/XX
Site: XXXX/XX/XX

Quad Summary: Victorville (3411753)
County(ies): San Bernardino

Location: WEST BANK OF MOHAVE RIVER ABOVE ORO GRANDE.

Lat/Long: 34d 36m 04s / 117d 20m 50s
UTM: Zone-11 N3828667 E468161
Mapping Precision: NON-SPECIFIC (1 Mile)
Symbol Type: POINT
Group Number: 03336 More Information? N
Map Index Number: 03336 More Map Detail? N

Township: 06N
Range: 05W
Section: 24 XX Qtr
Meridian: S
Acres: 0
Elevation: 2640 ft

Threats: COULD BE ENDANGERED BY QUARRYING OPERATIONS.

Comments: Ecological Notes - FOUND IN A ROCKY OUTCROP; AESTIVATES AMONG AND UNDER LOOSE ROCKS ON DRY HILLSIDES. General Notes - TYPE #6304, IN THE BERRY COLLECTION; TOPOTYPES IN THE COLLECTIONS OF EMERY P. CHASE AND ANSP (#146100). Owner/Manager - PVT

```
** California Department of Fish and Game *****  Natural Diversity Data Base **
*                                                                             *
*  HELMINTHOGLYPTA MOHAVEANA                                                  *
*  Victorville Shoulderband                                                   *
*                                                                             *
*  ---------Status----------  NDDB Element Ranks --------Other Lists--------- *
*  Federal: Sp of Concern (C2)  Global: G1              CDFG:                 *
*    State: None                 State: S1           Audubon:                 *
*                                                   CNPS List:                *
*  ---Habitat Associations---                  CNPS RED Code:                 *
*      General: KNOWN ONLY FROM ALONG THE MOJAVE RIVER IN SAN BERNARDINO      *
*               COUNTY.                                                       *
* Microhabitat: FOUND AMONG GRANITE BOULDERS AND AT THE BASE OF ROCKY CLIFFS. *
*** Element ID: IMGASC2340 ***************************************************

Occurrence Number: 3                                          --Dates Last Seen--
          Quality: Unknown                                    Element: 1939/03/04
             Type: Natural/Native occurrence                     Site: 1939/03/04
         Presence: Presumed Extant
            Trend: Unknown
 Main Info Source: PILSBRY, H. 1939 (LIT)

Quad Summary: Victorville (3411753)
 County(ies): San Bernardino

    Location: RIGHT BANK OF MOJAVE RIVER JUST ABOVE VICTORVILLE.

                  Lat/Long: 34d 34m 16s / 117d 19m 03s     Township: 06N
                       UTM: Zone-11 N3825332 E470876          Range: 04W
         Mapping Precision: NON-SPECIFIC (1   Mile)         Section: 32 NE Qtr
               Symbol Type: POINT                          Meridian: S
              Group Number: 03399    More Information? N      Acres: 0
          Map Index Number: 03399     More Map Detail? N  Elevation: 2800  ft

       Threats:

      Comments: Ecological Notes - HABITAT IS AT THE BASE OF ROCKY CLIFFS;
                LIVING SNAILS FOUND SPARYINGLY IN AESTIVATION AMONG AND UNDER
                LOOSE ROCKS.  Owner/Manager - PVT
```

```
** California Department of Fish and Game *****  Natural Diversity Data Base **
*                                                                            *
  SCUTELLARIA BOLANDERI SSP AUSTROMONTANA                                    *
  Southern Skullcap                                                          *
*                                                                            *
  ---------Status----------  NDDB Element Ranks --------Other Lists--------- *
  Federal: None                Global: G5T2            CDFG:                *
    State: None                 State: S2.2?        Audubon:                 *
*                                                  CNPS List: 1B              *
  ---Habitat Associations---                    CNPS RED Code: 2-2-3         *
      General: CHAPARRAL, CISMONTANE WOODLAND, LOWER MONTANE CONIFEROUS      *
*              FOREST.                                                       *
* Microhabitat: GRAVELLY SOILS, STREAMBANKS, OAK OR PINE WOODLAND; 300-2000M. *
** Element ID: PDLAM1U0A1 ***************************************************

Occurrence Number: 15                                      --Dates Last Seen--
         Quality: Unknown                                  Element: XXXX/XX/XX
            Type: Natural/Native occurrence                   Site: XXXX/XX/XX
        Presence: Presumed Extant
           Trend: Unknown
Main Info Source: PARISH #10599 UKNOWN HERBARIUM (HERB)

Quad Summary: Victorville (3411753)
County(ies): San Bernardino

   Location: MOJAVE RIVER, VICTORVILLE.

                  Lat/Long: 34d 32m 09s / 117d 17m 39s     Township: 05N
                       UTM: Zone-11 N3821441 E472983          Range: 04W
        Mapping Precision: NON-SPECIFIC (1   Mile)         Section: 10 XX Qtr
              Symbol Type: POINT                           Meridian: S
             Group Number:          More Information? N       Acres: 0
          Map Index Number: 03434     More Map Detail? N  Elevation: 2700  ft

      Threats:

     Comments: General Notes - MAIN SOURCE OF INFORMATION IS COLLECTION BY
               PARISH CITED BY JEPSON (1943); COLLECTION IS UNDATED, BUT BASED
               ON THE COLLECTION NUMBER, APPEARS TO BE FROM ABOUT 1915.
               "VICTORVILLE" IS ALSO CITED BY EPLING (1939) IN ORIGINAL
               DESCRIPTION.  Owner/Manager - UNKNOWN
```

```
** California Department of Fish and Game *****  Natural Diversity Data Base **
*                                                                            *
*  CANBYA CANDIDA                                                            *
*  Pygmy Poppy                                                               *
*                                                                            *
*  ---------Status----------  NDDB Element Ranks --------Other Lists--------- *
*  Federal: None                Global: G2              CDFG:               *
*    State: None                 State: S2.2          Audubon:               *
*                                                  CNPS List: 1B             *
*  ---Habitat Associations---                   CNPS RED Code: 2-2-3         *
*      General: JOSHUA TREE WOODLAND, MOJAVE DESERT SCRUB.                   *
* Microhabitat: SANDY PLACES; 600-1200M.                                     *
*** Element ID: PDPAP05020 ***********************************************
```

```
Occurrence Number: 8                                      --Dates Last Seen--
          Quality: Unknown                                Element: 1903/05/18
             Type: Natural/Native occurrence                 Site: 1903/05/18
         Presence: Presumed Extant
            Trend: Unknown
 Main Info Source: JONES, M.E. SN UC #373049 (HERB)

Quad Summary: Victorville (3411753)
 County(ies): San Bernardino

    Location: VICTOR.

                  Lat/Long: 34d 32m 10s / 117d 18m 11s     Township: 05N
                       UTM: Zone-11 N3821454 E472186          Range: 04W
        Mapping Precision: NON-SPECIFIC (1   Mile)         Section: 09 XX Qtr
              Symbol Type: POINT                           Meridian: S
             Group Number:          More Information? N       Acres: 0
          Map Index Number: 22563     More Map Detail? N  Elevation: 2700  ft

       Threats:

      Comments: Distribution Notes - MAPPED AT VICTORVILLE.  VICTOR WAS NAME OF
                RR STATION IN 1885.  NAME CHANGED TO VICTORVILLE IN 1901 BY
                U.S. POST OFFICE.  General Notes - ONLY SOURCE OF INFORMATION
                FOR THIS SITE IS 1903 COLLECTION BY JONES.  Owner/Manager -
                UNKNOWN
```

Other Elements to Look for on VICTORVILLE Quad

VIREO BELLII PUSILLUS ABPBW01114
LEAST BELLS VIREO 28
Federal Staus: Endangered Global Rank: G5T2
State Status.: Endangered State Rank: S2
Habitat Associations----------
General.: SUMMER RESIDENT OF S CALIFORNIA. INHABITS LOW RIPARIAN GROWTH IN VIC OF WATER OR IN DRY RIVER BOTTOMS; BELOW 2000 FT.
Micro...: NESTS PLACED ALONG MARGINS OF BUSHES OR ON TWIGS PROJECTING INTO PATHWAYS, USUALLY WILLOW, BACCHARIS, MESQUITE.
Location..: VICTORVILLE.
Source....: BLM DPS, 1980 (PERS)
Last Seen.: 1914-03-20

CLEMMYS MARMORATA PALLIDA ARAAD02032
SOUTHWESTERN POND TURTLE 3
Federal Staus: Sp of Concern (C2) Global Rank: G4T2T3
State Status.: None State Rank: S2S3
Habitat Associations----------
General.: INHABITS PERMANENT OR NEARLY PERMANENT BODIES OF WATER IN MANY HABITAT TYPES; BELOW 6000 FT ELEV.
Micro...: REQUIRE BASKING SITES SUCH AS PARTIALLY SUBMERGED LOGS, VEGETATION MATS, OR OPEN MUD BANKS. NEED SUITABLE NESTING SITES.
Location..: VICTORVILLE.
Source....: BRODE, J. ND (PERS)
Last Seen.: 1945-XX-XX

MIMULUS MOHAVENSIS PDSCR1B1V0
MOJAVE MONKEYFLOWER 3
Federal Staus: Sp of Concern (C1) Global Rank: G2
State Status.: None State Rank: S2.2
Habitat Associations----------
General.: JOSHUA TREE WOODLAND, MOJAVEAN DESERT SCRUB
Micro...: DRY SANDY OR ROCKY WASHES ALONG THE MOJAVE RIVER; 2000-3500 FT.
Location..: HALFWAY BETWEEN BARSTOW & VICTORVILLE ON THE RIVER ROAD.
Source....: PEIRSON, F. W. #2982 RSA (HERB)
Last Seen.: 1922-05-14

Appendix C: California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California

Full Data Report for the Victorville Quadrangle

SCUTELLARIA BOLANDERI SSP. AUSTROMONTANA
"southern skullcap" **Family:** Lamiaceae

Life Form: Perennial herb (rhizomatous) **Blooms:** June-August
CNPS List: [1B] R/T/E in Cal. and elsewhere **R-E-D:** 2-2-3
State: None
Federal: None
Counties: Los Angeles [?], Riverside, San Bernardino [extirpated], San Diego
Quads: Cuyamaca Peak (20A), Viejas Mountain (20C), Descanso (20D), Warners Ranch (33B), Palomar Observatory (49D), Idyllwild (66B), Wildomar (69D), El Monte (110D) [possibly extirpated], Victorville (158D) [extirpated]
Habitat: Chaparral, Cismontane woodland, Lower montane coniferous forest / mesic
Notes: See Madro±o 5(2):58 (1939) for original description.

APPENDIX E
CULTURAL RESOURCES ASSESSMENTS

APPENDIX E1
ARCHAEOLOGICAL ASSESSMENT

SECTION 3:
ARCHAEOLOGICAL ASSESSMENT

AN ARCHAEOLOGICAL ASSESSMENT OF THE 430-ACRE VICTORVILLE SANITARY LANDFILL PROJECT, VICTORVILLE, SAN BERNARDINO COUNTY

by

Robert S. White

Archaeological Associates
P.O. Box 180
Sun City, CA 92586

(909) 244-1783
(FAX) 244-0084

for

Lilburn Corporation
1905 Business Center Drive
San Bernardino, CA 92408

June 26, 1997

Study Area USGS 7.5' Topographic Quadrangle:

Victorville

Study Area Acreage: 430-acres

KEYWORDS: Survey, Victorville, Victorville Sanitary Landfill, San Bernardino Co.

The undersigned certifies that the attached report is a true and accurate description of the results of an ARCHAEOLOGICAL survey described herein.

Robert S. White
Principal Investigator

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MANAGEMENT SUMMARY

At the request of Lilburn Corporation, Archaeological Associates has undertaken an archaeological assessment of the proposed 430-acre Victorville Sanitary Landfill expansion project. The study area is located north of the town of Victorville and just west of Interstate 15. Access to the site is via Stoddard Wells Road. The purpose of this study was to identify all potentially significant cultural resources situated within the project area. Presently, it is desired to undertake various enhancement and expansion projects within the boundaries of the landfill property.

The results of the records search conducted at the Archaeological Information Center at the San Bernardino County Museum indicated that no prehistoric archaeological sites have been recorded within the property. However, one historic resource, PSBR-38H, the Boulder Dam-San Bernardino 115kV electrical transmission line, has been documented within the project area. Built in the early 1930's to supply power to the Boulder Dam project, it has recently been determined to be eligible for listing in the National Register of Historic Places. The transmission line comprises a series of twin skeletal towers configured in an "H" pattern that support electrical cables. They are located within the utility corridor along the southeast project boundary. However, as presently proposed, the undertaking will not adversely affect PSBR-38H.

The results of the field investigation were completely negative. No prehistoric or additional historic sites were encountered within the study area. Therefore, since PSBR-38H will not be impacted by the proposed project and the results of the field survey were negative, no additional work in conjunction with cultural resources is recommended.

I. INTRODUCTION

The following report was written for Lilburn Corporation by Robert S. White. It describes the results of an archaeological assessment of the proposed 430-acre Victorville Sanitary Landfill Expansion Plan. The study area is located just north of the town Victorville and a short distance west of Interstate 15 in San Bernardino County. Presently, project proponents are anticipating expanding the existing landfill operation. The proposed plan includes opening new areas to accept refuse, relocation of the scales/haul road and the addition of several desilting basins.

The purpose of this study was to identify all potentially significant cultural resources situated within the boundaries of the subject property. This information is needed since adoption of the plan could result in adverse effects upon locations of archaeological or historical importance. Our assessment consisted of: (1) a records search conducted to determine whether any previously recorded historic or prehistoric material is present within the subject property and (2) a field reconnaissance intended to identify any previously unrecorded cultural resources.

II. STUDY AREA LOCATION AND ENVIRONMENT

The project area is located in the Mojave Desert approximately 4-miles northeast of the town of Victorville in San Bernardino County (fig. 1). Quartzite Mountain lies immediately to the west as does Interstate 15 a short distance to the east. Access to the landfill is via Stoddard Wells Road.

Legally, the project area lies in Section 23, Township 6 North, Range 4 West, San Bernardino Base Meridian as shown on a portion of the USGS *Victorville* 7.5' Topographic Quadrangle (fig. 2). Presently, the 430-acre project area is comprised of: 1) 80-acres of active landfill, 2) 40±acres of borrow area, and 3) 310-acres of relatively undisturbed land. The configuration of the study is very irregular. Only the southeastern project boundary (twin-tower electrical transmission line) is delineated in the field. However, many of the property corners are marked with surveyor's lath and/or monuments. All boundaries adjoin vacant, undeveloped land.

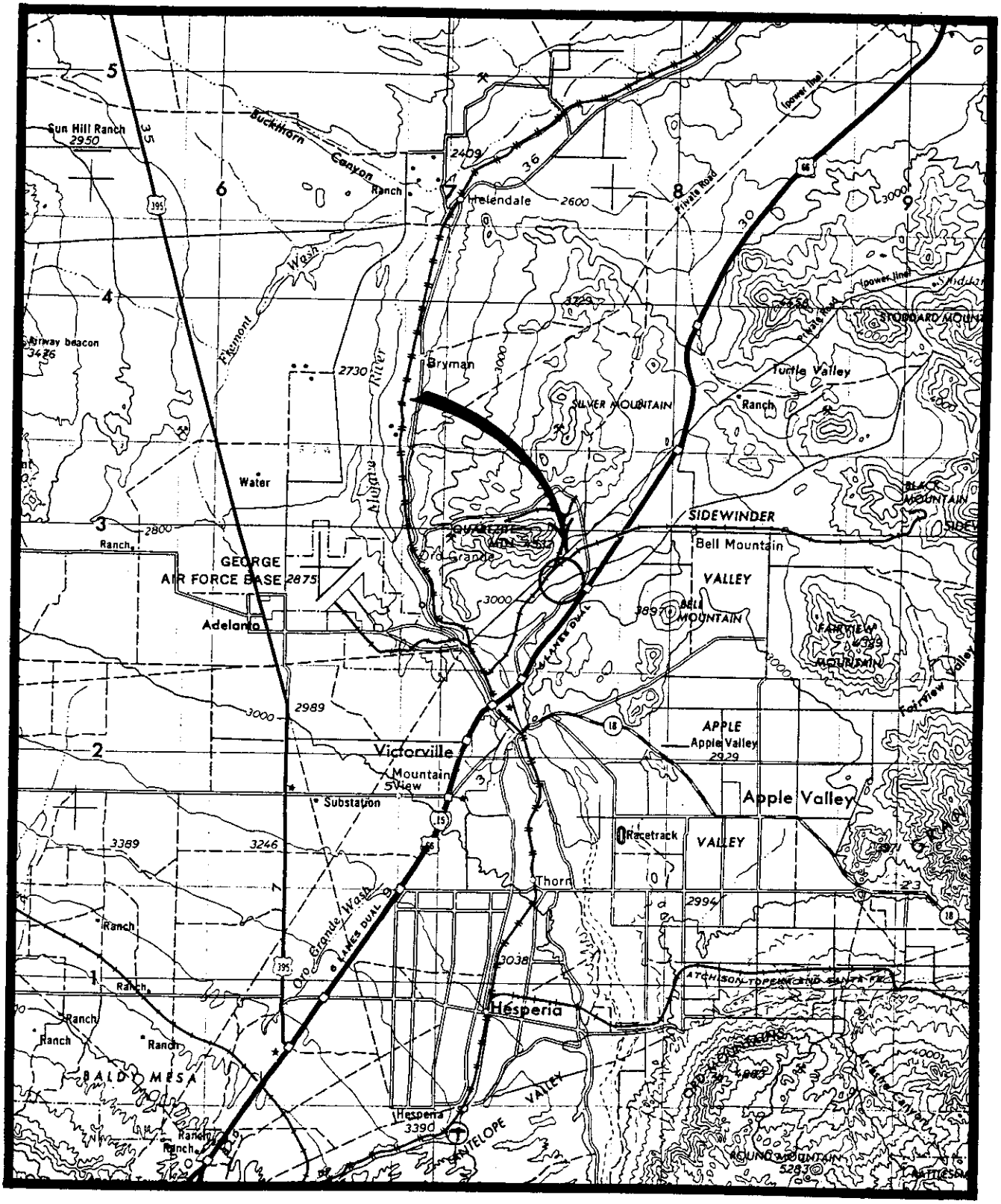

Figure 1

Regional location of the project area as indicated on a portion of the USGS *San Bernardino* 1:250,000 scale Topographic Map Sheet.

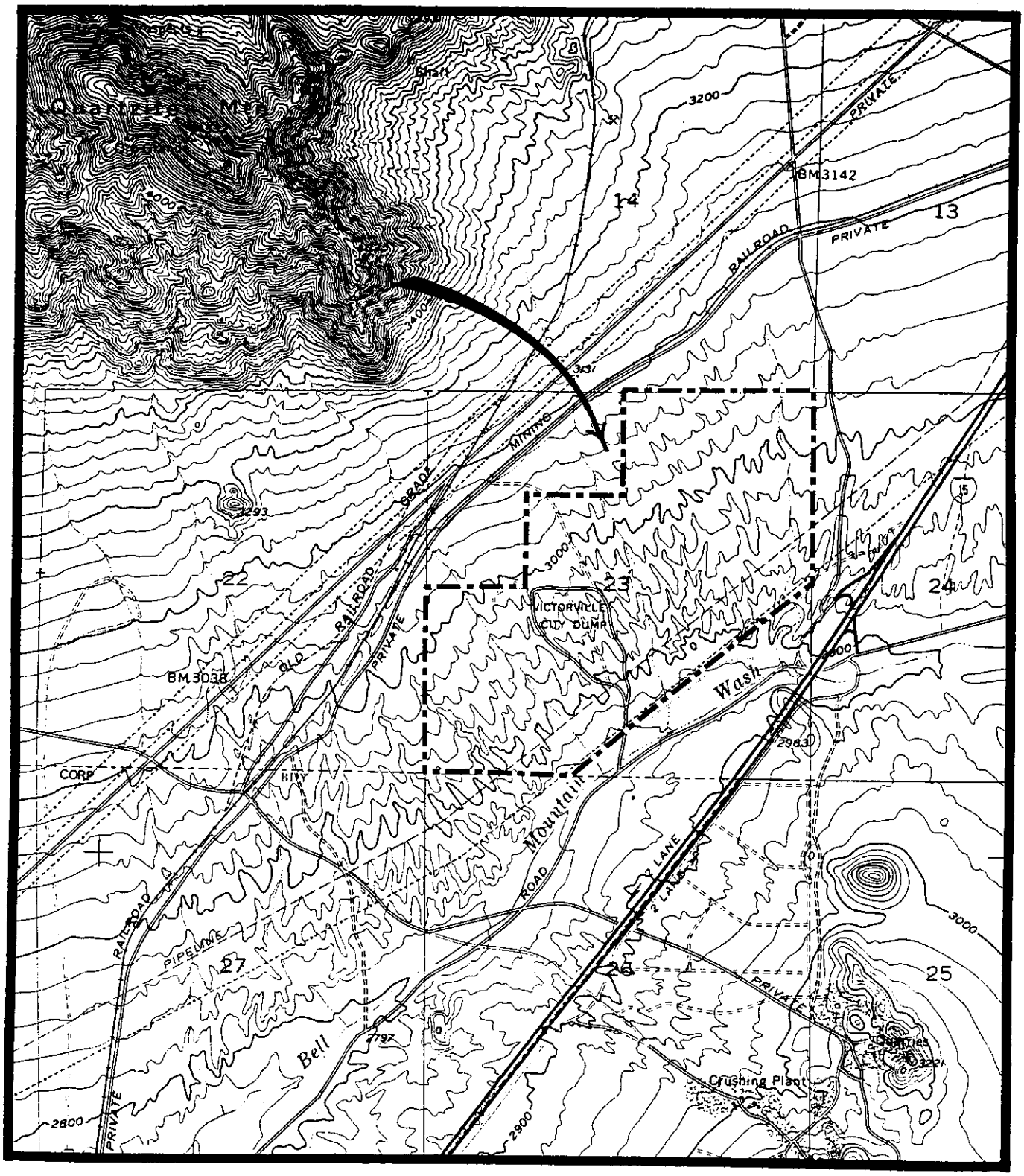

Figure 2

Study area plotted on a portion of the *Victorville* 7.5' Topographic Quadrangle.

Topographically, the study area can be characterized as a dissected alluvial fan that drains to the southeast into Bell Mountain Wash. Elevations outside of the active landfill and borrow area range from a maximum of 3085 feet above sea level along the northern project boundary to a minimum of 2860 at the southeast project corner. On-site and surrounding vegetation is best described as Creosote Bush Scrub. Some of the more readily identifiable plants observed included creosote bush, saltbush, joshua trees, yucca, desert trumpet, teddy-bear cholla, pencil cholla, beavertail cactus, and barrel cactus. Fauna encountered included jackrabbits, ravens, a roadrunner, mojave ground squirrels, and one zebra-tailed lizard. Site soils comprise desert alluvium that becomes progressively more rocky as one moves up-slope toward Quartzite Mountain. However, no bedrock exposures or natural surface water was observed anywhere within the boundaries of the project area.

Disturbance within the active landfill and adjoining borrow area is extensive but not unexpected given the nature of such an operation. Disturbance within the balance of the study area comprises dirt access roads, monitoring wells, a utility corridor along the southeastern property boundary (high pressure gas line and electrical towers), and scattered piles of illicitly dumped appliances and household debris.

III. RECORDS SEARCH

A records search of the study area was conducted by Ms. Robin Laska, Acting Coordinator of the Archaeological Information Center at the San Bernardino County Museum. The search entailed a review of all previously recorded prehistoric and historic archaeological sites situated on or within a one-mile radius of the project area. Additionally, the National Register of Historic Places, California Historic Landmarks, and California Points of Historical Interest were reviewed for the purpose of identifying any historic properties.

A. Sites Recorded within the Project Area

The results of the search indicated that a portion of one previously recorded historic resource lies within the study area. The site, PSBr-38H, comprises the Boulder Dam-San

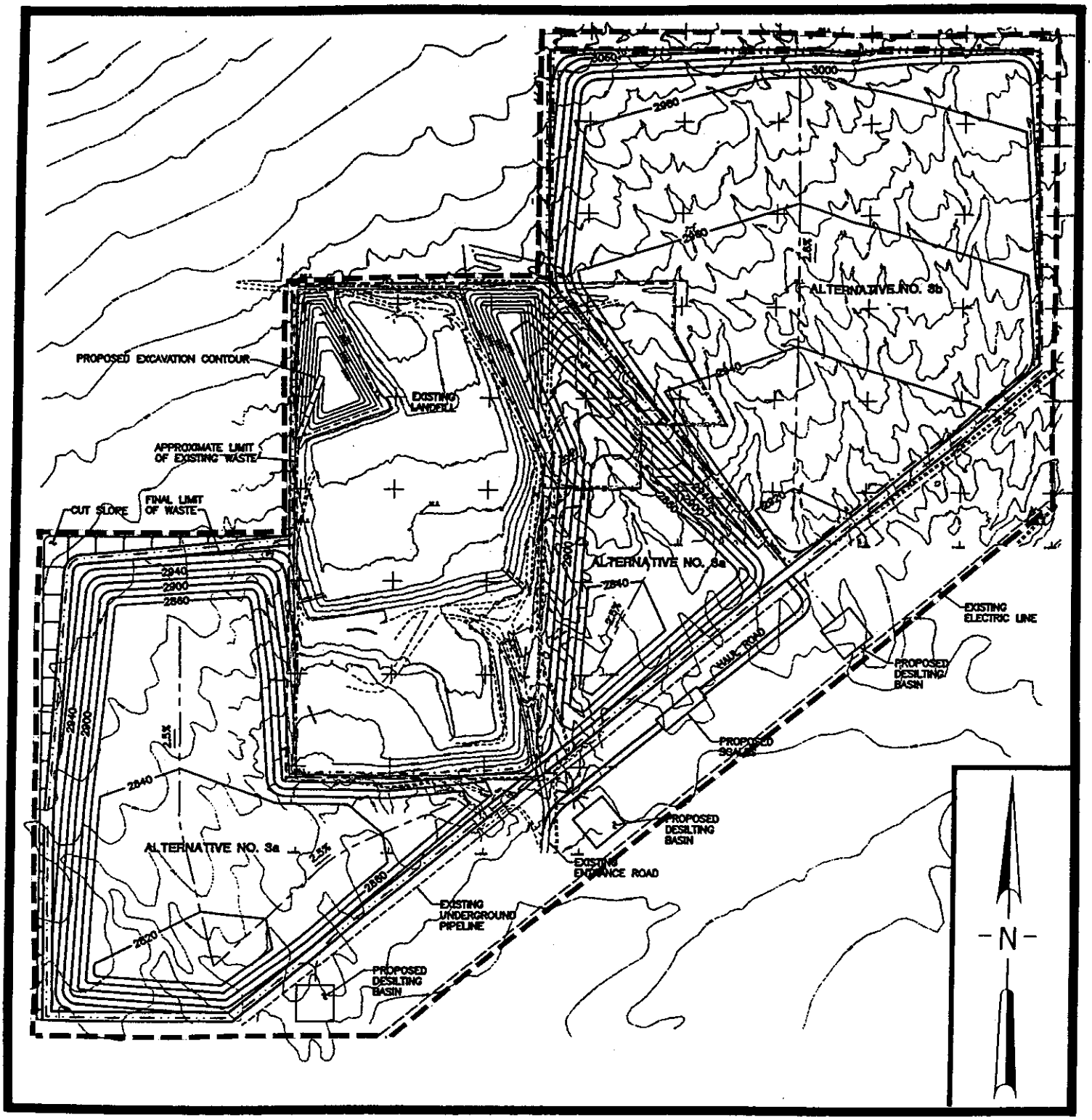

Figure 3

Proposed Expansion Plan of the Victorville Sanitary Landfill.
1-inch = 745 feet.

Bernardino 115kV Transmission Line which lies along the southeastern project boundary within the Southern California Edison easement. The transmission line consists of a three-cable line supported by a series of twin-tower, H-frame supports. It was constructed in 1931 by the Southern Sierras Power Company and provided all energy for the monumental Boulder Dam project (formerly Hoover Dam) as well as domestic service to Boulder City. Following completion of the dam, current flowing through the line was reversed to provide power from the dam to San Bernardino. Today, this remains its present use (Brock 1989). The Boulder Dam-San Bernardino Transmission Line was determined eligible for listing in the National Register of Historic Places in 1993.

B. Sites Recorded within a 1-mile radius

Five additional historic archaeological sites have been recorded within a 1-mile radius of the existing landfill. The sites comprise SBr-3159H, SBr-4411H, SBr-6321H, SBr-6328H, and SBr-7694H. Each is briefly described in the following paragraphs.

SBr-3159H was recorded by Mike Macko in 1982 and described as the Mojave Northern Railroad Grade. It comprises a gravel mining railroad grade and fragments of railroad ties that starts at the Victorville cement plant near National Trails Highway and extends to Quartzite Mountain. Historic trash (recent and old) was also found associated with the grade. The railroad grade is believed to have been associated with the Southwestern Portland Cement Company which operated the Victorville plant between 1916-1925 (Macko 1982). A portion of the grade lies approximately 1/4 mile to the west of the landfill.

SBr-4411H comprises the Mormon Trail (also known as California Historic Landmark #577). It was laid out by William Sanford in 1850 and extended from Cajon Pass to the California-Nevada border through San Bernardino County. During the 1850's, it was traversed by numerous Mormon pioneers, wagon freighters, and government railroad survey parties. An official monument marking the route lies adjacent to Highway 138, approximately four miles from the Palmdale Freeway off-ramp in Cajon Pass (Smith et al.

1969). The present alignment of Stoddard Wells Road to the south of the landfill appears to have followed a segment of the former trail.

SBr-6321H is characterized as a trash scatter dating from the mid-1950's. Artifacts observed included bottles dating between 1920-1964 (most from 1950's). However, following test investigations, SBr-6321H was determined to be a non-site (Schroth et al. 1991).

Presumably, SBr-6328H was originally thought to represent an historic or prehistoric trail. However, further investigations by A. Schroth of the Archaeological Research Unit at UC Riverside revealed that the site comprised nothing more than modern, off-road motorcycle tracks. Consequently, SBr-6328H is considered a non-site (Schroth 1991).

SBr-7694H is characterized as the Los Angeles Department of Water and Power (LADWP) Boulder Transmission Lines (also known as the Lytle Canyon Transmission Lines). The resource consists of a twin pair of 287.5 kV power lines (Boulder 1 and 2) maintained by the LADWP that provide power to the City of Los Angeles from Boulder (Hoover) Dam. A third line formed a part of the connector system of Lytle Creek Powerhouse No. 1 owned by the Southern California Edison Company. All lines are mounted on parallel rows of Y-frame steel towers that were built between 1933 and 1936. At the time of completion, this transmission line carried the heaviest power load in the world (Brock 1995). The LADWP Boulder Transmission Lines were determined eligible for listing in the National Register in 1994. This power line easement lies off-site approximately 1/4 mile to the northwest of the landfill.

C. Previous Studies Conducted in the Project Area

The results of the records search also indicated that three archaeological studies have been conducted in the vicinity of the landfill. The first was undertaken by Mike Lerch in 1992 and comprised a cultural resources assessment of 160 acres of land situated in the NE 1/4 of Section 23. At that time, the property was proposed as a borrow area to provide fill dirt for covering up solid waste. It was surveyed as part of a land exchange parcel between

the Bureau of Land Management and the County of San Bernardino Solid Waste Management Department. The results of Lerch's assessment were completely negative. No historic or prehistoric material was observed anywhere within the 160 acres (Lerch 1992).

In 1994, Thomas Taylor of the Southern California Edison Company conducted a field survey of approximately 2,000 feet for a proposed utility line extension. The alignment extended from Stoddard Wells Road to the entrance of the Victorville Landfill. Plans included the erection of nine new overhead wood poles. Other than noting the presence of PSBr-38H (Boulder Dam-San Bernardino 115kV Transmission Line), no additional sites were located (Taylor 1994).

More recently, a third study of the landfill was performed by Mike Lerch for the Bureau of Land Management (Lilburn Corp. 1997:pers. com.). It appears to have covered approximately 490-acres of land that includes the present 430±acre landfill holding. No additional historic or prehistoric sites were encountered within the study area.

IV. CULTURAL SETTING

Boundaries between Late Prehistoric groups in the Mojave desert are vague, no doubt because the populations were small and mobile and the land was vast. However, based on available ethnographic data, it is reasonable to suppose that our study area lay within the region controlled by the Vanyume.

Very little is known about the Vanyume people as they were culturally extinct by about the turn of the 20th century. Consequently, it remains unclear whether they were a distinct and separate indian group or a northern branch of the Serrano. Additionally, much confusion exists over whether these indians had their own Takic language or whether they spoke a dialect of Serrano (Bean and Smith 1978:570). Kroeber noted the following:

> The Vanyume are the Serrano of Mohave River. Dialectically they stand nearer to the Kitanemuk than to the Serrano of the San Bernardino Mountains; but all three idioms appear to be largely interintelligible (Kroeber 1925:614).

Strong (1929) and Bean and Smith (1978) later included the Tatavium (Alliklik) to the aforementioned Takic language of Shoshonean stock.

Vanyume territory reportedly extended east of the sink of the Mohave River for approximately a third of the distance to the Providence Mountains. Northward their region continued to the Daggett and Barstow areas (Kroeber 1925). Their neighbors, the Serrano, claimed the area of the San Bernardino Mountains. Serrano boundaries extended north from the Yucaipa Valley, eastward from the Cajon Pass to Twentynine Palms, and south of the Victorville area encompassing the transitional mountain and desert floor.

Like the Serrano, the Vanyume were a hunting and gathering society. However, because they were a desert-dwelling group, they tended to reside near permanent water sources. The principal plant resources of their environment probably included cacti and Joshua trees. In addition, the Vanyume most likely hunted deer and mountain sheep, rabbits and smaller rodents. Reptiles and birds may have also been consumed.

No specifics are known about the population size of the Vanyume group, although it was believed to be quite small. Kroeber stated that Francisco Garces, a missionary priest and member of the 1776 De Anza Expedition, encountered a Vanyume village comprising 25 individuals in addition to a vacant settlement on the Mohave River somewhere between Camp Cady and Daggett. The next time he observed a village was just south of the Victorville area where it was unclear if the indians were Vanyume or Serrano proper (Kroeber 1925:614). Politically, the Vanyume differed from the Serrano. They enjoyed good relations with the Mohave and Chemehuevi. These were hostile enemies of the Serrano.

V. FIELD RECONNAISSANCE

A field reconnaissance of the 430-acre study area was conducted by Laura S. White (surveyor), and Robert S. White (Principal Investigator) on May 22, 23 and June 16, 1997. The pedestrian survey began in the southwest corner of the property and proceeded in a northwesterly direction. Surface visibility was excellent, approaching 100% throughout the project area. No attempt was made to survey the active landfill or borrow area due to the

high degree of disturbance in those areas. The field reconnaissance was conducted by walking parallel transects spaced at 15-20 meter intervals across the balance of the site. Meandering transects were employed in reconnoitering the various gullies and small washes. Escarpments were also thoroughly checked for any signs of buried deposits. By employing these techniques, a thorough field reconnaissance of the study area was accomplished.

The location of PSBR-38H was checked in the field and insofar as we aware it is still an active electrical transmission line. The results of our field investigation were entirely negative. No prehistoric or additional historic resources were observed anywhere within the boundaries of the 430-acre project area.

VI. RECOMMENDATIONS

Although the records search indicated the presence of one historic resource (PSBR-38H) within the study area, it will not be adversely affected by the proposed expansion plan. Furthermore, the results of our field investigation were negative. Therefore, no further mitigation measures in conjunction with cultural resources are recommended.

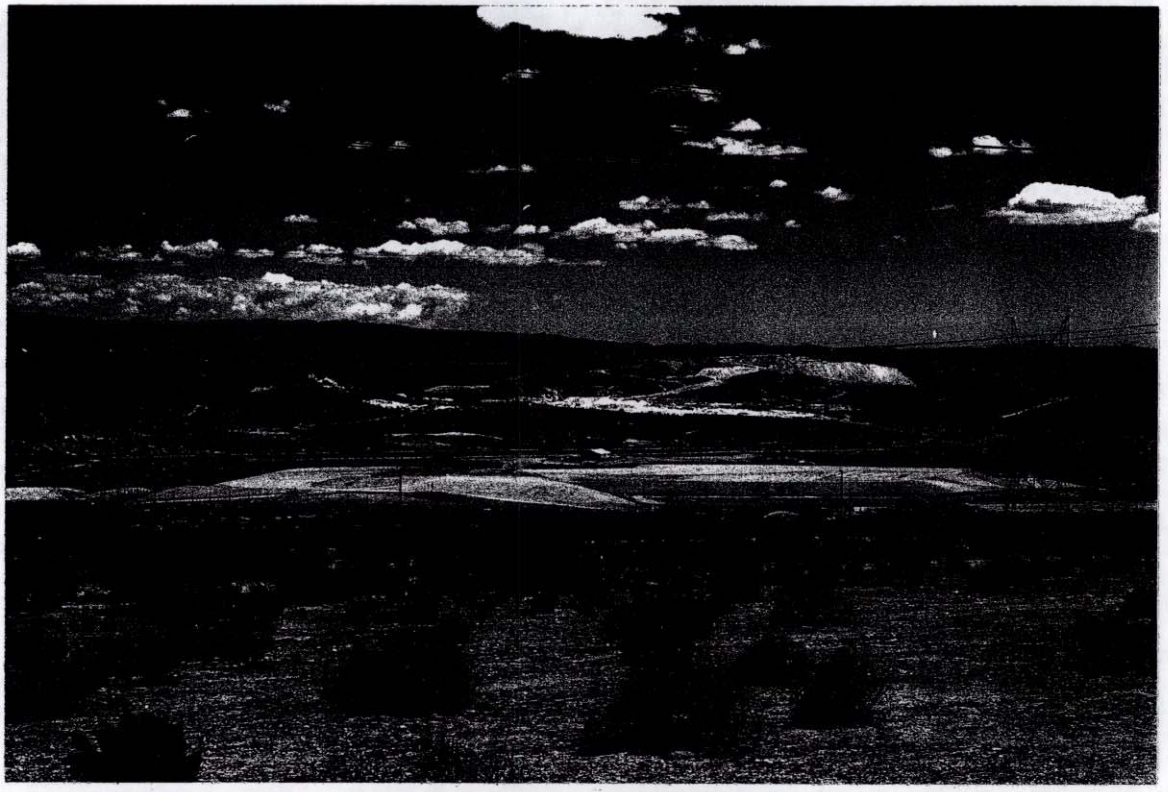

Plate I

Top: Looking southeast toward backside of landfill from off-property to the northwest.
Bottom: Looking north across study area toward landfill from southwest property corner.

Plate II

Top: Looking south/southwest across study area along utility corridor toward landfill.
Bottom: Northerly view across southerly borrow site.

REFERENCES CITED

BEAN, LOWELL J. and CHARLES R. SMITH

1978 Serrano. IN: *Handbook of North American Indians*, Vol. 8:California (R.F. Heizer ed.). Smithsonian Institution. Washington, D.C.

BROCK, JAMES

1989 Archaeological site record for PSBR-38H on file with the Archaeological Information Center, San Bernardino County Museum. Redlands.

1995 Archaeological site record for SBr-7694H on file with the Archaeological Information Center, San Bernardino County Museum. Redlands.

KROEBER, ALFRED L.

1925 Handbook of the Indians of California. *Bureau of American Ethnology* Bulletin no. 78, pp. 1-995. Smithsonian Institution. Washington, D.C.

LERCH, MICHAEL K.

1992 Cultural Resources Assessment of the Victorville Landfill Site and Exchange Parcel, San Bernardino County, California. Unpublished report on file with the Archaeological Information Center, San Bernardino County Museum. Redlands.

LILBURN CORPORATION

1997 Personal communication.

MACKO, MICHAEL

1982 Archaeological site record for SBr-3159H on file with the Archaeological Information Center, San Bernardino County Museum. Redlands.

SCHROTH, ADELLA

1991 Archaeological site record for SBr-6328H on file with the Archaeological Information Center, San Bernardino County Museum. Redlands.

SCHROTH, A., J. TORRES, and B. LOVE

1991 Archaeological site record for SBr-6321H on file with the Archaeological Information Center, San Bernardino County Museum. Redlands.

SMITH, GERALD A., L. BURR BELDEN and ARDA M. HAENSZEL

1969 San Bernardino County Registered State Historical Landmarks. *San Bernardino County Museum Association,* Vol. 17, No. 1. Redlands.

STRONG, WILLIAM D.

1929 Aboriginal Society in Southern California. *University of California Publications in American Archaeology and Ethnology* 26(1):1-358.

TAYLOR, THOMAS T.

1994 Archaeological Survey Report: Victorville Landfill Distribution Line Extension Project, San Bernardino County, California. Unpublished report on file with the Archaeological Information Center, San Bernardino County Museum. Redlands.

APPENDIX E2
PALEONTOLOGIC ASSESSMENTS

SECTION 2:
PALEONTOLOGIC ASSESSMENT

PALEONTOLOGIC ASSESSMENT

VICTORVILLE LANDFILL EXPANSION

CITY OF VICTORVILLE

SAN BERNARDINO COUNTY, CALIFORNIA

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June 1997

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DEPARTMENT OF COMMUNITY
AND CULTURAL RESOURCES

COUNTY OF SAN BERNARDINO
GENERAL SERVICES GROUP

SAN BERNARDINO COUNTY MUSEUM
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PALEONTOLOGIC ASSESSMENT
VICTORVILLE LANDFILL EXPANSION
CITY OF VICTORVILLE, SAN BERNARDINO COUNTY, CALIFORNIA

The Paleontologic Resource Assessment Program of the Section of Earth Sciences, San Bernardino County Museum (SBCM) has conducted a review of the pertinent literature, a search of the Regional Paleontologic Locality Inventory (RPLI), and a field survey for the above-named property in northern Victorville, San Bernardino County, California. The property is located between the Interstate 15 Freeway and the Mojave Northern Mining Railroad and Boulder Road, immediately west of the Stoddard Wells Road offramp from the I-15. Specifically, the property is located within the northeastern, central and southern portions of section 23, Township 9 North, Range 1 West, SBB&M, as shown on the Victorville, CA 7.5 minute U.S. Geological Survey topographic quadrangle map (1956 edition, photorevised 1981) (Figure 1).

Background

Previous geologic mapping of the area by Bowen (1954), Power (1985, 1989), and Bortugno and Spittler (1986) indicates that the Victorville Landfill property is situated upon alternating lascustrine (= lake) and fluviatile (= river) sediments dating to the early to middle Pleistocene Epoch. These sediments have been tentatively inferred (Reynolds 1989; Reynolds and Reynolds 1994) to be the distalmost extent of the Victorville Fan. All of these authors have reported the occurrence of fossils representing extinct Pleistocene vertebrates in these sediments. A recent review of fossil localities and their taxa from this portion of Victorville (Reynolds 1989) yielded the following composite fauna:

Sorex sp.	shrew
Lepus sp.	jack rabbit
Sylvilagus sp.	cotton tail
Ammonspermophilus leucurus	antelope ground squirrel
Spermophilus townsendi	ground squirrel
Thomomys sp.	pocket gopher
Perognathus sp.	pocket mouse
Dipodomys sp.	kangaroo rat
Neotoma sp. cf. *N. lepida*	wood rat
Sigmodon medius	extinct cotton rat
Equus sp.	extinct horse
Hemiauchenia sp.	extinct llama
Camelops sp.	extinct camel
Mammuthus sp.	extinct mammoth

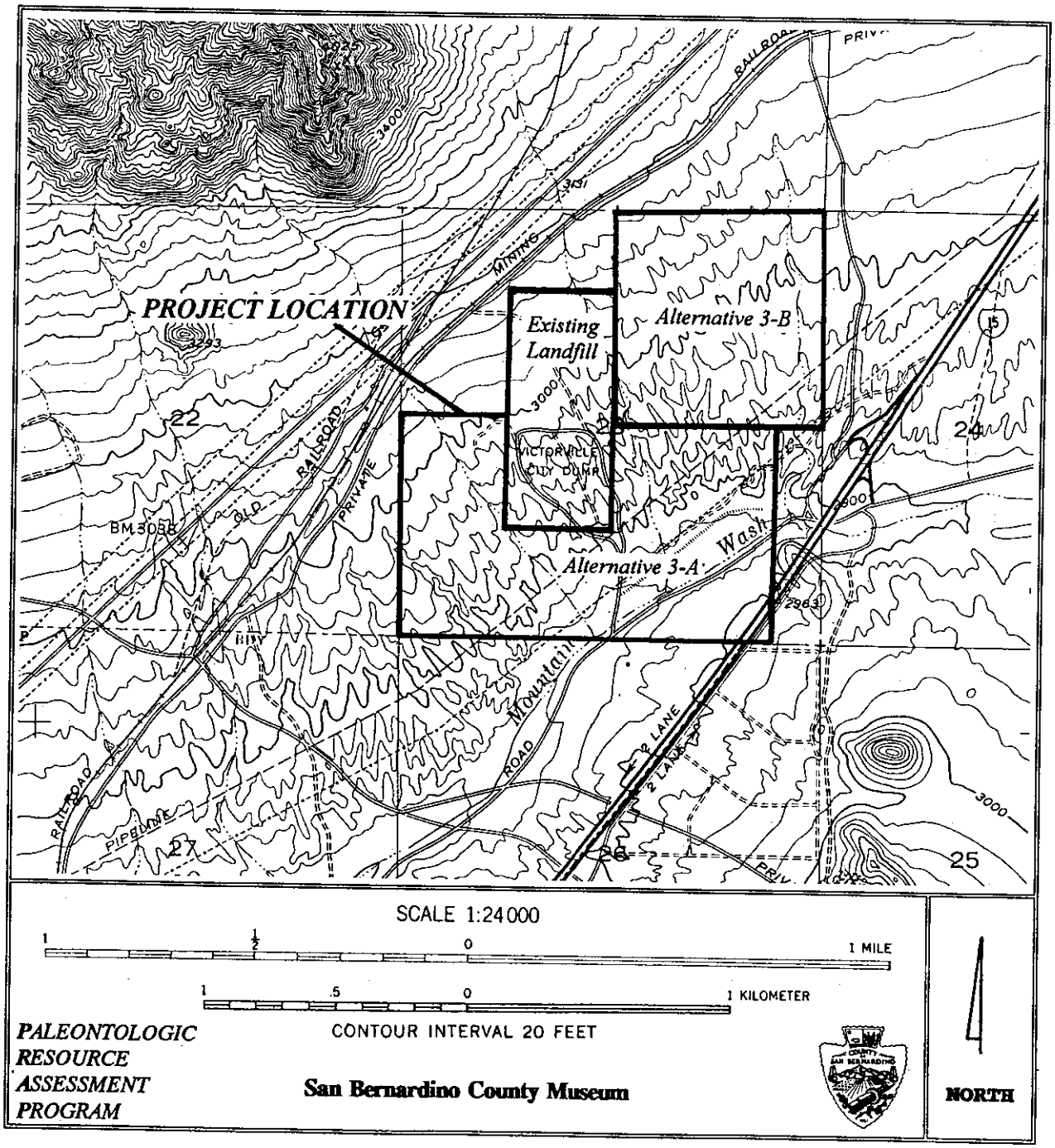

FIGURE 1
Locality map, Victorville Landfill Expansion
[Victorville CA 7.5' U.S.G.S. topographic quadrangle (1981)]

Specimens originally attributed to the cotton rat taxon *Sigmodon medius* in this composite fauna (Reynolds 1989) were recovered from locality SBCM 01.114.038, located approximately seven (7) miles south of the Victorville Landfill property. Following additional study, these specimens have been subsequently reidentified as *Sigmodon* sp. cf. *S. minor*, or "*S(igmodon) minor*, as this species is presently understood" (Reynolds and Reynolds 1994, p. 32).

The presumed presence of *Sigmodon minor* in the Victorville fauna appears unusual, as *S. minor* is generally restricted in age to the later part of the Blancan North American Land Mammal Age (NALMA) (= late Pliocene Epoch) and the earliest Irvingtonian NALMA (= early Pleistocene Epoch) (Martin 1979; Lundelius and others 1987; Repenning 1987). This would suggest that the sediments in the Victorville area may be older than $\pm$ 1.2 million years before present (BP) and possibly older than 2 million years BP. However, the two specimens from Victorville attributed to *Sigmodon* sp. cf. *S. minor* were recovered from the base of a coarse-grained sedimentary facies correlated by Reynolds and Reynolds (1994) with Noble's Old Alluvium, a unit of the Victorville Fan which outcrops near Cajon Summit (Meisling and Weldon 1989). The coarse-grained Victorville sediments were situated unconformably atop fine-grained silts and clays which were interpreted (Reynolds and Reynolds 1994) to represent the most distal facies of the fossiliferous Shoemaker Gravels. The unconformity between Noble's Old Alluvium and the Shoemaker Gravels, as exposed and studied near Cajon Summit, has been dated to between 0.7 and 0.9 million years BP (Weldon 1985)--nearly half a million years after the presumed extinction of *S. minor* in North America (Martin 1979; Lundelius and others 1987).

The presence of *Sigmodon* sp. cf. *S. minor* in coarse-grained sediments from Victorville which are presumed to lie above an unconformity equivalent to that described from Cajon Summit by Weldon (1985) would appear to suggest that this species may have survived in the Victorville area up to between 0.7 and 0.9 million years BP--long after it was extinct elsewhere in North America (Reynolds and Reynolds 1994). However, the recent report of additional early Pleistocene taxa--including the extinct southern mammoth (*Mammuthus meridionalis*) and the extinct long-limbed camel (cf. *Titanotylopus*)--from the Victorville region (Scott, Springer and Murray, in press) suggests that some of the sediments in the Victorville/Hesperia area may in fact date to the early part of the Pleistocene Epoch. In this case, the occurrence of *Sigmodon minor* from this area would not be unusual. However, the validity of reported correlations between the sedimentary sequence observed in Victorville proper with sequences observed near Cajon Summit (Reynolds 1989; Reynolds and Reynolds 1994) would require reevaluation (Scott, Springer and Murray, in press). In any case, the recovery of additional, more diagnostic remains of *S. minor*--or of other early Pleistocene Epoch taxa--in a reliable stratigraphic context from the Victorville area (and particularly from the Victorville Landfill property) would undoubtedly provide crucial data for advancing further determinations of the age of the sediments in the Victorville region.

A review of the Regional Paleontologic Locality Inventory (RPLI) at the San Bernardino County Museum (SBCM) was conducted by the staff of the Section of Earth Sciences. The results of this review indicate that five paleontologic resource localities (SBCM 01.114.051 - 01.114.055) are

located approximately two (2) miles southwest of the Victorville Landfill property. An additional fifteen localities (SBCM 01.114.117 - 01.114.128 and 01.114.203 - 01.114.205) are located within three miles to the southwest of the southern border of the Victorville Landfill. Eighty-one paleontologic resource localities (SBCM 01.114.059 - 01.114.090, 01.114.093 - 01.114.115, 01.114.131 - 01.114.146, and 01.114.160 - 01.114.165) are located approximately six (6) miles southwest of the Victorville Landfill property. Five localities (SBCM 01.114.166 - 01.114.170) are recorded approximately six (6) miles due south of the property. Finally, fifty-six paleontologic resource localities are known from within eight (8) miles southeast of the Victorville Landfill property; these sites include SBCM 01.114.003A, 01.114.008 - 01.114.024A, 01.114.038A, 01.114.039 - 01.114.050, 01.114.091 - 01.114.092, 01.114.116, 01.114.130, 01.114.147 - 01.114.159, and 01.114.180 - 01.114.200. Fossils recovered from all of these localities are derived from sediments similar to those present within the boundaries of the proposed landfill expansion property; fossils recovered from these localities include specimens of large *Equus* (extinct horse), *Lepus* (jackrabbit), *Sylvilagus* (cottontail rabbit), *Thomomys* (pocket gopher), *Dipodomys*(kangaroo rat), *Perognathus* (pocket mouse), *Sigmodon* sp. cf. *S. minor* (extinct cotton rat), *Vulpes* (fox), *Phrynosoma* (desert horned "toad"), *Crotalus* (rattlesnake), *Mammuthus meridionalis* (southern mammoth), *Mammut* (mastodon), *Hemiauchenia* (llama), *Camelops* (camel) and possibly *Titanotylopus* (long-limbed camel). The presence of a possible new species of extinct *Peromyscus* (deer mouse) has also been suggested recently, based upon fossils recovered from the Pleistocene older alluvium in the Victorville area.

The RPLI at the San Bernardino County Museum does not indicate that previous paleontologic resource surveys have been conducted within the boundaries of the parcel. As a result, no paleontologic localities are recorded therein.

Methods

The Paleontologic Resource Assessment Program of the Section of Earth Sciences, SBCM was contacted to provide a paleontologic resource assessment for the Victorville Landfill Expansion project, located in the City of Victorville, San Bernardino County, California. This assessment included a review of the pertinent paleontologic and geologic literature, a search of the RPLI at the SBCM, and a field survey of the proposed project property.

The Principal Investigator for the paleontologic resource assessment was Kathleen B. Springer, Curator of Paleontologic Resources, SBCM. Ms. Springer has more than thirteen years' experience in the salvage, curation and preservation of nonrenewable paleontologic resources. The field survey team included Ms. Springer and Field Paleontologists Quintin Lake and Kimberly M. Scott, as well as Paleontology Field Supervisor Eric Scott. All have previous experience in paleontologic resource salvage in the Mojave Desert and the Victorville region.

The field survey was conducted on 22 May 1997. Where feasible, the survey was conducted on foot by field personnel walking along ten-meter transects across the property. Intuitive deviations from

this survey pattern were made to inspect likely-looking outcrops of potentially-fossiliferous sediments. Additionally, sediments exposed in road cuts along existing roadways, in washes crossing the property, and in one previous borrow cut were observed to determine the nature, extent and paleontologic potential of the outcrop(s).

Results

The literature review indicated that the sediments present within the boundaries of the Victorville Landfill have high potential to contain significant nonrenewable paleontologic resources subject to adverse impact during development-related excavation. The review of the RPLI demonstrated that numerous paleontologic resource localities are present in the near vicinity of the Victorville Landfill property. All of these localities are recorded from older Pleistocene sediments similar to those present within the boundaries of the Victorville Landfill Expansion project.

The field survey verified the presence of medium- to coarse-grained, tan to yellow-grey to green-grey to grey sediments of presumed Pleistocene age, covered in some areas by a thin veneer of desert pavement. Much of this material appeared heavily calichified. However, isolated lenses of silts and clays which ranged from tan to green to grey in color were also observed intermittently throughout the property, particularly in washes and in rodent burrow tailings; these sediments, also of presumed Pleistocene Epoch age, exhibited a lithology conducive to the preservation of paleontologic resources. Additionally, finer-grained sediments of presumed Pleistocene Epoch age were observed at depth as a distinctive dark horizon in the existing borrow cut; sediments of this nature are conducive to fossil preservation.

No invertebrate or vertebrate fossils were observed or recovered during the field survey portion of the assessment. However, packrat middens--that is, plant middens amassed through many years by packrats (*Neotoma* sp.) were identified from two localities within the boundaries of the Victorville Landfill Expansion property. *Neotoma* middens have been known to accumulate through decades and even centuries as successive generations of packrats add collected plant matter to the midden. These middens can in some cases be paleontologic "treasure troves," in that they can provide:

- sequences of well-preserved plant fossils which enable reconstructions of past climatic conditions;
- potentially, time-stratified sequences of radiometric dates which enable more accurate interpretations of paleoenvironmental change through time; and
- occasionally, identifiable microfossil bones which permit comparisons with other, undated microfossil faunas to be advanced.

Packrat middens have been previously employed to track climatic shifts and changes in plant

distribution in the Great Basin and the Mojave Desert throughout the later part of the Pleistocene Epoch (± 40,000 years BP to ± 11,000 years BP), as well as through much of the Holocene Epoch (< 11,000 years BP) (Van Devender 1977; Van Devender and others 1987; Spaulding and others 1990; Spaulding 1995). Such middens are therefore highly paleontologically sensitive.

The packrat middens observed within the boundaries of the Victorville Landfill Expansion property did not have the appearance of advanced age characteristic of late Pleistocene/early Holocene packrat middens. However, such age determinations are preliminary at best. Further, the presence of these middens within the boundaries of the Victorville Landfill property suggests that other middens not observed during the field survey may also be present in the area; these middens, too, if encountered will need to be salvaged and studied in order to determine their age and potential paleontologic significance.

Recommendations

Excavation in conjunction with development has a high potential to adversely impact significant nonrenewable paleontologic resources present within the boundaries of the Victorville Landfill property. A qualified vertebrate paleontologist must develop a program to mitigate impacts to such nonrenewable paleontologic resources. This mitigation program should be consistent with the provisions of the California Environmental Quality Act, as well as with regulations currently implemented by the County of San Bernardino and the proposed guidelines of the Society of Vertebrate Paleontology. This program should include, but not be limited to:

1. Pre-excavation sampling of the observed *Neotoma* middens, to better determine their potential antiquity;

2. Intermittent (1 day/month) monitoring of excavation in areas identified as likely to contain paleontologic resources by a qualified paleontologic monitor. The monitor should be equipped to salvage fossils as they are unearthed to avoid construction delays and to remove samples of sediments which are likely to contain the remains of small fossil invertebrates and vertebrates. The monitor must be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens.

3. Preparation of recovered specimens to a point of identification and permanent preservation, including washing of sediments to recover small invertebrates and vertebrates.

4. Identification and curation of specimens into a museum repository with permanent retrievable storage.

5. Preparation of a report of findings with an appended itemized inventory of specimens. The report and inventory, when submitted to the appropriate Lead Agency, will signify completion of the program to mitigate impacts to paleontologic resources.

References

Bortugno, E.J. and T. E. Spittler, 1986. Geologic map of California, San Bernardino sheet, scale 1:250,000. California Division of Mines and Geology Regional Geologic Map Series, Map 3A.

Bowen, O.E. Jr., 1954. Geology and mineral deposits of the Barstow quadrangle, San Bernardino County, California. California Division of Mines Bulletin 165: 1-85.

Jefferson, G.T., 1989. Late Pleistocene and earliest Holocene fossil localities and vertebrate taxa from the western Mojave Desert. *In* J. Reynolds (ed.), The west-central Mojave Desert: Quaternary studies between Kramer and Afton Canyon. Redlands, SBCM Association Special Publication, p. 27-40.

Meisling, K.E. and R.J. Weldon II, 1989. Late Cenozoic tectonics of the northwestern San Bernardino Mountains, southern California. Geological Society of America Bulletin 101: 106-128.

Martin, R.A., 1979. Fossil history of the rodent genus *Sigmodon*. Evolutionary Monographs 2:1-36.

Power, J.D., 1985. Geologic map of the Bear Valley Road redevelopment area. City of Victorville.

_____, 1989. Episodic lake bed formation in the Victorville area, California. *In* J. Reynolds (ed.), the west-central Mojave Desert: Quaternary studies between Kramer and Afton Canyon. Redlands, SBCM Association Special Publication, p. 41-43.

Repenning, C.A., 1987. Biochronology of the microtine rodents of the United States. *In* M.O. Woodburne (ed.), Cenozoic mammals of North America: geochronology and biostratigraphy. Berkeley: University of California, p. 236-268.

Reynolds, R.E., 1989. Mid-Pleistocene faunas of the west-central Mojave Desert. *In* J. Reynolds (ed.), The west-central Mojave Desert: Quaternary studies between Kramer and Afton Canyon. Redlands, SBCM Association Special Publication, p. 44-50.

Reynolds, R.E. and R.L. Reynolds, 1994. The Victorville fan and an occurrence of *Sigmodon*. *In* R. Reynolds (ed.), Off limits in the Mojave Desert. Redlands: SBCM Association Special Publication 94-1, p. 31-33.

Scott, E., 1996. The small horse from Valley Wells, San Bernardino County, California. *In* R.E. and J. Reynolds (eds.), Punctuated Chaos in the Northeastern Mojave Desert. SBCM Association Quarterly 43(1,2): 85-89.

Scott, E., K. Springer and L.K. Murray, in press. New records of early Pleistocene vertebrates from the west-central Mojave Desert, San Bernardino County, California. Journal of Vertebrate Paleontology (in press).

Spaulding, W.G., 1995. Environmental change, ecosystem responses, and the late Quaternary development of the Mojave Desert. *In* D.W. Steadman and J.I. Mead (eds.), Late Quaternary environments and deep history: a tribute to Paul S. Martin. Hot Springs, South Dakota: Mammoth Site of Hot Springs, South Dakota, Inc., Scientific Papers 3: 139-164.

Spaulding, W.G., J.L. Betancourt, L.K. Croft and K.L. Cole, 1990. Packrat middens: their composition and methods of analysis. *In* J.L. Betancourt, T.R. Van Devender and P.S. Martin (eds.), Packrat middens: the last 40,000 years of biotic change. Tucson: University of Arizona Press, p. 59-84.

Van Devender, T.R., 1977. Holocene woodlands in the southwestern deserts. Science 198: 189-192.

Van Devender, T.R., R.S. Thompson and J.L. Betancourt, 1987. Vegetation history of the deserts of southwestern North America: the nature and timing of the Late Wisconsin-Holocene transition. *In* W.F. Ruddiman and H.E. Wright (eds.), North America and adjacent oceans during the last deglaciation: the geology of North America 3:323-352.

Weldon, R.J. II, 1985. Implications of the age and distribution of the late Cenozoic stratigraphy in Cajon Pass, southern California. *In* J. Reynolds (ed.), Geologic investigations along Interstate 15, Cajon Pass to Manix Lake. SBCM Association 85-1: 59-68.

Paleontologic Resource Assessment Program
San Bernardino County Museum
11 June 1997

APPENDIX F
TRAFFIC IMPACT ANALYSIS

TRAFFIC IMPACT STUDY

For

VICTORVILLE LANDFILL

County of San Bernardino, California

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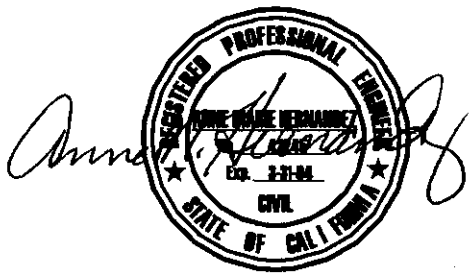

September 2002

Addendum 1

Date: November 21, 2002

The following section replaces the **MITIGATION** section found in the attached report. It more fully explains the LOS resulting from the proposed mitigation. No changes to the mitigation, LOS or fair share contributions were made by this addendum.

MITIGATION

The above LOS demonstrates that all intersections operate at an acceptable LOS with the exception of the Stoddard Wells Road / I-15 northbound intersection. This intersection requires modification in order to meet the acceptable LOS criteria.

It is proposed to mitigate the Stoddard Wells Road / I-15 northbound intersection by adding one through lane to the east and westbound approaches and a left turn pocket for the northbound exit ramp. This mitigation is recommended for the year 2025. This resulted in a LOS of C or better on all approaches except the I-15 off ramp which operated at LOS of D. According to Caltrans, LOS of D or higher is acceptable for ramp operations. The following table summarizes the LOS results:

Table 4: Level of Service
Mitigated Stoddard Wells Road / I-15 Northbound

2025 w/o Additional Project Trips		2025 w/ Project Trips		2025 w/o Project Trips MITIGATED		2025 w/ Project Trips MITIGATED	
Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
109.5	F	111.1	F	38.9	E	33.6	D

The project trips increase the volume of southbound right turns in the shared through-right turn lane. This results in a higher ratio of right turn volume to through traffic volume. Right turns experience less delay than through traffic resulting in a decrease in the delay for overall through-right turn traffic. The approach delay is a **volume-weighted average**. Since the majority of the southbound traffic experiences a reduced delay, the approach delay is reduced improving the

level of service for the approach and intersection.[1]

The estimated construction cost was calculated using the Preliminary Construction Cost Estimates for Congestion Management Plan.

Table 5: Mitigation Costs

2025		
Intersection	Improvement	Cost
I-15 NB / Stoddard Wells Rd	Add one additional lane for east and westbound approach. Add a left turn pocket to the northbound exit ramp.	$62,800

The project's fair share calculation is based upon the project's share of traffic in comparison to the total volume of traffic through the intersection. The project's fair share is calculated as:

Table 6: Project Fair Share Intersection Contribution

Intersection	Total Cost	Existing Traffic	Year 2025 w/ Project Traffic	Project Traffic	Total New Traffic	Project % of New Traffic	Project Cost Share
I-15 NB / Stoddard Wells Rd	$62,800	108	1,006	95	898	11%	$6,657
Total Costs	$62,800						$6,657

[1]Explanation of resulting level of service analysis for this intersection provided by the Technical Support Staff of McTrans Center, University of Florida. McTrans is the support and distribution center for the Highway Capacity Software used to calculate the level of service per the Highway Capacity Manual procedures established by the Transportation Research Board.

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INTRODUCTION

This analysis was prepared to assess the potential traffic impacts associated with the proposed revisions to the 1998 Solid Waste Facilities Permit (SWFP) No. 36-AA-0045 for the Victorville Sanitary Landfill. The proposed revisions to the SWFP include: 1) the horizontal expansion of the landfill from a permitted 67 acres to approximately 341 acres on an approximate 491-acre site; 2) an increase in the maximum permitted height of 50 feet from the currently permitted 3,130 feet above mean sea level (msl) to 3,180 feet above msl; 3) an extension of the landfill projected closure date from its current date of 2005 to 2081, a period of 76 years.[1]

The landfill expansion is compatible with the Solid Waste Partnership Strategy Implementation Plan (PSIP), adopted by the County Board of Supervisors in October 1996. Basically, this plan provides a framework for landfill consolidation to five regional landfills with a support network of transfer stations and community collection centers. Victorville Sanitary Landfill is one of the five landfills selected to operate as a regional facility. The environmental analysis supporting Victorville Sanitary Landfill as a regional facility were addressed in a Negative Declaration adopted in 1998.

Although the footprint of the landfill is increasing, the waste received is directly tied to the population of the area being served. Therefore, it is the increased waste produced by the normal population growth that determines the demand for the landfill and the not horizontal and vertical expansion.

The landfill is currently permitted for 600 entering vehicles per day or 1,200 daily trips. A traffic study was prepared in 1997 analyzing this traffic demand to the year 2005. This Traffic Impact Study will analyze the traffic impacts associated with the current 600 entering vehicles operating through the year 2025.

This analysis has been prepared using generally accepted professional traffic engineering standards and practices. The opinions and conclusions are solely those of Hernandez, Kroone & Associates (HKA).

SITE LOCATION

The facility is located west of Interstate 15 (I-15), and north of the City of Victorville, in an unincorporated area of the County of San Bernardino, California. (See Regional Location Map and Project Site Map, Figures 1 and 2).

The major roads providing access to the landfill are Stoddard Wells Road and I-15. The majority of project trips will arrive to the landfill by traveling north on I-15 and exiting at Stoddard Wells Road. These project trips will include the large transfer vehicles from transfer stations around the Victor Valley and those vehicles providing service beyond a 2 or 3 mile radius of the landfill. For those

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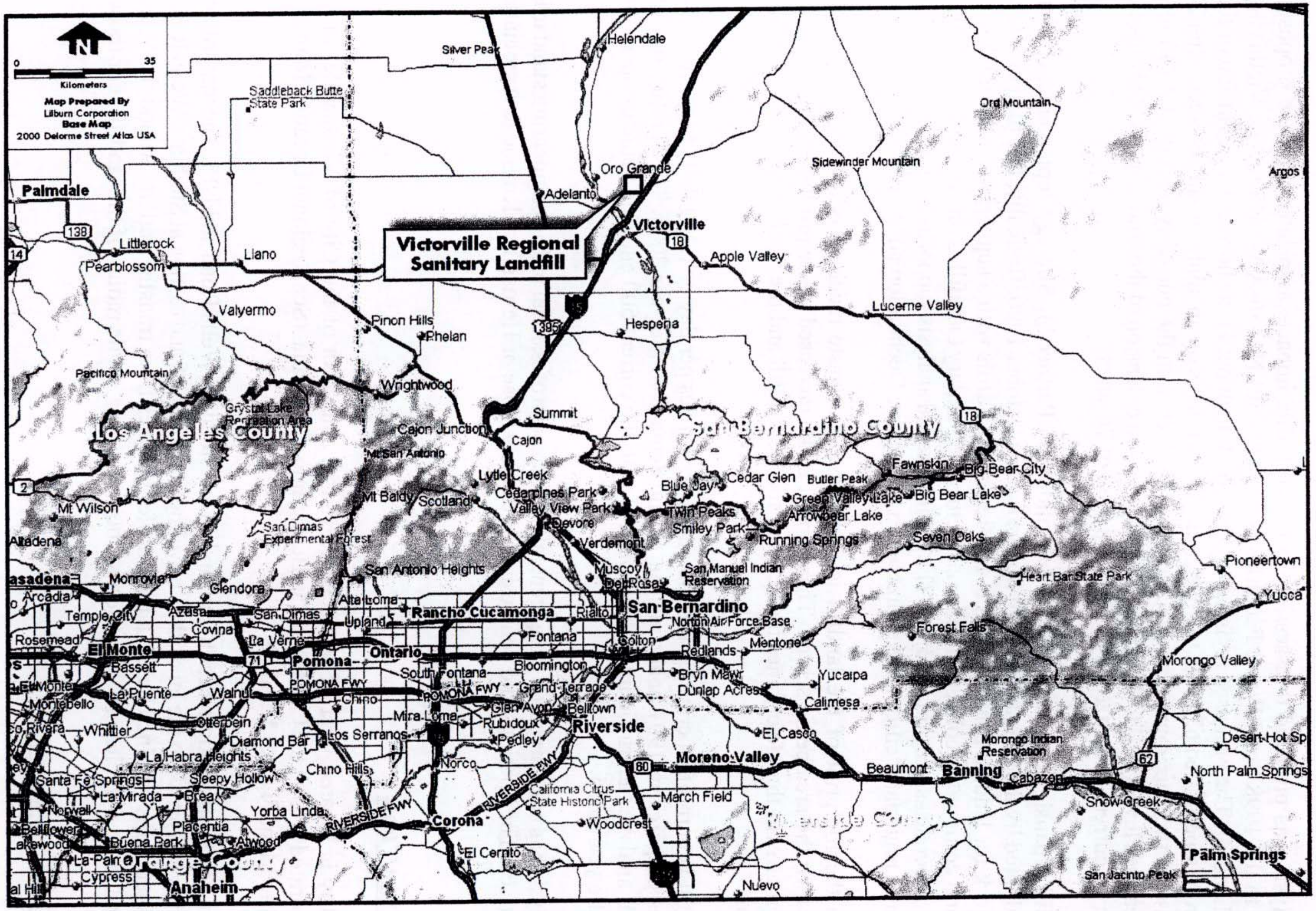
[1]County of San Bernardino Initial Study and Environmental Checklist Form, Lilburn Corporation, 2002.

SBC Vict-Regional 6/22/02



Regional Location

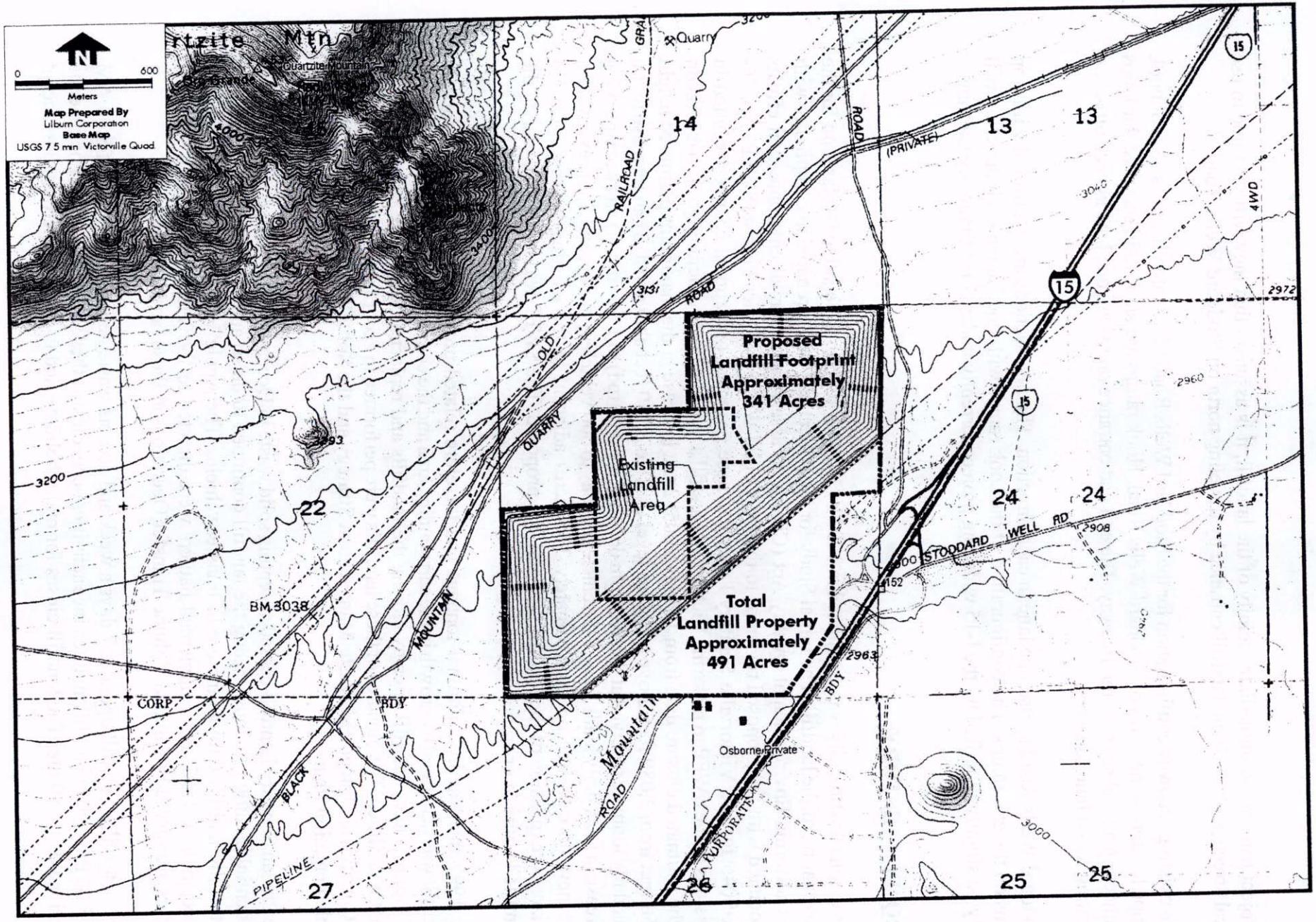
Victorville Regional Sanitary Landfill
San Bernardino County, California

Map furnished by:

LILBURN CORPORATION

Traffic Study Report

Figure 1



Project Site

Victorville Regional Sanitary Landfill
San Bernardino County, California

Traffic Study Report

Figure 2

Map furnished by:

LILBURN CORPORATION

project trips in the immediate vicinity of the landfill, it is assumed that they will continue to use local streets and reach the landfill entrance by traveling north on Stoddard Wells Road.

The existing roadway configuration for the Stoddard Wells Road / I-15 interchange is a set of hook ramps located to the north of Stoddard Wells Road. Hook ramps are short radii semicircular loops connecting a local street to the freeway. The exit and entrance ramps are one lane in each direction forming a two lane roadway.

Stoddard Wells Road is also one lane in each direction. The intersections are controlled with stop signs on the exit ramps. The configuration of the hook ramps with one lane in each direction will only be slightly modified by the I-15 widening project currently under construction by Caltrans.

PROJECT HISTORY

A previous traffic study was completed in 1997 by HKA to support a Negative Declaration for the rejuvenation of the landfill. The Initial Study for the project had been prepared in compliance with the California Environmental Quality Act (CEQA) to assess the potential environmental effects associated with the proposed revisions to the 1997 Solid Waste Facilities Permit (SWFP) No. 36-AA-0045 for the Victorville Sanitary Landfill. Those proposed operational changes resulted in revisions to the SWFP to make the Victorville Landfill a regional facility including: 1) an extension of the estimated closure date from 1999 to 2005; 2) an increase in the maximum permitted height of 50 feet from 3,080 feet above mean sea level (msl) to 3,130 feet above msl; 3) an increase in the peak daily tonnage received at the site from 660 tons per day (tpd) to 1,600 tpd; 4) an accompanying increase in peak daily loads from 295 vehicles per day to 600 vehicles per day; and 5) the excavation of a new borrow area on approximately 37.5 acres adjacent to the existing borrow area. No horizontal expansion of the landfill footprint was proposed. The SWFP was updated to clarify the permitted hours of operation/open to the public.

The 1997 increase in additional tonnage and therefore related project traffic to the Victorville Landfill was generated by growth in the surrounding area and the conversion of the Phelan, Hesperia and Apple Valley landfill sites by closing the landfills and replacing them with a collection and transfer facilities. The closures of these landfills were performed in accordance with the Partnership for Countywide Integrated Waste Management Strategy and the Solid Waste Partnership Strategy Implementation Plan.

The Phelan Sanitary Landfill ceased accepting solid waste in December 1997. The commercial and residential hauling previously using the landfill continued to do so and waste was diverted to the Victorville landfill through the use of transfer vehicles. The Apple Valley and Hesperia landfills closed in June 1997 and commercial haulers were directed to the Victorville landfill. The self haulers are served by Limited Volume Transfer Operations at those landfill sites.

The Victorville Landfill operates 7 days a week and accepts waste between the hours of 8:00 AM and 5:00 PM. Other landfill maintenance activities occur outside these hours but would not generate additional trips offsite. The landfill closes for major holidays and is currently permitted to accept

600 entering vehicles. Project traffic consists of large transfer vehicles, 3 axle traditional garbage trucks, construction vehicles, and a variety of independent and household waste haulers.

BACKGROUND TRAFFIC VOLUMES AND PATTERNS

Normally information on the existing traffic patterns is obtained through collection of peak hour traffic volumes and turning movements at selected intersections. At this time, the widening on Interstate 15 has closed the access underneath the Stoddard Wells Road overcrossing. Therefore, traffic exiting northbound I-15 at the Stoddard Wells cannot reach the project site. This has drastically changed the traffic patterns in the area.

Since traffic counts cannot be collected due to the extensive duration of the detour, traffic data from the Pluto Development Traffic Impact Study was used to simulate the existing traffic patterns. For this project, Counts Unlimited had taken 24 hour volumes and PM peak hour turning movements at the Stoddard Wells Road / I-15 ramps. These counts, along with the daily entry logs maintained by the Victorville Landfill, were used to estimate the existing traffic patterns in the area.

The PM peak hour turning movements were taken every 15 minutes between 3:00 - 5:00 PM. Due to the large employment volumes at the warehouse and the very low forecasted volumes by the Southern California Associated Government's (SCAG) traffic model, the warehouse has the impact of shifting the future PM peak hour time from between 4:30 - 5:30 to 3:00 - 4:00 PM.

While the AM peak hour turning movements were not obtained for the previous traffic study, a 24 hour count was taken on Stoddard Wells Road. The highest four consecutive 15 minute periods were between 7:30 - 8:30 AM. These volumes were used for the AM analysis in this study. The turning movements were established using the percentages from the PM counts at the intersections, except that the major movements during the PM hour were reversed for the AM analysis.

The landfill site is very rural with limited roadway infrastructure. The primary access is via Stoddard Wells Road and I-15. Although some traffic is expected to reach the landfill by traveling on local streets to Stoddard Wells Road, this volume is assumed to be small percentage of the total project volume. Since the majority of the traffic volumes are assumed to arrive via I-15, traffic counts at this time would be impacted by the I-15 detour and therefore were simulated from the Victorville Landfill entry logs and the ADT and peak hour turning movements collected from Pluto Development. The ADT and peak hour turning movements on Stoddard Wells Road are a good representation of the existing traffic patterns near the landfill since there is little opportunity for motorist to turn off of Stoddard Wells Road.

Future Background Traffic

The 2020 adjusted model volumes for the Pluto Development were used and adjusted by a growth factor to obtain future background traffic volumes for year 2025. This model was previously adjusted with actual traffic counts in the area and presents the best picture of future background traffic volumes. The traffic volumes obtained from the 2020 adjusted model were inflated by 2.7% for 5 years in order to obtain the 2025 background traffic volumes.

The future background traffic volumes were further adjusted for cumulative projects (See Figure 3). These are projects that contribute traffic volumes to the study area and have been approved through the planning process The background traffic forecasts for year 2025 were further modified to account for these approved projects. These other planned projects are as follows:

- *High Desert Detention Center(HDDC)*; expected opening of 2004. The HDDC is expected to be fully operational by the year 2020. No trips were added to the future scenarios as this project has no impact at the intersections for this project.
- *Schaffer Development*; zone change from residential to commercial east of I-15 and south of Dale Evans Parkway. This 75 acre commercial development will most likely be developed as a shopping mall. Approximately 25% of this project was expected to be developed by the year 2025.
- *Katz Hollis*; General Plan Amendment zoning change from residential to commercial of 432 acres. This development location consists of three parcels east of I-15 and between Stoddard Wells Road and the future Highway 18. Approximately 25% of this project was expected to be developed by the year 2025
- Pluto Development; expected opening of 2003. The Pluto Development is a large warehouse distribution facility. The project trips from this facility that were expected to use these intersections were added to the 2025 without project scenario.

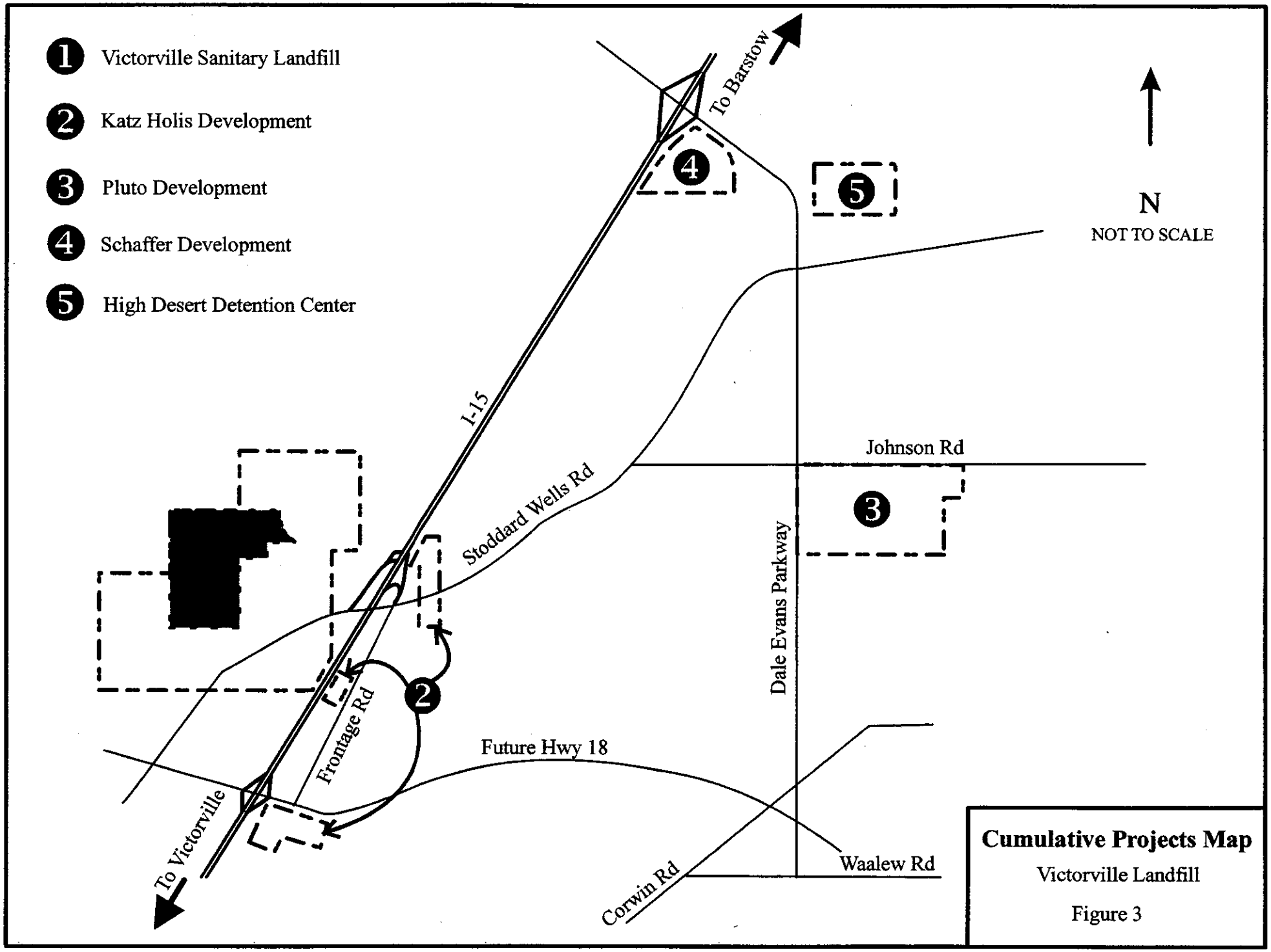
For the year 2025, either a portion of the cumulative traffic volumes or the entire build-out was considered to be present from the above listed projects. Since these projects were already approved and processed prior to this project, the cumulative trip values were added to the 2025 background conditions. The trip distribution sheets for these projects can be found in Appendix C. Due to either trip distribution, proposed operations of the new development, or shift changes, the above cumulative projects did not contribute additional trips to the 2025 background conditions for the AM peak hour.

PROJECT TRIPS AND DISTRIBUTION

The Victorville landfill is currently permitted to receive 600 vehicles per day. The permitted value does not change according to the vehicle's size or number of axles. The maximum number of project trips entering and leaving the landfill is therefore 1,200 trips.

The future permitted volume will remain at the 600 vehicles per day and will be analyzed for traffic impacts for the year 2025. This permitted value represents the highest peak volume anticipated to occur on rare instances such as the day after a major holiday when the landfill was closed.

The forecast daily volume of 600 entering vehicles needs to be converted in to hourly AM and PM peak hour project trips. The distribution of existing vehicles per time of day of the landfill were used and assumed that the 2025 distribution would remain the same. The daily entry logs maintained by the landfill recorded the time of entry, provided some limited information on the customer, and the vehicle's net weight. These records were sorted for each peak hour analyzed and then averaged for the month. Since the daily entries to the landfill are well below the 1,200 permitted trips, the AM and PM peak hour values had to be adjusted upward proportionally.



Cumulative Projects Map

Victorville Landfill

Figure 3

The peak hour entering volume was converted to project trips by multiplying by 2 to represent *trips in* and *trips out*. The project trips were then converted to PCE values by using the weight per axle as stated in the California Vehicle Code. The weight per axle is the maximum gross weight allowed. This weight was converted to a net weight by subtracting out the vehicle's weight. The PCE value per net weight used in the analysis is as follows:

Table 1: PCE Factor based on Net Weight

Net Weight (tons)	Number of Axles or Type of Vehicle	PCE Factor
>0.99	2 axle passenger pickup or equivalent	1.00
1.00 to 4.99	2 axle commercial	1.00
5.00 to 17.99	3 axle garbage truck or equivalent	2.00
18.00 or greater	5 axle or transfer vehicle	3.00

If the vehicle was distinguishable by its name, then the weight was disregarded. For example, Heap's Peak Transfer vehicles were all identified as 5 axles and the actual net weight was ignored. Advance Disposal Company's were identified as 3 axles even when their net weight was very low.

The PM peak hour was used to determine the PCE percentages of the entering volume. The landfill is only opened during a portion of the AM peak hour. Therefore, the PM peak hour was assumed to provide a better representation of the different vehicle types. The PCE ratios obtained during the PM peak hour were applied respectively to the AM peak hour. The weighted PCE conversion factor resulted in a factor of 1.396.

The data and calculations are shown in Appendix A. The PCE calculation table shows:

1) bill account name
2) net weight in tons
3) *PCE factor* based on weight or vehicle identification
4) entering vehicle volume multiplied by 2 and the PCE factor to obtain *existing project trips in PCE's*

Project Trip Distribution

Using growth forecasts provided by the San Bernardino Associated Governments from the 2000 census, the future traffic patterns were estimated to be very similar to the existing traffic patterns. These traffic patterns were heavily influenced by the lack of approved and funded transportation facilities being shown in the SCAG model. Therefore, with limited roadway choices, the travel patterns will remain approximately the same but with an increase in volume.

Due to the location of the landfill, it is assumed that the majority of project traffic will travel to the site via I-15 northbound and exit at the Stoddard Wells interchange. From the interchange, the landfill traffic will travel west to reach the landfill entrance. The landfill traffic will enter the landfill driveway from Stoddard Wells Road with a right turn and will exit the landfill driveway to Stoddard

Wells Road with a left turn. Some local traffic will be traveling northeasterly on Stoddard Wells Road and make left turns to enter the landfill driveway and right turns to exit the landfill driveway.

LEVEL OF SERVICE ANALYSIS

After discussing the project with the staff of the Traffic Division, County of San Bernardino, the following intersections were identified for this study.

- Stoddard Wells Road / I-15 northbound intersection
- Stoddard Wells Road / I-15 southbound intersection
- Stoddard Wells Road / Landfill's private road

The scenarios to be reviewed are:

- Exiting Conditions (AM)
- Exiting Conditions (PM)
- Future Conditions (2025) w/o Project (AM)
- Future Conditions (2025) w/o Project (PM)
- Exiting Conditions (2025) w/ Project (AM)
- Exiting Conditions (2025) w/ Project (PM)

A level of service (LOS) analysis was performed to evaluate the project's traffic impacts for existing conditions and the year 2025. In order to compare the project's impacts, the LOS analysis was performed without and with the project's traffic trips.

A LOS rating analysis provides an operational rating of how the intersection operates by using letters A through F. A LOS rating of A is the highest rating meaning the intersection is operating very well and a LOS rating of F is the lowest rating which is equivalent to long delays and heavy congestion. In general, the higher the delay experienced, the lower the LOS rating. The County of San Bernardino has established LOS C to be the lowest acceptable LOS. Caltrans, which has jurisdiction over the I-15 ramps, has established LOS of D as the lowest acceptable LOS.

In order to perform the LOS, the Highway Capacity Software (HCS) for unsignalized intersections was used.

The LOS analysis procedures include mathematically applied adjustment factors as part of the process in calculating the final LOS rating of an intersection. One of these adjustment factors is called the peak hour factor (PHF). The PHF is defined by the HCM as "..the ratio of total hourly volume to the peak rate of flow within the hour."

For the HCS, the input traffic volume is the hourly volume being studied. Therefore, a PHF adjustment factor needs to be calculated and used for each LOS analysis. In situations where the traffic volumes are substantially different between approaches, such as 10 vehicles on one approach and 500 vehicles on another, the PHF calculation becomes grossly exaggerated. Therefore, in these situations, the default PHF was used. For the 2025 scenarios, a PHF of 95% was used.

Due to a lack of funded transportation projects in the area, both the existing and future LOS used the existing roadway configurations.

The following tables summarize the LOS for these intersections for the various scenarios. The LOS of all intersections decrease with the future increase in traffic volume. All intersections meet the County's LOS criteria of C except for the southbound approach on Stoddard Wells Road / I-15 northbound. This intersection does not meet the LOS criteria due to the increase from growth for the surrounding area without the addition of project traffic.

In addition to the LOS analysis, the delay at each intersection was also recorded. The maximum calculated increase in delay is 0.9 second. The project does not significantly impact the traffic situation at these intersections.

Table 2: AM Peak Hour Level of Service

Intersection	Existing		2025 w/o Project Trips		2025 w/ Project Trips	
	Delay	LOS	Delay	LOS	Delay	LOS
Stoddard Wells Road / I-15 Northbound	9.5	A	10.2	B	10.3	B
Stoddard Wells Road / I-15 Southbound	9.4	A	9.7	A	10.5	B
Stoddard Wells Road / Landfill's private road	9.0	A	9.0	A	9.5	A

Table 3: PM Peak Hour Level of Service

Intersection	Existing		2025 w/o Project Trips		2025 w/ Project Trips	
	Delay	LOS	Delay	LOS	Delay	LOS
Stoddard Wells Road / I-15 Northbound	9.1	A	109.5	F	111.0	F
Stoddard Wells Road / I-15 Southbound	8.7	A	11.7	B	13.3	B
Stoddard Wells Road / Landfill's private road	9.2	A	11.4	B	12.4	B

MITIGATION

The above LOS demonstrates that all intersections operate at an acceptable LOS with the exception of the Stoddard Wells Road / I-15 northbound intersection. This intersection requires modification in order to meet the acceptable LOS criteria.

It is proposed to mitigate the Stoddard Wells Road / I-15 northbound intersection by adding one through lane to the east and westbound approaches and a left turn pocket for the northbound exit ramp. This mitigation is recommended for the year 2025. This resulted in a LOS of C or better on all approaches except the I-15 off ramp which operated at LOS of D. According to Caltrans, LOS of D or higher is acceptable for ramp operations. The following table summarizes the LOS results:

Table 4: Level of Service
Mitigated Stoddard Wells Road / I-15 Northbound

2025 w/o Additional Project Trips		2025 w/ Project Trips		2025 w/o Project Trips MITIGATED		2025 w/ Project Trips MITIGATED	
Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
109.5	F	111.1	F	38.9	E	33.6	D

The estimated construction cost was calculated using the Preliminary Construction Cost Estimates for Congestion Management Plan.

Table 5: Mitigation Costs

2025		
Intersection	Improvement	Cost
I-15 NB / Stoddard Wells Rd	Add one additional lane for east and westbound approach. Add a left turn pocket to the northbound exit ramp.	$62,800

The project's fair share calculation is based upon the project's share of traffic in comparison to the total volume of traffic through the intersection. The project's fair share is calculated as:

Table 6: Project Fair Share Intersection Contribution

Intersection	Total Cost	Existing Traffic	Year 2025 w/ Project Traffic	Project Traffic	Total New Traffic	Project % of New Traffic	Project Cost Share
I-15 NB / Stoddard Wells Rd	$62,800	108	1,006	95	898	11%	$6,657
Total Costs	$62,800						$6,657

CONCLUSIONS

The intersections were studied for existing and future conditions. The existing LOS of each intersection meets or exceeds an acceptable LOS of C as established by the County of San Bernardino or D as established by Caltrans for their facilities.

As with all 20 year analysis, the projected growth in the area increases the volume demand at each intersection studied. This future growth is unrelated to the traffic generated by the project and will occur regardless of the project's approval. In performing the LOS analysis, some intersections for the future scenarios had a reduced LOS. However, all intersections meet the County's LOS criteria of C except for the Stoddard Wells Road / I-15 northbound intersection. This intersection does not meet the LOS criteria due to the increase in traffic volumes even without the proposed project.

The mitigation proposed for the Stoddard Wells Road / I-15 northbound intersection was to add one through lane to the east and westbound approach and a left turn pocket for the northbound exit ramp. This mitigation is required for the year 2025 and resulted in a LOS of C on Stoddard Wells Road and LOS of D on the I-15 northbound ramp.

In conclusion this project can proceed as proposed with no significant impacts after mitigation has been completed.

Mitigation Recommendations for Year 2025

- I-15 NB / Stoddard Wells Rd: Add one additional lane for the east and westbound approach. Add a left turn pocket to the northbound exit ramp (southbound approach)

The fair share contribution from the developer for the mitigation of this project is $6,657.

APPENDIX A
PROJECT TRIP GENERATION AND DISTRIBUTION

Victorville Landfill
AM Trips

Bill Acct Name	Customer Type	Date In	Time In	OT Label	MT Label	Net TN	Site Code
CASH CUSTOMERS	Customer	7/1/2001	8:06	303-Hesperia	200-Yard Waste	0.5	92
CASH CUSTOMERS	Customer	7/1/2001	8:07	380-Victor Valley Un	100-Trash	0.28	91
LAND USE PASS CUSTOMERS	Government	7/1/2001	8:08	344-Spring Valley La	100-Trash	0.28	91
CASH CUSTOMERS	Customer	7/1/2001	8:09	302-Apple Valley	200-Yard Waste	0.51	91
LAND USE PASS CUSTOMERS	Government	7/1/2001	8:09	339-Oak Hills	100-Trash	0.36	92
CASH CUSTOMERS	Customer	7/1/2001	8:10	304-Victorville	100-Trash	0.2	91
CASH CUSTOMERS	Customer	7/1/2001	8:12	301-Adelanto	100-Trash	0.28	91
LAND USE PASS CUSTOMERS	Government	7/1/2001	8:12	380-Victor Valley Un	100-Trash	0.73	92
LAND USE PASS CUSTOMERS	Government	7/1/2001	8:13	380-Victor Valley Un	200-Yard Waste	0.34	91
CASH CUSTOMERS	Customer	7/1/2001	8:15	303-Hesperia	310-Construction/Dem	0.785	91
LAND USE PASS CUSTOMERS	Government	7/1/2001	8:15	347-Wrightwood	100-Trash	0.5	92
CASH CUSTOMERS	Customer	7/1/2001	8:16	304-Victorville	100-Trash	0.26	91
LAND USE PASS CUSTOMERS	Government	7/1/2001	8:18	380-Victor Valley Un	100-Trash	0.38	91
CASH CUSTOMERS	Customer	7/1/2001	8:19	303-Hesperia	100-Trash	0.3	91
CASH CUSTOMERS	Customer	7/1/2001	8:21	302-Apple Valley	200-Yard Waste	0.1	91
CASH CUSTOMERS	Customer	7/1/2001	8:28	304-Victorville	200-Yard Waste	0.35	91
CASH CUSTOMERS	Customer	7/1/2001	8:36	304-Victorville	310-Construction/Dem	2.39	91
LAND USE PASS CUSTOMERS	Government	7/1/2001	8:42	341-Phelan	100-Trash	0.48	91
CITY OF VICTORVILLE	Customer	7/1/2001	8:43	304-Victorville	100-Trash	11.87	91
CASH CUSTOMERS	Customer	7/1/2001	8:47	302-Apple Valley	100-Trash	0.89	92
LAND USE PASS CUSTOMERS	Government	7/1/2001	8:48	380-Victor Valley Un	100-Trash	0.58	92
CASH CUSTOMERS	Customer	7/1/2001	8:56	303-Hesperia	310-Construction/Dem	0.27	92
CASH CUSTOMERS	Customer	7/1/2001	9:00	303-Hesperia	210-Land Clearing	0.29	91
VICTORVILLE DISPOSAL INC	Customer	7/2/2001	8:08	301-Adelanto	100-Trash	0.54	91
TOWN OF APPLE VALLEY	Customer	7/2/2001	8:10	302-Apple Valley	100-Trash	2.69	91
CASH CUSTOMERS	Customer	7/2/2001	8:12	303-Hesperia	200-Yard Waste	0.35	91
CASH CUSTOMERS	Customer	7/2/2001	8:14	303-Hesperia	310-Construction/Dem	0.35	91
CASH CUSTOMERS	Customer	7/2/2001	8:16	302-Apple Valley	310-Construction/Dem	2.17	91
CASH CUSTOMERS	Customer	7/2/2001	8:18	302-Apple Valley	100-Trash	0.19	91
LAND USE PASS CUSTOMERS	Government	7/2/2001	8:20	380-Victor Valley Un	100-Trash	0.21	91
LAND USE PASS CUSTOMERS	Government	7/2/2001	8:21	338-Mtn. View Acers	100-Trash	0.28	91
LAND USE PASS CUSTOMERS	Government	7/2/2001	8:22	347-Wrightwood	100-Trash	0.05	91
LAND USE PASS CUSTOMERS	Government	7/2/2001	8:24	340-Oro Grande	100-Trash	0.16	91
CASH CUSTOMERS	Customer	7/2/2001	8:26	304-Victorville	100-Trash	0.21	91
VANCE CORPORATION	Customer	7/2/2001	8:30	341-Phelan	310-Construction/Dem	8.3	91
LAND USE PASS CUSTOMERS	Government	7/2/2001	8:35	380-Victor Valley Un	100-Trash	0.19	91
CASH CUSTOMERS	Customer	7/2/2001	8:36	304-Victorville	310-Construction/Dem	1.01	91
CITY OF VICTORVILLE	Customer	7/2/2001	8:40	304-Victorville	100-Trash	5.98	91
CASH CUSTOMERS	Customer	7/2/2001	8:41	304-Victorville	200-Yard Waste	0.1	91
CASH CUSTOMERS	Customer	7/2/2001	8:43	301-Adelanto	100-Trash	0.12	91
LAND USE PASS CUSTOMERS	Government	7/2/2001	8:46	380-Victor Valley Un	100-Trash	0.08	91

Victorville Landfill
AM Trips

Bill Acct Name	Customer Type	Date In	Time In	OT Label	MT Label	Net TN	Site Code
ADVANCE DISPOSAL CO	Customer	7/2/2001	8:48	380-Victor Valley Un	100-Trash	11.86	91
CITY OF ADELANTO	Customer	7/2/2001	8:49	301-Adelanto	100-Trash	8.82	91
CASH CUSTOMERS	Customer	7/2/2001	8:51	302-Apple Valley	200-Yard Waste	0.09	91
CASH CUSTOMERS	Customer	7/2/2001	8:57	302-Apple Valley	100-Trash	0.09	91
CA DEPT OF TRANSPORT. DIST-8	Customer	7/2/2001	8:59	304-Victorville	200-Yard Waste	6.08	91
CASH CUSTOMERS	Customer	7/3/2001	7:56	303-Hesperia	100-Trash	0.06	92
CASH CUSTOMERS	Customer	7/3/2001	7:59	302-Apple Valley	210-Land Clearing	0.27	92
CASH CUSTOMERS	Customer	7/3/2001	8:06	302-Apple Valley	220-Other Organic	0.29	92
CITY OF VICTORVILLE	Customer	7/3/2001	8:08	304-Victorville	100-Trash	8.08	91
LAND USE PASS CUSTOMERS	Government	7/3/2001	8:12	338-Mtn. View Acers	200-Yard Waste	0.64	92
TOWN OF APPLE VALLEY	Customer	7/3/2001	8:14	302-Apple Valley	100-Trash	8.77	91
ADVANCE DISPOSAL CO	Customer	7/3/2001	8:16	380-Victor Valley Un	100-Trash	4.69	91
CA DEPT OF WATER RESOURCES	Customer	7/3/2001	8:17	303-Hesperia	210-Land Clearing	3.56	92
CASH CUSTOMERS	Customer	7/3/2001	8:20	302-Apple Valley	100-Trash	0.05	92
CITY OF VICTORVILLE	Customer	7/3/2001	8:21	304-Victorville	100-Trash	9.09	91
CASH CUSTOMERS	Customer	7/3/2001	8:22	303-Hesperia	200-Yard Waste	0.19	92
CASH CUSTOMERS	Customer	7/3/2001	8:23	304-Victorville	100-Trash	0.26	91
CITY OF ADELANTO	Customer	7/3/2001	8:24	301-Adelanto	100-Trash	8.11	91
VICTORVILLE DISPOSAL INC	Customer	7/3/2001	8:24	301-Adelanto	100-Trash	3.57	92
CASH CUSTOMERS	Customer	7/3/2001	8:27	302-Apple Valley	100-Trash	0.21	91
CASH CUSTOMERS	Customer	7/3/2001	8:30	344-Spring Valley La	100-Trash	0.3	91
BURRTEC RECYCLING & TNSFR	Customer	7/3/2001	8:31	304-Victorville	100-Trash	9.63	91
ADVANCE DISPOSAL CO	Customer	7/3/2001	8:33	380-Victor Valley Un	100-Trash	19.38	92
ADVANCE DISPOSAL CO	Customer	7/3/2001	8:36	380-Victor Valley Un	100-Trash	17.07	91
TOWN OF APPLE VALLEY	Customer	7/3/2001	8:38	302-Apple Valley	100-Trash	10.21	92
LAND USE PASS CUSTOMERS	Government	7/3/2001	8:43	338-Mtn. View Acers	100-Trash	0.23	91
VICTORVILLE DISPOSAL INC	Customer	7/3/2001	8:46	302-Apple Valley	310-Construction/Dem	2.84	92
CASH CUSTOMERS	Customer	7/3/2001	8:48	303-Hesperia	200-Yard Waste	0.16	92
HEAPS PEAK TRANSFER	Norcal	7/3/2001	8:52	2100-Phelan TS	100-Trash	25.11	91
CASH CUSTOMERS	Customer	7/3/2001	8:55	304-Victorville	310-Construction/Dem	1.56	91
LAND USE PASS CUSTOMERS	Government	7/3/2001	8:55	344-Spring Valley La	200-Yard Waste	0.35	92
CASH CUSTOMERS	Customer	7/3/2001	8:58	302-Apple Valley	310-Construction/Dem	1.21	91
CASH CUSTOMERS	Customer	7/3/2001	8:59	303-Hesperia	200-Yard Waste	0.6	92
CASH CUSTOMERS	Customer	7/5/2001	7:56	304-Victorville	200-Yard Waste	1.11	92
CITY OF VICTORVILLE	Customer	7/5/2001	7:57	304-Victorville	100-Trash	8.64	92
CASH CUSTOMERS	Customer	7/5/2001	8:00	303-Hesperia	310-Construction/Dem	0.51	92
CA DEPT OF TRANSPORT. DIST-8	Customer	7/5/2001	8:01	304-Victorville	100-Trash	0.58	92
CASH CUSTOMERS	Customer	7/5/2001	8:04	302-Apple Valley	200-Yard Waste	0.08	92
CITY OF VICTORVILLE	Customer	7/5/2001	8:07	304-Victorville	100-Trash	8.57	91
VICTORVILLE DISPOSAL INC	Customer	7/5/2001	8:09	304-Victorville	100-Trash	3.92	91
LAND USE PASS CUSTOMERS	Government	7/5/2001	8:10	380-Victor Valley Un	100-Trash	0.47	91

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Bill Acct Name	Customer Type	Date In	Time In	OT Label	MT Label	Net TN	Site Code
CASH CUSTOMERS	Customer	7/5/2001	8:12	302-Apple Valley	310-Construction/Dem	3.24	91
LAND USE PASS CUSTOMERS	Government	7/5/2001	8:13	380-Victor Valley Un	100-Trash	0.45	91
LAND USE PASS CUSTOMERS	Government	7/5/2001	8:14	338-Mtn. View Acers	100-Trash	0.26	91
ADVANCE DISPOSAL CO	Customer	7/5/2001	8:15	380-Victor Valley Un	100-Trash	13.34	91
CITY OF VICTORVILLE	Customer	7/5/2001	8:19	304-Victorville	100-Trash	5.16	91
CASH CUSTOMERS	Customer	7/5/2001	8:26	303-Hesperia	100-Trash	0.21	91
CASH CUSTOMERS	Customer	7/5/2001	8:29	304-Victorville	100-Trash	0.26	91
CITY OF ADELANTO	Customer	7/5/2001	8:32	301-Adelanto	100-Trash	9.2	92
LAND USE PASS CUSTOMERS	Government	7/5/2001	8:32	338-Mtn. View Acers	100-Trash	0.1	91
ADVANCE DISPOSAL CO	Customer	7/5/2001	8:33	380-Victor Valley Un	100-Trash	2.95	92
LAND USE PASS CUSTOMERS	Government	7/5/2001	8:40	344-Spring Valley La	100-Trash	0.28	91
CASH CUSTOMERS	Customer	7/5/2001	8:41	302-Apple Valley	100-Trash	0.27	92
CASH CUSTOMERS	Customer	7/5/2001	8:42	303-Hesperia	100-Trash	0.17	91
HEAPS PEAK TRANSFER	Norcal	7/5/2001	8:44	2100-Phelan TS	100-Trash	24.88	91
LAND USE PASS CUSTOMERS	Government	7/5/2001	8:44	380-Victor Valley Un	100-Trash	0.06	92
TOWN OF APPLE VALLEY	Customer	7/5/2001	8:44	302-Apple Valley	100-Trash	8.91	92
ADVANCE DISPOSAL CO	Customer	7/5/2001	8:46	380-Victor Valley Un	100-Trash	16.03	91
CASH CUSTOMERS	Customer	7/5/2001	8:50	302-Apple Valley	100-Trash	1.84	91
CASH CUSTOMERS	Customer	7/5/2001	8:59	304-Victorville	200-Yard Waste	0.07	92
CASH CUSTOMERS	Customer	7/5/2001	9:00	303-Hesperia	100-Trash	0.3	91
VICTORVILLE DISPOSAL INC	Customer	7/6/2001	7:55	304-Victorville	100-Trash	2.89	92
VICTORVILLE DISPOSAL INC	Customer	7/6/2001	7:56	336-Helendale	100-Trash	5.67	92
LAND USE PASS CUSTOMERS	Government	7/6/2001	7:58	338-Mtn. View Acers	100-Trash	0.13	92
CASH CUSTOMERS	Customer	7/6/2001	8:07	330-Baldy Mesa	100-Trash	0.63	91
LAND USE PASS CUSTOMERS	Government	7/6/2001	8:09	380-Victor Valley Un	100-Trash	0.15	91
LAND USE PASS CUSTOMERS	Government	7/6/2001	8:10	344-Spring Valley La	200-Yard Waste	0.19	91
CASH CUSTOMERS	Customer	7/6/2001	8:11	302-Apple Valley	310-Construction/Dem	0.7	91
LAND USE PASS CUSTOMERS	Government	7/6/2001	8:11	380-Victor Valley Un	200-Yard Waste	0.39	92
ADVANCE DISPOSAL CO	Customer	7/6/2001	8:13	303-Hesperia	100-Trash	19.63	92
CASH CUSTOMERS	Customer	7/6/2001	8:13	302-Apple Valley	210-Land Clearing	0.79	91
CASH CUSTOMERS	Customer	7/6/2001	8:18	302-Apple Valley	310-Construction/Dem	2.18	92
ADVANCE DISPOSAL CO	Customer	7/6/2001	8:20	303-Hesperia	100-Trash	2.82	92
TOWN OF APPLE VALLEY	Customer	7/6/2001	8:21	302-Apple Valley	100-Trash	1.58	91
LAND USE PASS CUSTOMERS	Government	7/6/2001	8:23	338-Mtn. View Acers	100-Trash	0.32	91
LAND USE PASS CUSTOMERS	Government	7/6/2001	8:23	380-Victor Valley Un	200-Yard Waste	0.38	92
ADVANCE DISPOSAL CO	Customer	7/6/2001	8:24	303-Hesperia	100-Trash	17.36	92
CASH CUSTOMERS	Customer	7/6/2001	8:26	302-Apple Valley	100-Trash	0.44	91
CITY OF VICTORVILLE	Customer	7/6/2001	8:31	304-Victorville	100-Trash	7.62	91
CASH CUSTOMERS	Customer	7/6/2001	8:33	344-Spring Valley La	200-Yard Waste	0.3	91
HEAPS PEAK TRANSFER	Norcal	7/6/2001	8:34	3130-Camp Rock TS	100-Trash	3.7	92
CITY OF VICTORVILLE	Customer	7/6/2001	8:37	304-Victorville	100-Trash	12.07	92
LAND USE PASS CUSTOMERS	Government	7/6/2001	8:37	344-Spring Valley La	100-Trash	0.7	91

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Bill Acct Name	Customer Type	Date In	Time In	OT Label	MT Label	Net TN	Site Code
VICTORVILLE DISPOSAL INC	Customer	7/6/2001	8:38	301-Adelanto	100-Trash	3.22	91
CITY OF VICTORVILLE	Customer	7/6/2001	8:41	304-Victorville	100-Trash	9.16	91
CASH CUSTOMERS	Customer	7/6/2001	8:43	303-Hesperia	310-Construction/Dem	1.39	92
LAND USE PASS CUSTOMERS	Government	7/6/2001	8:47	338-Mtn. View Acers	100-Trash	0.09	92
ADVANCE DISPOSAL CO	Customer	7/6/2001	8:48	303-Hesperia	100-Trash	11.91	92
CASH CUSTOMERS	Customer	7/6/2001	8:48	304-Victorville	200-Yard Waste	0.13	91
CASH CUSTOMERS	Customer	7/6/2001	8:49	302-Apple Valley	310-Construction/Dem	0.45	91
CITY OF VICTORVILLE	Customer	7/6/2001	8:54	304-Victorville	100-Trash	2.69	91
CASH CUSTOMERS	Customer	7/6/2001	8:56	302-Apple Valley	310-Construction/Dem	1.4	91
TOWN OF APPLE VALLEY	Customer	7/6/2001	8:58	302-Apple Valley	100-Trash	9.43	91
ADVANCE DISPOSAL CO	Customer	7/6/2001	8:59	303-Hesperia	100-Trash	1.59	91
ADVANCE DISPOSAL CO	Customer	7/7/2001	7:56	303-Hesperia	100-Trash	1.53	92
LAND USE PASS CUSTOMERS	Government	7/7/2001	7:57	380-Victor Valley Un	100-Trash	0.08	92
LAND USE PASS CUSTOMERS	Government	7/7/2001	7:58	380-Victor Valley Un	100-Trash	0.28	92
CASH CUSTOMERS	Customer	7/7/2001	8:01	344-Spring Valley La	100-Trash	0.24	92
CITY OF VICTORVILLE	Customer	7/7/2001	8:02	304-Victorville	100-Trash	12.16	92
VICTORVILLE DISPOSAL INC	Customer	7/7/2001	8:07	304-Victorville	100-Trash	2.84	91
LAND USE PASS CUSTOMERS	Government	7/7/2001	8:09	380-Victor Valley Un	100-Trash	0.15	91
VICTORVILLE DISPOSAL INC	Customer	7/7/2001	8:10	302-Apple Valley	100-Trash	4.87	91
CASH CUSTOMERS	Customer	7/7/2001	8:13	303-Hesperia	210-Land Clearing	0.38	91
LAND USE PASS CUSTOMERS	Government	7/7/2001	8:15	338-Mtn. View Acers	100-Trash	0.44	91
LAND USE PASS CUSTOMERS	Government	7/7/2001	8:17	344-Spring Valley La	100-Trash	0.25	91
LAND USE PASS CUSTOMERS	Government	7/7/2001	8:18	340-Oro Grande	200-Yard Waste	0.29	91
CASH CUSTOMERS	Customer	7/7/2001	8:20	304-Victorville	200-Yard Waste	0.15	92
ADVANCE DISPOSAL CO	Customer	7/7/2001	8:23	303-Hesperia	100-Trash	13.45	91
VICTORVILLE DISPOSAL INC	Customer	7/7/2001	8:25	3120-Newberry Spring	100-Trash	2.8	92
CASH CUSTOMERS	Customer	7/7/2001	8:26	303-Hesperia	100-Trash	0.26	91
CASH CUSTOMERS	Customer	7/7/2001	8:29	302-Apple Valley	200-Yard Waste	0.24	91
LAND USE PASS CUSTOMERS	Government	7/7/2001	8:30	338-Mtn. View Acers	100-Trash	0.47	92
CASH CUSTOMERS	Customer	7/7/2001	8:33	302-Apple Valley	210-Land Clearing	0.95	91
CASH CUSTOMERS	Customer	7/7/2001	8:37	303-Hesperia	100-Trash	0.25	91
CASH CUSTOMERS	Customer	7/7/2001	8:39	304-Victorville	100-Trash	1.11	92
HEAPS PEAK TRANSFER	Norcal	7/7/2001	8:41	2100-Phelan TS	100-Trash	24.8	91
LAND USE PASS CUSTOMERS	Government	7/7/2001	8:43	338-Mtn. View Acers	100-Trash	0.33	91
CITY OF ADELANTO	Customer	7/7/2001	8:44	301-Adelanto	100-Trash	10.19	92
CITY OF VICTORVILLE	Customer	7/7/2001	8:44	304-Victorville	100-Trash	4.63	91
LAND USE PASS CUSTOMERS	Government	7/7/2001	8:52	340-Oro Grande	100-Trash	0.18	91
TOWN OF APPLE VALLEY	Customer	7/7/2001	8:53	302-Apple Valley	100-Trash	8.72	92
CASH CUSTOMERS	Customer	7/7/2001	8:55	302-Apple Valley	100-Trash	0.19	91
TOWN OF APPLE VALLEY	Customer	7/7/2001	8:56	302-Apple Valley	100-Trash	9.97	91
CASH CUSTOMERS	Customer	7/7/2001	8:59	302-Apple Valley	200-Yard Waste	0.15	91

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Bill Acct Name	Customer Type	Date In	Time In	OT Label	MT Label	Net TN	Site Code
LAND USE PASS CUSTOMERS	Government	7/8/2001	7:56	338-Mtn. View Acers	100-Trash	0.29	92
CITY OF VICTORVILLE	Customer	7/8/2001	7:57	304-Victorville	100-Trash	10.39	92
CASH CUSTOMERS	Customer	7/8/2001	8:01	303-Hesperia	310-Construction/Dem	0.73	92
LAND USE PASS CUSTOMERS	Government	7/8/2001	8:03	380-Victor Valley Un	100-Trash	0.11	92
CASH CUSTOMERS	Customer	7/8/2001	8:07	303-Hesperia	310-Construction/Dem	0.72	91
LAND USE PASS CUSTOMERS	Government	7/8/2001	8:11	338-Mtn. View Acers	100-Trash	0.28	91
CASH CUSTOMERS	Customer	7/8/2001	8:12	304-Victorville	210-Land Clearing	0.67	92
LAND USE PASS CUSTOMERS	Government	7/8/2001	8:13	380-Victor Valley Un	100-Trash	0.06	92
LAND USE PASS CUSTOMERS	Government	7/8/2001	8:15	333-El Mirage Valley	100-Trash	0.29	92
LAND USE PASS CUSTOMERS	Government	7/8/2001	8:17	380-Victor Valley Un	100-Trash	0.29	92
CASH CUSTOMERS	Customer	7/8/2001	8:20	338-Mtn. View Acers	210-Land Clearing	0.29	91
CASH CUSTOMERS	Customer	7/8/2001	8:20	304-Victorville	310-Construction/Dem	0.52	92
LAND USE PASS CUSTOMERS	Government	7/8/2001	8:22	338-Mtn. View Acers	100-Trash	0.11	92
CASH CUSTOMERS	Customer	7/8/2001	8:24	304-Victorville	100-Trash	0.38	92
LAND USE PASS CUSTOMERS	Government	7/8/2001	8:27	380-Victor Valley Un	100-Trash	0.3	91
CASH CUSTOMERS	Customer	7/8/2001	8:30	302-Apple Valley	200-Yard Waste	0.35	92
CASH CUSTOMERS	Customer	7/8/2001	8:31	303-Hesperia	310-Construction/Dem	0.55	92
CASH CUSTOMERS	Customer	7/8/2001	8:35	303-Hesperia	200-Yard Waste	0.2	91
CASH CUSTOMERS	Customer	7/8/2001	8:40	304-Victorville	310-Construction/Dem	0.34	92
LAND USE PASS CUSTOMERS	Government	7/8/2001	8:40	338-Mtn. View Acers	200-Yard Waste	0.18	91
CASH CUSTOMERS	Customer	7/8/2001	8:51	304-Victorville	100-Trash	0.12	92
LAND USE PASS CUSTOMERS	Government	7/8/2001	9:00	336-Helendale	200-Yard Waste	0.43	92
LAND USE PASS CUSTOMERS	Government	7/9/2001	7:57	339-Oak Hills	100-Trash	0.39	92
CASH CUSTOMERS	Customer	7/9/2001	7:59	303-Hesperia	310-Construction/Dem	0.79	92
CASH CUSTOMERS	Customer	7/9/2001	8:03	303-Hesperia	200-Yard Waste	0.46	92
CASH CUSTOMERS	Customer	7/9/2001	8:06	338-Mtn. View Acers	200-Yard Waste	0.08	92
ADVANCE DISPOSAL CO	Customer	7/9/2001	8:07	303-Hesperia	100-Trash	10.69	92
CASH CUSTOMERS	Customer	7/9/2001	8:07	302-Apple Valley	310-Construction/Dem	0.37	91
ADVANCE DISPOSAL CO	Customer	7/9/2001	8:09	303-Hesperia	100-Trash	14.66	92
CASH CUSTOMERS	Customer	7/9/2001	8:09	302-Apple Valley	210-Land Clearing	0.38	91
LAND USE PASS CUSTOMERS	Government	7/9/2001	8:11	380-Victor Valley Un	100-Trash	0.93	91
CASH CUSTOMERS	Customer	7/9/2001	8:12	302-Apple Valley	200-Yard Waste	0.28	91
CASH CUSTOMERS	Customer	7/9/2001	8:13	302-Apple Valley	100-Trash	0.23	91
VICTORVILLE DISPOSAL INC	Customer	7/9/2001	8:14	302-Apple Valley	100-Trash	2.94	92
VICTORVILLE DISPOSAL INC	Customer	7/9/2001	8:16	304-Victorville	100-Trash	2.8	91
CONCO CONSTRUCTION	Customer	7/9/2001	8:19	302-Apple Valley	310-Construction/Dem	1.34	91
CASH CUSTOMERS	Customer	7/9/2001	8:20	302-Apple Valley	100-Trash	0.81	92
ADVANCE DISPOSAL CO	Customer	7/9/2001	8:22	303-Hesperia	100-Trash	15.83	92
LAND USE PASS CUSTOMERS	Government	7/9/2001	8:24	338-Mtn. View Acers	200-Yard Waste	0.56	91
CASH CUSTOMERS	Customer	7/9/2001	8:31	303-Hesperia	200-Yard Waste	0.43	92
CITY OF VICTORVILLE	Customer	7/9/2001	8:31	304-Victorville	100-Trash	8.82	91
LAND USE PASS CUSTOMERS	Government	7/9/2001	8:31	338-Mtn. View Acers	100-Trash	0.34	91

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Bill Acct Name	Customer Type	Date In	Time In	OT Label	MT Label	Net TN	Site Code
LAND USE PASS CUSTOMERS	Government	7/9/2001	8:32	380-Victor Valley Un	100-Trash	0.36	92
CITY OF ADELANTO	Customer	7/9/2001	8:35	301-Adelanto	100-Trash	9.8	91
ADVANCE DISPOSAL CO	Customer	7/9/2001	8:38	303-Hesperia	100-Trash	2.34	91
BURRTEC RECYCLING & TNSFR	Customer	7/9/2001	8:42	304-Victorville	100-Trash	7.26	91
CASH CUSTOMERS	Customer	7/9/2001	8:44	304-Victorville	100-Trash	0.16	92
CASH CUSTOMERS	Customer	7/9/2001	8:45	380-Victor Valley Un	100-Trash	0.45	91
CASH CUSTOMERS	Customer	7/9/2001	8:46	302-Apple Valley	200-Yard Waste	0.24	91
CASH CUSTOMERS	Customer	7/9/2001	8:49	304-Victorville	310-Construction/Dem	0.73	91
CASH CUSTOMERS	Customer	7/9/2001	8:50	302-Apple Valley	310-Construction/Dem	0.95	92
CITY OF VICTORVILLE	Customer	7/9/2001	8:50	304-Victorville	100-Trash	10.7	91
CASH CUSTOMERS	Customer	7/9/2001	8:54	302-Apple Valley	100-Trash	0.15	91
LAND USE PASS CUSTOMERS	Government	7/9/2001	8:58	338-Mtn. View Acers	100-Trash	1	91
CASH CUSTOMERS	Customer	7/9/2001	8:59	304-Victorville	210-Land Clearing	0.67	92
CASH CUSTOMERS	Customer	7/9/2001	9:00	304-Victorville	200-Yard Waste	0.7	92
VICTORVILLE DISPOSAL INC	Customer	7/10/2001	7:55	301-Adelanto	100-Trash	2.78	92
ADVANCE DISPOSAL CO	Customer	7/10/2001	8:02	303-Hesperia	100-Trash	15.78	92
LAND USE PASS CUSTOMERS	Government	7/10/2001	8:04	302-Apple Valley	100-Trash	0.27	92
CASH CUSTOMERS	Customer	7/10/2001	8:06	303-Hesperia	310-Construction/Dem	2.07	92
TOWN OF APPLE VALLEY	Customer	7/10/2001	8:08	302-Apple Valley	100-Trash	12.23	91
KANAYAN WILLIAM CONSTR	Customer	7/10/2001	8:14	347-Wrightwood	310-Construction/Dem	7.19	91
CITY OF VICTORVILLE	Customer	7/10/2001	8:16	304-Victorville	100-Trash	12.37	91
ADVANCE DISPOSAL CO	Customer	7/10/2001	8:18	303-Hesperia	100-Trash	4.75	91
CESAR'S CLEAN UP CREW	Customer	7/10/2001	8:25	303-Hesperia	100-Trash	1.02	92
CITY OF VICTORVILLE	Customer	7/10/2001	8:27	304-Victorville	100-Trash	8.33	92
CITY OF ADELANTO	Customer	7/10/2001	8:29	301-Adelanto	100-Trash	9.28	92
LAND USE PASS CUSTOMERS	Government	7/10/2001	8:31	302-Apple Valley	100-Trash	0.12	92
ADVANCE DISPOSAL CO	Customer	7/10/2001	8:32	303-Hesperia	100-Trash	17.22	91
CASH CUSTOMERS	Customer	7/10/2001	8:36	304-Victorville	210-Land Clearing	0.81	92
CITY OF VICTORVILLE	Customer	7/10/2001	8:36	304-Victorville	100-Trash	5.08	92
CASH CUSTOMERS	Customer	7/10/2001	8:40	303-Hesperia	100-Trash	2.14	92
CASH CUSTOMERS	Customer	7/10/2001	8:43	304-Victorville	100-Trash	0.5	92
CASH CUSTOMERS	Customer	7/10/2001	8:47	344-Spring Valley La	200-Yard Waste	0.48	91
HEAPS PEAK TRANSFER	Norcal	7/10/2001	8:52	2100-Phelan TS	100-Trash	24.82	92
CASH CUSTOMERS	Customer	7/10/2001	8:53	304-Victorville	310-Construction/Dem	0.08	91
CITY OF VICTORVILLE	Customer	7/10/2001	8:54	304-Victorville	100-Trash	12.86	91
ADVANCE DISPOSAL CO	Customer	7/10/2001	8:56	303-Hesperia	100-Trash	10.67	91
LAND USE PASS CUSTOMERS	Government	7/10/2001	8:56	340-Oro Grande	100-Trash	0.31	92
TOWN OF APPLE VALLEY	Customer	7/10/2001	8:58	302-Apple Valley	100-Trash	10.17	92
CONCO CONSTRUCTION	Customer	7/10/2001	8:59	302-Apple Valley	100-Trash	0.13	91
VICTORVILLE DISPOSAL INC	Customer	7/11/2001	7:56	301-Adelanto	100-Trash	5.84	92
CASH CUSTOMERS	Customer	7/11/2001	8:00	304-Victorville	100-Trash	0.3	92

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Bill Acct Name	Customer Type	Date In	Time In	OT Label	MT Label	Net TN	Site Code
CASH CUSTOMERS	Customer	7/11/2001	8:02	302-Apple Valley	310-Construction/Dem	0.46	92
ADVANCE DISPOSAL CO	Customer	7/11/2001	8:06	303-Hesperia	100-Trash	12.83	92
CASH CUSTOMERS	Customer	7/11/2001	8:08	303-Hesperia	100-Trash	0.43	92
CASH CUSTOMERS	Customer	7/11/2001	8:09	303-Hesperia	100-Trash	0.84	91
LAND USE PASS CUSTOMERS	Government	7/11/2001	8:10	480-North Desert Uni	100-Trash	0.06	92
CASH CUSTOMERS	Customer	7/11/2001	8:12	302-Apple Valley	200-Yard Waste	0.5	92
CASH CUSTOMERS	Customer	7/11/2001	8:20	303-Hesperia	100-Trash	0.65	91
CASH CUSTOMERS	Customer	7/11/2001	8:23	304-Victorville	310-Construction/Dem	0.88	91
CASH CUSTOMERS	Customer	7/11/2001	8:27	302-Apple Valley	310-Construction/Dem	1.16	91
CASH CUSTOMERS	Customer	7/11/2001	8:30	303-Hesperia	100-Trash	0.38	92
HEAPS PEAK TRANSFER	Norcal	7/11/2001	8:33	2100-Phelan TS	100-Trash	24.35	92
ADVANCE DISPOSAL CO	Customer	7/11/2001	8:36	303-Hesperia	100-Trash	14.85	92
VICTORVILLE DISPOSAL INC	Customer	7/11/2001	8:39	337-Lucerne Valley	100-Trash	6.58	92
CITY OF ADELANTO	Customer	7/11/2001	8:41	301-Adelanto	100-Trash	8.45	92
CASH CUSTOMERS	Customer	7/11/2001	8:42	304-Victorville	310-Construction/Dem	0.11	91
CASH CUSTOMERS	Customer	7/11/2001	8:44	304-Victorville	200-Yard Waste	0.28	92
LAND USE PASS CUSTOMERS	Government	7/11/2001	8:48	304-Victorville	100-Trash	0.19	91
CASH CUSTOMERS	Customer	7/11/2001	8:49	304-Victorville	600-Tires by Weight	0.029	91
CASH CUSTOMERS	Customer	7/11/2001	8:52	304-Victorville	100-Trash	0.29	91
VICTORVILLE DISPOSAL INC	Customer	7/11/2001	8:54	301-Adelanto	100-Trash	2.64	91
CASH CUSTOMERS	Customer	7/11/2001	8:58	303-Hesperia	200-Yard Waste	0.21	92
CASH CUSTOMERS	Customer	7/11/2001	9:00	303-Hesperia	100-Trash	0.265	91
CITY OF VICTORVILLE	Customer	7/12/2001	8:07	304-Victorville	100-Trash	5.09	91
ADVANCE DISPOSAL CO	Customer	7/12/2001	8:09	303-Hesperia	100-Trash	6.9	91
LAND USE PASS CUSTOMERS	Government	7/12/2001	8:11	330-Baldy Mesa	100-Trash	0.22	91
CASH CUSTOMERS	Customer	7/12/2001	8:13	302-Apple Valley	310-Construction/Dem	0.75	91
VICTORVILLE DISPOSAL INC	Customer	7/12/2001	8:14	343-Silver Lakes	100-Trash	4.95	91
CASH CUSTOMERS	Customer	7/12/2001	8:17	303-Hesperia	310-Construction/Dem	1.54	92
CASH CUSTOMERS	Customer	7/12/2001	8:50	302-Apple Valley	200-Yard Waste	0.53	92
VICTORVILLE DISPOSAL INC	Customer	7/12/2001	8:52	301-Adelanto	100-Trash	5.64	92
VICTORVILLE DISPOSAL INC	Customer	7/12/2001	8:55	337-Lucerne Valley	100-Trash	7.71	92
VICTORVILLE DISPOSAL INC	Customer	7/12/2001	8:58	304-Victorville	100-Trash	5.44	91
LAND USE PASS CUSTOMERS	Government	7/12/2001	8:59	302-Apple Valley	100-Trash	0.35	91
ADVANCE DISPOSAL CO	Customer	7/12/2001	9:00	303-Hesperia	100-Trash	13.26	91
CASH CUSTOMERS	Customer	7/12/2001	9:00	303-Hesperia	310-Construction/Dem	1.17	92
LAND USE PASS CUSTOMERS	Government	7/13/2001	7:57	339-Oak Hills	100-Trash	0.43	92
CASH CUSTOMERS	Customer	7/13/2001	7:59	302-Apple Valley	310-Construction/Dem	0.68	92
LAND USE PASS CUSTOMERS	Government	7/13/2001	8:01	380-Victor Valley Un	100-Trash	0.15	92
ADVANCE DISPOSAL CO	Customer	7/13/2001	8:02	303-Hesperia	100-Trash	15.75	92
VICTORVILLE DISPOSAL INC	Customer	7/13/2001	8:07	301-Adelanto	100-Trash	2.69	91
CASH CUSTOMERS	Customer	7/13/2001	8:09	303-Hesperia	100-Trash	0.3	91

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Bill Acct Name	Customer Type	Date In	Time In	OT Label	MT Label	Net TN	Site Code
BURRTEC RECYCLING & TNSFR	Customer	7/13/2001	8:10	304-Victorville	100-Trash	7.28	92
LAND USE PASS CUSTOMERS	Government	7/13/2001	8:10	338-Mtn. View Acers	100-Trash	0.18	91
CITY OF VICTORVILLE	Customer	7/13/2001	8:11	304-Victorville	100-Trash	1.27	91
C N C CONSTRUCTION CO INC	Customer	7/13/2001	8:12	304-Victorville	310-Construction/Dem	3.65	91
TOWN OF APPLE VALLEY	Customer	7/13/2001	8:18	302-Apple Valley	100-Trash	6.45	92
ADVANCE DISPOSAL CO	Customer	7/13/2001	8:19	303-Hesperia	100-Trash	5.47	92
CASH CUSTOMERS	Customer	7/13/2001	8:20	304-Victorville	100-Trash	0.29	91
ADVANCE DISPOSAL CO	Customer	7/13/2001	8:21	303-Hesperia	100-Trash	15.14	91
LAND USE PASS CUSTOMERS	Government	7/13/2001	8:26	380-Victor Valley Un	100-Trash	0.33	91
CASH CUSTOMERS	Customer	7/13/2001	8:27	302-Apple Valley	100-Trash	0.5	91
HEAPS PEAK TRANSFER	Norcal	7/13/2001	8:29	3130-Camp Rock TS	100-Trash	2.54	91
CASH CUSTOMERS	Customer	7/13/2001	8:31	303-Hesperia	100-Trash	0.12	91
CITY OF ADELANTO	Customer	7/13/2001	8:32	301-Adelanto	100-Trash	13.17	91
CASH CUSTOMERS	Customer	7/13/2001	8:34	304-Victorville	100-Trash	0.4	92
CASH CUSTOMERS	Customer	7/13/2001	8:35	303-Hesperia	100-Trash	0.42	92
CASH CUSTOMERS	Customer	7/13/2001	8:36	304-Victorville	310-Construction/Dem	6.08	91
LAND USE PASS CUSTOMERS	Government	7/13/2001	8:38	339-Oak Hills	100-Trash	0.29	91
CASH CUSTOMERS	Customer	7/13/2001	8:41	303-Hesperia	200-Yard Waste	0.25	91
TOWN OF APPLE VALLEY	Customer	7/13/2001	8:43	302-Apple Valley	100-Trash	9.06	91
HEAPS PEAK TRANSFER	Norcal	7/13/2001	8:44	2100-Phelan TS	100-Trash	24.58	92
HEAPS PEAK TRANSFER	Norcal	7/13/2001	8:46	3130-Camp Rock TS	100-Trash	6.81	91
LAND USE PASS CUSTOMERS	Government	7/13/2001	8:49	337-Lucerne Valley	100-Trash	0.53	92
CITY OF VICTORVILLE	Customer	7/13/2001	8:50	304-Victorville	100-Trash	8.22	91
CASH CUSTOMERS	Customer	7/13/2001	8:55	302-Apple Valley	200-Yard Waste	0.31	91
CA DEPT OF TRANSPORT. DIST-8	Customer	7/13/2001	8:57	401-Barstow	210-Land Clearing	0.84	91
CITY OF VICTORVILLE	Customer	7/13/2001	8:58	304-Victorville	100-Trash	8.73	91
CASH CUSTOMERS	Customer	7/13/2001	9:00	303-Hesperia	100-Trash	0.24	91
CASH CUSTOMERS	Customer	7/14/2001	7:56	303-Hesperia	200-Yard Waste	0.38	92
LAND USE PASS CUSTOMERS	Government	7/14/2001	7:57	338-Mtn. View Acers	200-Yard Waste	0.05	92
LAND USE PASS CUSTOMERS	Government	7/14/2001	7:58	380-Victor Valley Un	100-Trash	0.17	92
LAND USE PASS CUSTOMERS	Government	7/14/2001	8:01	344-Spring Valley La	100-Trash	0.25	92
CASH CUSTOMERS	Customer	7/14/2001	8:02	303-Hesperia	200-Yard Waste	0.44	92
CASH CUSTOMERS	Customer	7/14/2001	8:05	302-Apple Valley	310-Construction/Dem	2.24	92
CASH CUSTOMERS	Customer	7/14/2001	8:07	303-Hesperia	100-Trash	0.19	92
CASH CUSTOMERS	Customer	7/14/2001	8:09	304-Victorville	200-Yard Waste	0.1	92
CASH CUSTOMERS	Customer	7/14/2001	8:10	302-Apple Valley	200-Yard Waste	0.53	92
VICTORVILLE DISPOSAL INC	Customer	7/14/2001	8:12	302-Apple Valley	100-Trash	3.59	92
CITY OF VICTORVILLE	Customer	7/14/2001	8:13	304-Victorville	100-Trash	10.3	92
LAND USE PASS CUSTOMERS	Government	7/14/2001	8:16	380-Victor Valley Un	100-Trash	0.43	92
CASH CUSTOMERS	Customer	7/14/2001	8:17	302-Apple Valley	200-Yard Waste	0.53	92
CASH CUSTOMERS	Customer	7/14/2001	8:18	302-Apple Valley	310-Construction/Dem	0.44	92
LAND USE PASS CUSTOMERS	Government	7/14/2001	8:22	338-Mtn. View Acers	200-Yard Waste	0.18	92

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Bill Acct Name	Customer Type	Date In	Time In	OT Label	MT Label	Net TN	Site Code
CASH CUSTOMERS	Customer	7/14/2001	8:24	303-Hesperia	310-Construction/Dem	0.83	92
CASH CUSTOMERS	Customer	7/14/2001	8:24	304-Victorville	200-Yard Waste	0.42	92
CASH CUSTOMERS	Customer	7/14/2001	8:27	304-Victorville	200-Yard Waste	0.3	91
LAND USE PASS CUSTOMERS	Government	7/14/2001	8:31	303-Hesperia	200-Yard Waste	1.11	91
LAND USE PASS CUSTOMERS	Government	7/14/2001	8:34	304-Victorville	200-Yard Waste	0.28	91
CASH CUSTOMERS	Customer	7/14/2001	8:36	303-Hesperia	100-Trash	0.38	91
CASH CUSTOMERS	Customer	7/14/2001	8:43	304-Victorville	100-Trash	0.64	92
LAND USE PASS CUSTOMERS	Government	7/14/2001	8:45	345-Summit Valley	100-Trash	0.38	91
CASH CUSTOMERS	Customer	7/14/2001	8:47	303-Hesperia	200-Yard Waste	0.25	91
CASH CUSTOMERS	Customer	7/14/2001	8:48	303-Hesperia	200-Yard Waste	0.15	92
HEAPS PEAK TRANSFER	Norcal	7/14/2001	8:52	2100-Phelan TS	100-Trash	26.01	91
CASH CUSTOMERS	Customer	7/14/2001	8:56	303-Hesperia	310-Construction/Dem	0.28	92
CASH CUSTOMERS	Customer	7/14/2001	9:00	338-Mtn. View Acers	100-Trash	0.16	92
LAND USE PASS CUSTOMERS	Government	7/14/2001	9:00	302-Apple Valley	100-Trash	0.38	91
LAND USE PASS CUSTOMERS	Government	7/15/2001	8:07	380-Victor Valley Un	200-Yard Waste	0.4	91
CASH CUSTOMERS	Customer	7/15/2001	8:09	304-Victorville	300-Solid Fill	2.28	91
LAND USE PASS CUSTOMERS	Government	7/15/2001	8:12	380-Victor Valley Un	100-Trash	0.1	91
CASH CUSTOMERS	Customer	7/15/2001	8:13	301-Adelanto	200-Yard Waste	0.25	91
LAND USE PASS CUSTOMERS	Government	7/15/2001	8:15	380-Victor Valley Un	100-Trash	0.29	91
LAND USE PASS CUSTOMERS	Government	7/15/2001	8:16	302-Apple Valley	200-Yard Waste	0.15	91
LAND USE PASS CUSTOMERS	Government	7/15/2001	8:19	338-Mtn. View Acers	100-Trash	0.2	91
CASH CUSTOMERS	Customer	7/15/2001	8:20	304-Victorville	100-Trash	0.71	91
CASH CUSTOMERS	Customer	7/15/2001	8:22	303-Hesperia	200-Yard Waste	0.26	91
LAND USE PASS CUSTOMERS	Government	7/15/2001	8:26	344-Spring Valley La	100-Trash	0.16	91
EMF-TOWN OF APPLE VALLEY	Customer	7/15/2001	8:28	302-Apple Valley	200-Yard Waste	0.94	91
CASH CUSTOMERS	Customer	7/15/2001	8:31	302-Apple Valley	100-Trash	0.22	91
LAND USE PASS CUSTOMERS	Government	7/15/2001	8:36	338-Mtn. View Acers	200-Yard Waste	0.42	91
LAND USE PASS CUSTOMERS	Government	7/15/2001	8:37	339-Oak Hills	100-Trash	0.25	91
CITY OF VICTORVILLE	Customer	7/15/2001	8:38	304-Victorville	100-Trash	12.67	91
LAND USE PASS CUSTOMERS	Government	7/15/2001	8:41	340-Oro Grande	100-Trash	0.25	91
LAND USE PASS CUSTOMERS	Government	7/15/2001	8:43	340-Oro Grande	100-Trash	0.195	91
LAND USE PASS CUSTOMERS	Government	7/15/2001	8:45	344-Spring Valley La	100-Trash	0.25	91
LAND USE PASS CUSTOMERS	Government	7/15/2001	8:48	380-Victor Valley Un	100-Trash	0.25	91
CASH CUSTOMERS	Customer	7/15/2001	8:50	304-Victorville	200-Yard Waste	0.21	91
CASH CUSTOMERS	Customer	7/15/2001	8:56	303-Hesperia	100-Trash	1.19	91
LAND USE PASS CUSTOMERS	Government	7/15/2001	8:58	338-Mtn. View Acers	100-Trash	0.25	91
LAND USE PASS CUSTOMERS	Government	7/15/2001	8:59	380-Victor Valley Un	100-Trash	0.25	91
LAND USE PASS CUSTOMERS	Government	7/16/2001	8:03	338-Mtn. View Acers	100-Trash	0.13	92
LAND USE PASS CUSTOMERS	Government	7/16/2001	8:07	380-Victor Valley Un	100-Trash	0.28	91
LAND USE PASS CUSTOMERS	Government	7/16/2001	8:08	380-Victor Valley Un	100-Trash	0.09	91
LAND USE PASS CUSTOMERS	Government	7/16/2001	8:09	338-Mtn. View Acers	100-Trash	0.35	91

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Bill Acct Name	Customer Type	Date In	Time In	OT Label	MT Label	Net TN	Site Code
LAND USE PASS CUSTOMERS	Government	7/16/2001	8:10	302-Apple Valley	100-Trash	0.54	92
EMF-EL MIRAGE VALLEY	Government	7/16/2001	8:13	333-El Mirage Valley	100-Trash	3.86	91
CASH CUSTOMERS	Customer	7/16/2001	8:15	338-Mtn. View Acers	600-Tires by Weight	0.078	91
LAND USE PASS CUSTOMERS	Government	7/16/2001	8:16	338-Mtn. View Acers	100-Trash	0.26	91
VICTORVILLE DISPOSAL INC	Customer	7/16/2001	8:17	301-Adelanto	100-Trash	2.07	91
CASH CUSTOMERS	Customer	7/16/2001	8:20	302-Apple Valley	310-Construction/Dem	1.51	91
ADVANCE DISPOSAL CO	Customer	7/16/2001	8:21	303-Hesperia	100-Trash	18.48	92
LAND USE PASS CUSTOMERS	Government	7/16/2001	8:23	344-Spring Valley La	100-Trash	0.26	91
CASH CUSTOMERS	Customer	7/16/2001	8:26	304-Victorville	200-Yard Waste	0.3	91
CASH CUSTOMERS	Customer	7/16/2001	8:26	302-Apple Valley	100-Trash	0.84	92
ADVANCE DISPOSAL CO	Customer	7/16/2001	8:27	303-Hesperia	100-Trash	15.09	91
TOWN OF APPLE VALLEY	Customer	7/16/2001	8:30	302-Apple Valley	100-Trash	6.26	91
CASH CUSTOMERS	Customer	7/16/2001	8:31	304-Victorville	200-Yard Waste	0.14	92
CITY OF VICTORVILLE	Customer	7/16/2001	8:31	304-Victorville	100-Trash	8.7	91
CASH CUSTOMERS	Customer	7/16/2001	8:33	303-Hesperia	310-Construction/Dem	2.96	92
LAND USE PASS CUSTOMERS	Government	7/16/2001	8:35	380-Victor Valley Un	100-Trash	0.11	91
ADVANCE DISPOSAL CO	Customer	7/16/2001	8:36	303-Hesperia	100-Trash	12.15	91
CITY OF ADELANTO	Customer	7/16/2001	8:37	301-Adelanto	100-Trash	8.58	91
ADVANCE DISPOSAL CO	Customer	7/16/2001	8:40	303-Hesperia	100-Trash	6.13	91
CASH CUSTOMERS	Customer	7/16/2001	8:42	303-Hesperia	100-Trash	0.87	92
EMF-EL MIRAGE VALLEY	Government	7/16/2001	8:42	333-El Mirage Valley	100-Trash	2.74	91
CASH CUSTOMERS	Customer	7/16/2001	8:44	303-Hesperia	200-Yard Waste	0.34	91
LAND USE PASS CUSTOMERS	Government	7/16/2001	8:44	380-Victor Valley Un	100-Trash	0.02	92
CASH CUSTOMERS	Customer	7/16/2001	8:46	304-Victorville	100-Trash	0.26	91
CITY OF VICTORVILLE	Customer	7/16/2001	8:48	304-Victorville	100-Trash	8.22	92
HEAPS PEAK TRANSFER	Norcal	7/16/2001	8:49	3130-Camp Rock TS	100-Trash	3.08	91
LAND USE PASS CUSTOMERS	Government	7/16/2001	8:52	480-North Desert Uni	100-Trash	0.22	91
LAND USE PASS CUSTOMERS	Government	7/16/2001	8:53	380-Victor Valley Un	100-Trash	0.24	91
LAND USE PASS CUSTOMERS	Government	7/16/2001	8:53	336-Helendale	200-Yard Waste	0.14	92
CASH CUSTOMERS	Customer	7/16/2001	8:55	302-Apple Valley	100-Trash	0.39	91
CASH CUSTOMERS	Customer	7/16/2001	8:59	302-Apple Valley	200-Yard Waste	0.22	91
CASH CUSTOMERS	Customer	7/17/2001	8:07	304-Victorville	200-Yard Waste	0.1	91
CASH CUSTOMERS	Customer	7/17/2001	8:09	303-Hesperia	100-Trash	0.07	91
CASH CUSTOMERS	Customer	7/17/2001	8:11	302-Apple Valley	200-Yard Waste	0.39	92
TOWN OF APPLE VALLEY	Customer	7/17/2001	8:12	302-Apple Valley	100-Trash	7.92	91
CASH CUSTOMERS	Customer	7/17/2001	8:13	302-Apple Valley	310-Construction/Dem	1.44	92
SPRING VALLEY LAKE ASSOC.	Customer	7/17/2001	8:14	344-Spring Valley La	100-Trash	0.23	91
LAND USE PASS CUSTOMERS	Government	7/17/2001	8:16	339-Oak Hills	100-Trash	0.09	91
CASH CUSTOMERS	Customer	7/17/2001	8:17	304-Victorville	200-Yard Waste	0.58	92
ATLAS CONSTRUCTION	Customer	7/17/2001	8:18	302-Apple Valley	310-Construction/Dem	0.66	92
TOWN OF APPLE VALLEY	Customer	7/17/2001	8:19	302-Apple Valley	100-Trash	8.06	91
CASH CUSTOMERS	Customer	7/17/2001	8:25	302-Apple Valley	310-Construction/Dem	0.66	92

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Bill Acct Name	Customer Type	Date In	Time In	OT Label	MT Label	Net TN	Site Code
ADVANCE DISPOSAL CO	Customer	7/17/2001	8:26	303-Hesperia	100-Trash	14.9	92
VICTORVILLE DISPOSAL INC	Customer	7/17/2001	8:26	301-Adelanto	100-Trash	1.82	91
LAND USE PASS CUSTOMERS	Government	7/17/2001	8:31	340-Oro Grande	100-Trash	0.22	91
CASH CUSTOMERS	Customer	7/17/2001	8:33	304-Victorville	100-Trash	1.11	91
LAND USE PASS CUSTOMERS	Government	7/17/2001	8:34	344-Spring Valley La	100-Trash	0.39	91
LAND USE PASS CUSTOMERS	Government	7/17/2001	8:37	380-Victor Valley Un	100-Trash	0.28	91
CITY OF ADELANTO	Customer	7/17/2001	8:39	301-Adelanto	100-Trash	8.51	91
VICTORVILLE DISPOSAL INC	Customer	7/17/2001	8:39	301-Adelanto	100-Trash	7.73	92
CASH CUSTOMERS	Customer	7/17/2001	8:44	304-Victorville	310-Construction/Dem	1.13	92
LAND USE PASS CUSTOMERS	Government	7/17/2001	8:45	340-Oro Grande	100-Trash	0.18	91
CASH CUSTOMERS	Customer	7/17/2001	8:47	304-Victorville	100-Trash	0.16	91
CITY OF VICTORVILLE	Customer	7/17/2001	8:50	304-Victorville	100-Trash	9.06	91
CASH CUSTOMERS	Customer	7/17/2001	8:51	304-Victorville	100-Trash	0.83	92
BURRTEC RECYCLING & TNSFR	Customer	7/17/2001	8:52	304-Victorville	100-Trash	4.53	91
ADVANCE DISPOSAL CO	Customer	7/17/2001	8:53	303-Hesperia	100-Trash	15.85	92
LAND USE PASS CUSTOMERS	Government	7/17/2001	8:53	380-Victor Valley Un	100-Trash	0.46	91
VICTORVILLE DISPOSAL INC	Customer	7/17/2001	8:55	343-Silver Lakes	100-Trash	12.04	91
HEAPS PEAK TRANSFER	Norcal	7/17/2001	8:59	2100-Phelan TS	100-Trash	25.28	92
VICTORVILLE DISPOSAL INC	Customer	7/18/2001	8:06	301-Adelanto	100-Trash	5.26	91
CASH CUSTOMERS	Customer	7/18/2001	8:08	303-Hesperia	200-Yard Waste	0.55	91
CASH CUSTOMERS	Customer	7/18/2001	8:09	304-Victorville	100-Trash	0.24	91
CASH CUSTOMERS	Customer	7/18/2001	8:11	304-Victorville	100-Trash	0.13	91
TOWN OF APPLE VALLEY	Customer	7/18/2001	8:14	302-Apple Valley	100-Trash	2.64	91
APPLE VALLEY U.S.D.	Customer	7/18/2001	8:16	302-Apple Valley	310-Construction/Dem	0.44	91
ADVANCE DISPOSAL CO	Customer	7/18/2001	8:18	303-Hesperia	100-Trash	13.9	91
BURRTEC RECYCLING & TNSFR	Customer	7/18/2001	8:21	280-Valley Unincorpo	100-Trash	8.8	91
CASH CUSTOMERS	Customer	7/18/2001	8:28	303-Hesperia	100-Trash	0.32	91
LAND USE PASS CUSTOMERS	Government	7/18/2001	8:29	339-Oak Hills	100-Trash	0.24	91
CASH CUSTOMERS	Customer	7/18/2001	8:30	304-Victorville	100-Trash	0.2	91
CITY OF VICTORVILLE	Customer	7/18/2001	8:36	304-Victorville	100-Trash	6.9	91
CASH CUSTOMERS	Customer	7/18/2001	8:38	304-Victorville	100-Trash	1.22	91
ALL-N-ONE MAINTENANCE	Customer	7/18/2001	8:40	304-Victorville	100-Trash	0.27	91
CASH CUSTOMERS	Customer	7/18/2001	8:42	302-Apple Valley	200-Yard Waste	0.22	91
CASH CUSTOMERS	Customer	7/18/2001	8:43	303-Hesperia	310-Construction/Dem	0.24	91
LAND USE PASS CUSTOMERS	Government	7/18/2001	8:45	344-Spring Valley La	100-Trash	0.14	91
CASH CUSTOMERS	Customer	7/18/2001	8:46	304-Victorville	100-Trash	0.26	91
ADVANCE DISPOSAL CO	Customer	7/18/2001	8:48	303-Hesperia	100-Trash	13.46	91
ADVANCE DISPOSAL CO	Customer	7/18/2001	8:49	303-Hesperia	100-Trash	2.74	91
CASH CUSTOMERS	Customer	7/18/2001	8:52	303-Hesperia	210-Land Clearing	1.31	91
CITY OF ADELANTO	Customer	7/18/2001	8:53	301-Adelanto	100-Trash	7.8	91
CA DEPT OF TRANSPORTATION	Customer	7/18/2001	8:55	380-Victor Valley Un	210-Land Clearing	1.05	91
CASH CUSTOMERS	Customer	7/18/2001	8:57	303-Hesperia	310-Construction/Dem	1.34	91

Victorville Landfill
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Bill Acct Name	Customer Type	Date In	Time In	OT Label	MT Label	Net TN	Site Code
LAND USE PASS CUSTOMERS	Government	7/18/2001	8:59	343-Silver Lakes	100-Trash	0.17	91
HEAPS PEAK TRANSFER	Norcal	7/18/2001	9:00	2100-Phelan TS	100-Trash	24.95	91
LAND USE PASS CUSTOMERS	Government	7/19/2001	7:56	336-Helendale	100-Trash	0.3	92
TOWN OF APPLE VALLEY	Customer	7/19/2001	7:57	302-Apple Valley	100-Trash	8.58	92
VICTORVILLE DISPOSAL INC	Customer	7/19/2001	7:58	343-Silver Lakes	100-Trash	5.42	92
CITY OF VICTORVILLE	Customer	7/19/2001	8:00	304-Victorville	100-Trash	2.62	92
LAND USE PASS CUSTOMERS	Government	7/19/2001	8:02	380-Victor Valley Un	100-Trash	0.13	92
CASH CUSTOMERS	Customer	7/19/2001	8:04	302-Apple Valley	100-Trash	0.17	92
CASH CUSTOMERS	Customer	7/19/2001	8:05	302-Apple Valley	310-Construction/Dem	0.33	92
LAND USE PASS CUSTOMERS	Government	7/19/2001	8:08	380-Victor Valley Un	100-Trash	0.17	91
CASH CUSTOMERS	Customer	7/19/2001	8:09	304-Victorville	100-Trash	0.67	91
ADVANCE DISPOSAL CO	Customer	7/19/2001	8:10	303-Hesperia	100-Trash	5.91	91
ADVANCE DISPOSAL CO	Customer	7/19/2001	8:13	303-Hesperia	100-Trash	14.11	91
CASH CUSTOMERS	Customer	7/19/2001	8:15	304-Victorville	100-Trash	0.85	92
ADVANCE DISPOSAL CO	Customer	7/19/2001	8:17	303-Hesperia	100-Trash	14.3	92
CASH CUSTOMERS	Customer	7/19/2001	8:17	304-Victorville	100-Trash	0.62	91
CASH CUSTOMERS	Customer	7/19/2001	8:27	304-Victorville	310-Construction/Dem	0.47	92
CASH CUSTOMERS	Customer	7/19/2001	8:29	303-Hesperia	310-Construction/Dem	4.52	91
HEAPS PEAK TRANSFER	Norcal	7/19/2001	8:30	2100-Phelan TS	100-Trash	25.19	92
CASH CUSTOMERS	Customer	7/19/2001	8:32	304-Victorville	310-Construction/Dem	0.72	92
LAND USE PASS CUSTOMERS	Government	7/19/2001	8:32	344-Spring Valley La	100-Trash	0.24	91
BURRTEC RECYCLING & TNSFR	Customer	7/19/2001	8:34	302-Apple Valley	100-Trash	4.91	91
LAND USE PASS CUSTOMERS	Government	7/19/2001	8:40	380-Victor Valley Un	100-Trash	0.22	91
LAND USE PASS CUSTOMERS	Government	7/19/2001	8:40	380-Victor Valley Un	100-Trash	0.24	92
CASH CUSTOMERS	Customer	7/19/2001	8:43	302-Apple Valley	200-Yard Waste	0.3	92
CITY OF VICTORVILLE	Customer	7/19/2001	8:43	304-Victorville	100-Trash	9.22	91
LAND USE PASS CUSTOMERS	Government	7/19/2001	8:45	339-Oak Hills	100-Trash	0.37	91
TOWN OF APPLE VALLEY	Customer	7/19/2001	8:47	302-Apple Valley	100-Trash	9.79	91
CASH CUSTOMERS	Customer	7/19/2001	8:51	380-Victor Valley Un	200-Yard Waste	0.33	91
CASH CUSTOMERS	Customer	7/19/2001	8:51	302-Apple Valley	100-Trash	0.3	92
ADVANCE DISPOSAL CO	Customer	7/19/2001	8:54	303-Hesperia	100-Trash	2.68	92
CASH CUSTOMERS	Customer	7/19/2001	8:55	304-Victorville	310-Construction/Dem	0.3	91
CASH CUSTOMERS	Customer	7/19/2001	8:58	303-Hesperia	100-Trash	1.26	91
CASH CUSTOMERS	Customer	7/19/2001	8:59	304-Victorville	310-Construction/Dem	1.29	92
ADVANCE DISPOSAL CO	Customer	7/20/2001	8:08	303-Hesperia	100-Trash	8.02	91
CITY OF VICTORVILLE	Customer	7/20/2001	8:09	304-Victorville	100-Trash	4.73	91
CASH CUSTOMERS	Customer	7/20/2001	8:12	303-Hesperia	310-Construction/Dem	0.92	92
VICTORVILLE DISPOSAL INC	Customer	7/20/2001	8:13	301-Adelanto	100-Trash	1.79	91
CASH CUSTOMERS	Customer	7/20/2001	8:15	302-Apple Valley	100-Trash	0.67	91
HEAPS PEAK TRANSFER	Norcal	7/20/2001	8:18	3130-Camp Rock TS	100-Trash	3.85	92
ADVANCE DISPOSAL CO	Customer	7/20/2001	8:19	303-Hesperia	100-Trash	12.99	91

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Bill Acct Name	Customer Type	Date In	Time In	OT Label	MT Label	Net TN	Site Code
CASH CUSTOMERS	Customer	7/20/2001	8:21	302-Apple Valley	310-Construction/Dem	0.56	91
TOWN OF APPLE VALLEY	Customer	7/20/2001	8:21	302-Apple Valley	100-Trash	8.63	92
CASH CUSTOMERS	Customer	7/20/2001	8:23	304-Victorville	310-Construction/Dem	0.91	92
LAND USE PASS CUSTOMERS	Government	7/20/2001	8:24	339-Oak Hills	100-Trash	0.23	91
CASH CUSTOMERS	Customer	7/20/2001	8:30	302-Apple Valley	100-Trash	0.26	91
CASH CUSTOMERS	Customer	7/20/2001	8:30	303-Hesperia	100-Trash	0.27	92
LAND USE PASS CUSTOMERS	Government	7/20/2001	8:31	380-Victor Valley Un	100-Trash	0.33	91
LAND USE PASS CUSTOMERS	Government	7/20/2001	8:32	380-Victor Valley Un	100-Trash	0.37	91
CASH CUSTOMERS	Customer	7/20/2001	8:33	303-Hesperia	310-Construction/Dem	0.35	92
CASH CUSTOMERS	Customer	7/20/2001	8:34	304-Victorville	100-Trash	0.3	91
CASH CUSTOMERS	Customer	7/20/2001	8:40	303-Hesperia	200-Yard Waste	0.18	92
CASH CUSTOMERS	Customer	7/20/2001	8:42	304-Victorville	100-Trash	0.25	91
LAND USE PASS CUSTOMERS	Government	7/20/2001	8:42	341-Phelan	100-Trash	0.33	92
CASH CUSTOMERS	Customer	7/20/2001	8:43	301-Adelanto	310-Construction/Dem	0.7	91
CASH CUSTOMERS	Customer	7/20/2001	8:45	303-Hesperia	310-Construction/Dem	2.06	91
ADVANCE DISPOSAL CO	Customer	7/20/2001	8:46	303-Hesperia	100-Trash	10.61	91
CASH CUSTOMERS	Customer	7/20/2001	8:49	302-Apple Valley	310-Construction/Dem	1.59	92
CITY OF ADELANTO	Customer	7/20/2001	8:49	301-Adelanto	100-Trash	7.47	91
BURRTEC RECYCLING & TNSFR	Customer	7/20/2001	8:51	304-Victorville	100-Trash	5.53	91
CITY OF VICTORVILLE	Customer	7/20/2001	8:54	304-Victorville	100-Trash	2.33	91
CASH CUSTOMERS	Customer	7/20/2001	8:58	304-Victorville	310-Construction/Dem	0.25	92
LAND USE PASS CUSTOMERS	Government	7/20/2001	9:00	338-Mtn. View Acers	200-Yard Waste	0.15	92
CASH CUSTOMERS	Customer	7/21/2001	7:59	302-Apple Valley	200-Yard Waste	0.42	92
CASH CUSTOMERS	Customer	7/21/2001	8:01	304-Victorville	100-Trash	0.37	92
CASH CUSTOMERS	Customer	7/21/2001	8:08	304-Victorville	200-Yard Waste	0.54	91
CASH CUSTOMERS	Customer	7/21/2001	8:10	302-Apple Valley	200-Yard Waste	0.25	92
LAND USE PASS CUSTOMERS	Government	7/21/2001	8:10	380-Victor Valley Un	100-Trash	0.13	91
CASH CUSTOMERS	Customer	7/21/2001	8:11	302-Apple Valley	200-Yard Waste	0.16	91
CASH CUSTOMERS	Customer	7/21/2001	8:13	302-Apple Valley	310-Construction/Dem	0.44	91
CASH CUSTOMERS	Customer	7/21/2001	8:13	304-Victorville	200-Yard Waste	0.43	92
CASH CUSTOMERS	Customer	7/21/2001	8:15	304-Victorville	310-Construction/Dem	0.28	91
CASH CUSTOMERS	Customer	7/21/2001	8:17	302-Apple Valley	300-Solid Fill	1.55	92
CASH CUSTOMERS	Customer	7/21/2001	8:20	304-Victorville	100-Trash	0.15	91
CITY OF VICTORVILLE	Customer	7/21/2001	8:23	304-Victorville	100-Trash	11.14	91
LAND USE PASS CUSTOMERS	Government	7/21/2001	8:25	338-Mtn. View Acers	100-Trash	0.33	91
CASH CUSTOMERS	Customer	7/21/2001	8:27	303-Hesperia	200-Yard Waste	0.69	92
CASH CUSTOMERS	Customer	7/21/2001	8:28	304-Victorville	310-Construction/Dem	0.51	92
LAND USE PASS CUSTOMERS	Government	7/21/2001	8:30	336-Helendale	100-Trash	0.53	91
CASH CUSTOMERS	Customer	7/21/2001	8:34	303-Hesperia	100-Trash	0.24	92
CASH CUSTOMERS	Customer	7/21/2001	8:41	304-Victorville	310-Construction/Dem	0.92	91
CASH CUSTOMERS	Customer	7/21/2001	8:43	304-Victorville	100-Trash	0.26	91
LAND USE PASS CUSTOMERS	Government	7/21/2001	8:46	338-Mtn. View Acers	100-Trash	0.25	91

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Bill Acct Name	Customer Type	Date In	Time In	OT Label	MT Label	Net TN	Site Code
CASH CUSTOMERS	Customer	7/21/2001	8:47	302-Apple Valley	310-Construction/Dem	0.57	92
CASH CUSTOMERS	Customer	7/21/2001	8:53	302-Apple Valley	100-Trash	0.075	91
LAND USE PASS CUSTOMERS	Government	7/21/2001	8:55	338-Mtn. View Acers	100-Trash	0.245	91
CASH CUSTOMERS	Customer	7/21/2001	8:58	304-Victorville	100-Trash	0.23	91
CASH CUSTOMERS	Customer	7/21/2001	8:58	303-Hesperia	310-Construction/Dem	0.66	92
LAND USE PASS CUSTOMERS	Government	7/21/2001	8:59	344-Spring Valley La	100-Trash	0.15	91
CASH CUSTOMERS	Customer	7/21/2001	9:00	302-Apple Valley	310-Construction/Dem	0.42	91
CASH CUSTOMERS	Customer	7/22/2001	7:57	304-Victorville	200-Yard Waste	0.22	92
CASH CUSTOMERS	Customer	7/22/2001	7:58	304-Victorville	100-Trash	0.12	92
CASH CUSTOMERS	Customer	7/22/2001	8:01	304-Victorville	310-Construction/Dem	0.84	92
CASH CUSTOMERS	Customer	7/22/2001	8:09	304-Victorville	310-Construction/Dem	0.54	92
LAND USE PASS CUSTOMERS	Government	7/22/2001	8:10	380-Victor Valley Un	100-Trash	0.74	91
LAND USE PASS CUSTOMERS	Government	7/22/2001	8:12	338-Mtn. View Acers	100-Trash	0.28	91
LAND USE PASS CUSTOMERS	Government	7/22/2001	8:15	339-Oak Hills	100-Trash	0.29	92
LAND USE PASS CUSTOMERS	Government	7/22/2001	8:18	344-Spring Valley La	100-Trash	0.17	91
CASH CUSTOMERS	Customer	7/22/2001	8:20	304-Victorville	100-Trash	1.71	91
LAND USE PASS CUSTOMERS	Government	7/22/2001	8:22	336-Helendale	100-Trash	0.22	91
CASH CUSTOMERS	Customer	7/22/2001	8:24	304-Victorville	100-Trash	0.28	91
CASH CUSTOMERS	Customer	7/22/2001	8:26	302-Apple Valley	200-Yard Waste	0.07	91
EMF-TOWN OF APPLE VALLEY	Customer	7/22/2001	8:29	302-Apple Valley	100-Trash	0.91	91
LAND USE PASS CUSTOMERS	Government	7/22/2001	8:35	338-Mtn. View Acers	100-Trash	0.41	91
CASH CUSTOMERS	Customer	7/22/2001	8:37	302-Apple Valley	200-Yard Waste	0.3	91
CASH CUSTOMERS	Customer	7/22/2001	8:49	302-Apple Valley	100-Trash	0.18	91
CASH CUSTOMERS	Customer	7/22/2001	8:50	303-Hesperia	100-Trash	1.06	92
CASH CUSTOMERS	Customer	7/22/2001	8:55	304-Victorville	200-Yard Waste	0.26	91
LAND USE PASS CUSTOMERS	Government	7/22/2001	8:58	380-Victor Valley Un	100-Trash	0.2	92
CASH CUSTOMERS	Customer	7/22/2001	8:59	302-Apple Valley	100-Trash	0.15	92
CASH CUSTOMERS	Customer	7/23/2001	7:55	303-Hesperia	100-Trash	0.3	92
CASH CUSTOMERS	Customer	7/23/2001	8:00	302-Apple Valley	310-Construction/Dem	0.41	92
CASH CUSTOMERS	Customer	7/23/2001	8:03	301-Adelanto	310-Construction/Dem	0.58	92
CASH CUSTOMERS	Customer	7/23/2001	8:06	303-Hesperia	310-Construction/Dem	0.87	92
CASH CUSTOMERS	Customer	7/23/2001	8:08	302-Apple Valley	310-Construction/Dem	0.29	91
CASH CUSTOMERS	Customer	7/23/2001	8:08	301-Adelanto	100-Trash	0.85	92
ADVANCE DISPOSAL CO	Customer	7/23/2001	8:09	303-Hesperia	100-Trash	6.05	91
CASH CUSTOMERS	Customer	7/23/2001	8:13	304-Victorville	100-Trash	0.63	92
ADVANCE DISPOSAL CO	Customer	7/23/2001	8:14	303-Hesperia	100-Trash	14.97	91
CASH CUSTOMERS	Customer	7/23/2001	8:17	303-Hesperia	100-Trash	0.25	91
CITY OF VICTORVILLE	Customer	7/23/2001	8:17	304-Victorville	100-Trash	16.01	92
CASH CUSTOMERS	Customer	7/23/2001	8:21	304-Victorville	310-Construction/Dem	0.72	91
LAND USE PASS CUSTOMERS	Government	7/23/2001	8:21	337-Lucerne Valley	100-Trash	0.18	92
CITY OF ADELANTO	Customer	7/23/2001	8:28	301-Adelanto	100-Trash	8.37	91

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Bill Acct Name	Customer Type	Date In	Time In	OT Label	MT Label	Net TN	Site Code
LAND USE PASS CUSTOMERS	Government	7/23/2001	8:32	380-Victor Valley Un	100-Trash	0.3	91
ADVANCE DISPOSAL CO	Customer	7/23/2001	8:33	303-Hesperia	100-Trash	11.46	91
CASH CUSTOMERS	Customer	7/23/2001	8:35	304-Victorville	100-Trash	0.25	91
ADVANCE DISPOSAL CO	Customer	7/23/2001	8:37	303-Hesperia	100-Trash	16.29	91
CITY OF VICTORVILLE	Customer	7/23/2001	8:37	304-Victorville	100-Trash	8.09	92
LAND USE PASS CUSTOMERS	Government	7/23/2001	8:39	340-Oro Grande	100-Trash	0.2	92
HEAPS PEAK TRANSFER	Norcal	7/23/2001	8:40	2100-Phelan TS	100-Trash	24.95	92
CASH CUSTOMERS	Customer	7/23/2001	8:42	304-Victorville	100-Trash	0.16	92
VICTORVILLE DISPOSAL INC	Customer	7/23/2001	8:43	343-Silver Lakes	100-Trash	8.25	92
TOWN OF APPLE VALLEY	Customer	7/23/2001	8:44	302-Apple Valley	100-Trash	9.39	92
CASH CUSTOMERS	Customer	7/23/2001	8:48	304-Victorville	100-Trash	0.28	91
LAND USE PASS CUSTOMERS	Government	7/23/2001	8:52	340-Oro Grande	100-Trash	1.11	91
BURRTEC RECYCLING & TNSFR	Customer	7/23/2001	8:53	302-Apple Valley	100-Trash	6.66	91
CASH CUSTOMERS	Customer	7/23/2001	8:56	304-Victorville	100-Trash	0.24	91
CASH CUSTOMERS	Customer	7/23/2001	9:00	304-Victorville	310-Construction/Dem	0.67	92
TOWN OF APPLE VALLEY	Customer	7/24/2001	8:10	302-Apple Valley	100-Trash	12.83	92
CASH CUSTOMERS	Customer	7/24/2001	8:12	302-Apple Valley	100-Trash	0.3	91
CASH CUSTOMERS	Customer	7/24/2001	8:13	302-Apple Valley	100-Trash	0.43	92
ADVANCE DISPOSAL CO	Customer	7/24/2001	8:14	303-Hesperia	100-Trash	2.61	91
CITY OF VICTORVILLE	Customer	7/24/2001	8:14	304-Victorville	100-Trash	3.46	92
CASH CUSTOMERS	Customer	7/24/2001	8:15	303-Hesperia	100-Trash	0.45	91
LAND USE PASS CUSTOMERS	Government	7/24/2001	8:17	380-Victor Valley Un	100-Trash	0.11	92
CASH CUSTOMERS	Customer	7/24/2001	8:20	303-Hesperia	310-Construction/Dem	0.76	91
LAND USE PASS CUSTOMERS	Government	7/24/2001	8:21	339-Oak Hills	100-Trash	0.37	91
VICTORVILLE DISPOSAL INC	Customer	7/24/2001	8:21	301-Adelanto	100-Trash	1.42	92
ADVANCE DISPOSAL CO	Customer	7/24/2001	8:23	303-Hesperia	100-Trash	13.74	92
CASH CUSTOMERS	Customer	7/24/2001	8:23	302-Apple Valley	100-Trash	0.65	91
ADVANCE DISPOSAL CO	Customer	7/24/2001	8:24	303-Hesperia	100-Trash	16.01	91
CASH CUSTOMERS	Customer	7/24/2001	8:25	302-Apple Valley	100-Trash	0.2	91
TOWN OF APPLE VALLEY	Customer	7/24/2001	8:26	302-Apple Valley	100-Trash	9.16	91
CASH CUSTOMERS	Customer	7/24/2001	8:27	302-Apple Valley	100-Trash	0.3	92
CITY OF VICTORVILLE	Customer	7/24/2001	8:29	304-Victorville	100-Trash	8.29	91
VICTORVILLE DISPOSAL INC	Customer	7/24/2001	8:30	304-Victorville	100-Trash	3.36	92
CASH CUSTOMERS	Customer	7/24/2001	8:33	338-Mtn. View Acers	100-Trash	0.22	91
CASH CUSTOMERS	Customer	7/24/2001	8:35	304-Victorville	100-Trash	0.75	91
CASH CUSTOMERS	Customer	7/24/2001	8:38	302-Apple Valley	100-Trash	1.24	91
CASH CUSTOMERS	Customer	7/24/2001	8:40	303-Hesperia	310-Construction/Dem	0.54	92
ADVANCE DISPOSAL CO	Customer	7/24/2001	8:41	303-Hesperia	100-Trash	9.93	92
LAND USE PASS CUSTOMERS	Government	7/24/2001	8:41	337-Lucerne Valley	100-Trash	0.34	91
CITY OF ADELANTO	Customer	7/24/2001	8:42	301-Adelanto	100-Trash	9.39	91
CASH CUSTOMERS	Customer	7/24/2001	8:44	304-Victorville	100-Trash	0.88	92
LAND USE PASS CUSTOMERS	Government	7/24/2001	8:44	380-Victor Valley Un	100-Trash	0.17	91

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Bill Acct Name	Customer Type	Date In	Time In	OT Label	MT Label	Net TN	Site Code
CASH CUSTOMERS	Customer	7/24/2001	8:45	303-Hesperia	100-Trash	0.3	91
LAND USE PASS CUSTOMERS	Government	7/24/2001	8:47	338-Mtn. View Acers	100-Trash	0.31	91
CASH CUSTOMERS	Customer	7/24/2001	8:50	303-Hesperia	200-Yard Waste	0.21	91
CASH CUSTOMERS	Customer	7/24/2001	8:55	302-Apple Valley	100-Trash	0.68	91
CASH CUSTOMERS	Customer	7/25/2001	8:07	303-Hesperia	310-Construction/Dem	1.86	91
HEAPS PEAK TRANSFER	Norcal	7/25/2001	8:08	2210-Apple Valley CC	100-Trash	1.35	92
CASH CUSTOMERS	Customer	7/25/2001	8:09	302-Apple Valley	100-Trash	0.3	91
ADVANCE DISPOSAL CO	Customer	7/25/2001	8:10	303-Hesperia	100-Trash	3.07	91
CASH CUSTOMERS	Customer	7/25/2001	8:11	302-Apple Valley	310-Construction/Dem	1	92
CASH CUSTOMERS	Customer	7/25/2001	8:12	301-Adelanto	310-Construction/Dem	0.42	91
TOWN OF APPLE VALLEY	Customer	7/25/2001	8:13	302-Apple Valley	100-Trash	2.24	91
CASH CUSTOMERS	Customer	7/25/2001	8:15	302-Apple Valley	310-Construction/Dem	0.31	91
ADVANCE DISPOSAL CO	Customer	7/25/2001	8:16	303-Hesperia	100-Trash	5.76	92
LAND USE PASS CUSTOMERS	Government	7/25/2001	8:16	380-Victor Valley Un	100-Trash	0.31	91
VICTORVILLE DISPOSAL INC	Customer	7/25/2001	8:17	301-Adelanto	100-Trash	6.81	91
HESPERIA U.S.D.	Customer	7/25/2001	8:19	303-Hesperia	310-Construction/Dem	0.28	91
CASH CUSTOMERS	Customer	7/25/2001	8:23	304-Victorville	200-Yard Waste	0.17	92
LAND USE PASS CUSTOMERS	Government	7/25/2001	8:31	340-Oro Grande	100-Trash	0.24	91
CITY OF VICTORVILLE	Customer	7/25/2001	8:35	304-Victorville	100-Trash	6.43	91
CASH CUSTOMERS	Customer	7/25/2001	8:39	304-Victorville	100-Trash	0.27	91
CASH CUSTOMERS	Customer	7/25/2001	8:39	303-Hesperia	310-Construction/Dem	2.68	92
HEAPS PEAK TRANSFER	Norcal	7/25/2001	8:42	2100-Phelan TS	100-Trash	24.68	92
ADVANCE DISPOSAL CO	Customer	7/25/2001	8:48	303-Hesperia	100-Trash	8.71	92
ADVANCE DISPOSAL CO	Customer	7/25/2001	8:51	303-Hesperia	100-Trash	9.06	92
CITY OF ADELANTO	Customer	7/25/2001	8:52	301-Adelanto	100-Trash	9.35	91
CASH CUSTOMERS	Customer	7/25/2001	8:54	303-Hesperia	200-Yard Waste	0.44	91
LAND USE PASS CUSTOMERS	Government	7/25/2001	8:56	338-Mtn. View Acers	100-Trash	0.09	91
CASH CUSTOMERS	Customer	7/25/2001	8:58	304-Victorville	100-Trash	0.4	91
LAND USE PASS CUSTOMERS	Government	7/26/2001	8:01	338-Mtn. View Acers	100-Trash	0.25	92
CASH CUSTOMERS	Customer	7/26/2001	8:03	302-Apple Valley	100-Trash	0.99	92
CASH CUSTOMERS	Customer	7/26/2001	8:07	303-Hesperia	310-Construction/Dem	0.4	92
CASH CUSTOMERS	Customer	7/26/2001	8:08	304-Victorville	100-Trash	0.58	92
CASH CUSTOMERS	Customer	7/26/2001	8:11	303-Hesperia	100-Trash	0.67	91
CASH CUSTOMERS	Customer	7/26/2001	8:14	303-Hesperia	200-Yard Waste	0.17	91
CASH CUSTOMERS	Customer	7/26/2001	8:15	304-Victorville	310-Construction/Dem	0.27	91
CASH CUSTOMERS	Customer	7/26/2001	8:17	344-Spring Valley La	310-Construction/Dem	0.22	91
CASH CUSTOMERS	Customer	7/26/2001	8:19	302-Apple Valley	100-Trash	0.19	92
ADVANCE DISPOSAL CO	Customer	7/26/2001	8:23	303-Hesperia	100-Trash	17.04	91
CASH CUSTOMERS	Customer	7/26/2001	8:23	304-Victorville	100-Trash	0.44	92
VICTORVILLE DISPOSAL INC	Customer	7/26/2001	8:24	343-Silver Lakes	100-Trash	4.9	92
ADVANCE DISPOSAL CO	Customer	7/26/2001	8:27	303-Hesperia	100-Trash	6.36	91

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Bill Acct Name	Customer Type	Date In	Time In	OT Label	MT Label	Net TN	Site Code
CITY OF ADELANTO	Customer	7/26/2001	8:31	301-Adelanto	100-Trash	7.68	91
ADVANCE DISPOSAL CO	Customer	7/26/2001	8:33	303-Hesperia	100-Trash	15.79	92
CASH CUSTOMERS	Customer	7/26/2001	8:33	303-Hesperia	200-Yard Waste	0.61	91
CASH CUSTOMERS	Customer	7/26/2001	8:36	302-Apple Valley	200-Yard Waste	0.27	91
CASH CUSTOMERS	Customer	7/26/2001	8:37	304-Victorville	310-Construction/Dem	0.51	91
CASH CUSTOMERS	Customer	7/26/2001	8:37	304-Victorville	100-Trash	0.21	92
CASH CUSTOMERS	Customer	7/26/2001	8:41	303-Hesperia	310-Construction/Dem	0.14	91
ADVANCE DISPOSAL CO	Customer	7/26/2001	8:45	303-Hesperia	100-Trash	8.06	91
CASH CUSTOMERS	Customer	7/26/2001	8:47	302-Apple Valley	200-Yard Waste	0.24	91
CASH CUSTOMERS	Customer	7/26/2001	8:47	302-Apple Valley	200-Yard Waste	0.44	92
CASH CUSTOMERS	Customer	7/26/2001	8:49	304-Victorville	200-Yard Waste	0.17	92
LAND USE PASS CUSTOMERS	Government	7/26/2001	8:50	343-Silver Lakes	200-Yard Waste	0.12	91
CITY OF VICTORVILLE	Customer	7/26/2001	8:52	304-Victorville	100-Trash	10.04	91
VICTORVILLE DISPOSAL INC	Customer	7/26/2001	8:55	301-Adelanto	100-Trash	1.48	91
ADVANCE DISPOSAL CO	Customer	7/26/2001	8:59	303-Hesperia	100-Trash	13.26	92
TOWN OF APPLE VALLEY	Customer	7/26/2001	8:59	302-Apple Valley	100-Trash	9.2	91
CASH CUSTOMERS	Customer	7/27/2001	8:08	338-Mtn. View Acers	100-Trash	0.3	91
TOWN OF APPLE VALLEY	Customer	7/27/2001	8:09	302-Apple Valley	100-Trash	2.93	91
CASH CUSTOMERS	Customer	7/27/2001	8:12	304-Victorville	210-Land Clearing	0.55	92
ADVANCE DISPOSAL CO	Customer	7/27/2001	8:14	303-Hesperia	100-Trash	7.41	92
ADVANCE DISPOSAL CO	Customer	7/27/2001	8:15	303-Hesperia	100-Trash	5.98	91
TOWN OF APPLE VALLEY	Customer	7/27/2001	8:16	302-Apple Valley	100-Trash	8.46	91
CITY OF VICTORVILLE	Customer	7/27/2001	8:21	304-Victorville	100-Trash	5.14	91
CASH CUSTOMERS	Customer	7/27/2001	8:22	301-Adelanto	100-Trash	0.32	92
CASH CUSTOMERS	Customer	7/27/2001	8:24	303-Hesperia	100-Trash	0.29	91
CASH CUSTOMERS	Customer	7/27/2001	8:25	302-Apple Valley	100-Trash	0.21	92
CASH CUSTOMERS	Customer	7/27/2001	8:27	304-Victorville	200-Yard Waste	0.3	91
CASH CUSTOMERS	Customer	7/27/2001	8:32	304-Victorville	310-Construction/Dem	1.15	91
CITY OF ADELANTO	Customer	7/27/2001	8:32	301-Adelanto	100-Trash	7.27	92
HEAPS PEAK TRANSFER	Norcal	7/27/2001	8:35	2100-Phelan TS	100-Trash	25.12	91
ADVANCE DISPOSAL CO	Customer	7/27/2001	8:44	303-Hesperia	100-Trash	8.81	91
CASH CUSTOMERS	Customer	7/27/2001	8:45	302-Apple Valley	100-Trash	0.24	92
CASH CUSTOMERS	Customer	7/27/2001	8:46	304-Victorville	200-Yard Waste	0.06	92
LAND USE PASS CUSTOMERS	Government	7/27/2001	8:48	344-Spring Valley La	200-Yard Waste	0.22	92
LAND USE PASS CUSTOMERS	Government	7/27/2001	8:50	344-Spring Valley La	100-Trash	0.3	91
CASH CUSTOMERS	Customer	7/27/2001	8:54	303-Hesperia	200-Yard Waste	0.19	91
CITY OF VICTORVILLE	Customer	7/27/2001	8:56	304-Victorville	100-Trash	8.51	91
LAND USE PASS CUSTOMERS	Government	7/27/2001	9:00	340-Oro Grande	100-Trash	0.59	91
LAND USE PASS CUSTOMERS	Government	7/28/2001	7:57	344-Spring Valley La	200-Yard Waste	0.44	92
ADVANCE DISPOSAL CO	Customer	7/28/2001	7:58	303-Hesperia	100-Trash	1.76	92
CASH CUSTOMERS	Customer	7/28/2001	7:59	302-Apple Valley	100-Trash	0.24	92

Victorville Landfill
AM Trips

Bill Acct Name	Customer Type	Date In	Time In	OT Label	MT Label	Net TN	Site Code
CASH CUSTOMERS	Customer	7/28/2001	8:03	301-Adelanto	100-Trash	0.37	92
LAND USE PASS CUSTOMERS	Government	7/28/2001	8:03	380-Victor Valley Un	100-Trash	0.35	92
LAND USE PASS CUSTOMERS	Government	7/28/2001	8:09	380-Victor Valley Un	100-Trash	0.08	92
LAND USE PASS CUSTOMERS	Government	7/28/2001	8:10	380-Victor Valley Un	100-Trash	0.2	92
CASH CUSTOMERS	Customer	7/28/2001	8:16	304-Victorville	100-Trash	0.56	91
CASH CUSTOMERS	Customer	7/28/2001	8:16	304-Victorville	100-Trash	0.72	92
CASH CUSTOMERS	Customer	7/28/2001	8:18	301-Adelanto	210-Land Clearing	0.29	92
CASH CUSTOMERS	Customer	7/28/2001	8:18	304-Victorville	310-Construction/Dem	0.37	92
LAND USE PASS CUSTOMERS	Government	7/28/2001	8:20	380-Victor Valley Un	100-Trash	0.22	91
LAND USE PASS CUSTOMERS	Government	7/28/2001	8:21	380-Victor Valley Un	100-Trash	0.44	91
CASH CUSTOMERS	Customer	7/28/2001	8:23	304-Victorville	310-Construction/Dem	0.5	91
CASH CUSTOMERS	Customer	7/28/2001	8:25	303-Hesperia	310-Construction/Dem	1.09	92
CASH CUSTOMERS	Customer	7/28/2001	8:28	302-Apple Valley	200-Yard Waste	0.61	91
CASH CUSTOMERS	Customer	7/28/2001	8:38	303-Hesperia	200-Yard Waste	0.28	91
LAND USE PASS CUSTOMERS	Government	7/28/2001	8:41	344-Spring Valley La	200-Yard Waste	0.13	92
CASH CUSTOMERS	Customer	7/28/2001	8:45	303-Hesperia	100-Trash	0.13	92
CASH CUSTOMERS	Customer	7/28/2001	8:47	304-Victorville	200-Yard Waste	0.18	92
ADVANCE DISPOSAL CO	Customer	7/28/2001	8:49	303-Hesperia	310-Construction/Dem	11.13	92
VICTORVILLE DISPOSAL INC	Customer	7/28/2001	8:50	304-Victorville	100-Trash	3.28	91
LAND USE PASS CUSTOMERS	Government	7/28/2001	8:52	380-Victor Valley Un	100-Trash	0.25	91
LAND USE PASS CUSTOMERS	Government	7/28/2001	8:54	339-Oak Hills	100-Trash	0.26	91
CITY OF VICTORVILLE	Customer	7/28/2001	8:58	304-Victorville	100-Trash	11.11	91
CASH CUSTOMERS	Customer	7/28/2001	9:00	302-Apple Valley	200-Yard Waste	0.39	91
LAND USE PASS CUSTOMERS	Government	7/29/2001	8:08	380-Victor Valley Un	100-Trash	0.16	91
LAND USE PASS CUSTOMERS	Government	7/29/2001	8:09	340-Oro Grande	100-Trash	0.19	91
LAND USE PASS CUSTOMERS	Government	7/29/2001	8:10	338-Mtn. View Acers	100-Trash	0.26	91
CITY OF VICTORVILLE	Customer	7/29/2001	8:11	304-Victorville	100-Trash	11.03	91
CA DEPT OF TRANSPORT. DIST-8	Customer	7/29/2001	8:13	304-Victorville	210-Land Clearing	1.71	91
LAND USE PASS CUSTOMERS	Government	7/29/2001	8:15	344-Spring Valley La	100-Trash	0.08	91
CASH CUSTOMERS	Customer	7/29/2001	8:18	303-Hesperia	200-Yard Waste	0.79	91
LAND USE PASS CUSTOMERS	Government	7/29/2001	8:19	380-Victor Valley Un	100-Trash	0.26	91
LAND USE PASS CUSTOMERS	Government	7/29/2001	8:20	330-Baldy Mesa	100-Trash	0.18	91
LAND USE PASS CUSTOMERS	Government	7/29/2001	8:21	380-Victor Valley Un	100-Trash	0.12	91
LAND USE PASS CUSTOMERS	Government	7/29/2001	8:22	339-Oak Hills	100-Trash	0.81	91
CASH CUSTOMERS	Customer	7/29/2001	8:24	303-Hesperia	100-Trash	0.28	91
LAND USE PASS CUSTOMERS	Government	7/29/2001	8:30	380-Victor Valley Un	100-Trash	0.15	91
CASH CUSTOMERS	Customer	7/29/2001	8:31	304-Victorville	210-Land Clearing	0.63	91
LAND USE PASS CUSTOMERS	Government	7/29/2001	8:37	340-Oro Grande	100-Trash	0.54	91
CASH CUSTOMERS	Customer	7/29/2001	8:40	303-Hesperia	100-Trash	0.27	91
CASH CUSTOMERS	Customer	7/29/2001	8:48	302-Apple Valley	100-Trash	0.1	91
LAND USE PASS CUSTOMERS	Government	7/29/2001	8:50	338-Mtn. View Acers	100-Trash	0.16	91
ADVANCE DISPOSAL CO	Customer	7/29/2001	8:52	303-Hesperia	100-Trash	10.54	91

Victorville Landfill
AM Trips

Bill Acct Name	Customer Type	Date In	Time In	OT Label	MT Label	Net TN	Site Code
LAND USE PASS CUSTOMERS	Government	7/29/2001	8:52	380-Victor Valley Un	100-Trash	0.16	91
CASH CUSTOMERS	Customer	7/29/2001	8:54	303-Hesperia	200-Yard Waste	0.29	91
CASH CUSTOMERS	Customer	7/29/2001	8:56	302-Apple Valley	100-Trash	0.25	91
LAND USE PASS CUSTOMERS	Government	7/29/2001	9:00	336-Helendale	100-Trash	0.26	91
LAND USE PASS CUSTOMERS	Government	7/29/2001	9:00	338-Mtn. View Acers	100-Trash	0.18	91
VICTORVILLE DISPOSAL INC	Customer	7/30/2001	7:56	304-Victorville	100-Trash	1.9	92
CASH CUSTOMERS	Customer	7/30/2001	8:00	302-Apple Valley	100-Trash	0.21	92
VICTORVILLE DISPOSAL INC	Customer	7/30/2001	8:03	380-Victor Valley Un	100-Trash	4.01	92
ADVANCE DISPOSAL CO	Customer	7/30/2001	8:08	303-Hesperia	100-Trash	6.46	91
CASH CUSTOMERS	Customer	7/30/2001	8:10	303-Hesperia	200-Yard Waste	0.24	91
LAND USE PASS CUSTOMERS	Government	7/30/2001	8:12	380-Victor Valley Un	100-Trash	0.24	91
CASH CUSTOMERS	Customer	7/30/2001	8:14	343-Silver Lakes	100-Trash	0.16	91
CITY OF ADELANTO	Customer	7/30/2001	8:16	301-Adelanto	100-Trash	7.08	92
CASH CUSTOMERS	Customer	7/30/2001	8:20	304-Victorville	200-Yard Waste	1.66	92
ADVANCE DISPOSAL CO	Customer	7/30/2001	8:22	303-Hesperia	100-Trash	6.22	92
CASH CUSTOMERS	Customer	7/30/2001	8:25	302-Apple Valley	310-Construction/Dem	0.43	91
CASH CUSTOMERS	Customer	7/30/2001	8:27	302-Apple Valley	100-Trash	0.17	92
LAND USE PASS CUSTOMERS	Government	7/30/2001	8:28	380-Victor Valley Un	100-Trash	0.26	91
CASH CUSTOMERS	Customer	7/30/2001	8:31	302-Apple Valley	310-Construction/Dem	2.01	92
LAND USE PASS CUSTOMERS	Government	7/30/2001	8:31	380-Victor Valley Un	100-Trash	0.16	91
ADVANCE DISPOSAL CO	Customer	7/30/2001	8:33	303-Hesperia	100-Trash	5.84	91
LAND USE PASS CUSTOMERS	Government	7/30/2001	8:33	338-Mtn. View Acers	100-Trash	0.23	91
VICTORVILLE DISPOSAL INC	Customer	7/30/2001	8:33	343-Silver Lakes	100-Trash	8.19	92
CITY OF VICTORVILLE	Customer	7/30/2001	8:35	304-Victorville	100-Trash	3.49	92
ADVANCE DISPOSAL CO	Customer	7/30/2001	8:38	303-Hesperia	100-Trash	7.58	92
CASH CUSTOMERS	Customer	7/30/2001	8:39	302-Apple Valley	200-Yard Waste	0.3	91
ADVANCE DISPOSAL CO	Customer	7/30/2001	8:44	339-Oak Hills	100-Trash	11.13	91
LAND USE PASS CUSTOMERS	Government	7/30/2001	8:44	380-Victor Valley Un	100-Trash	0.11	92
CASH CUSTOMERS	Customer	7/30/2001	8:46	303-Hesperia	310-Construction/Dem	0.74	91
TOWN OF APPLE VALLEY	Customer	7/30/2001	8:47	302-Apple Valley	100-Trash	3.15	91
VICTORVILLE DISPOSAL INC	Customer	7/30/2001	8:48	304-Victorville	100-Trash	2.3	92
CASH CUSTOMERS	Customer	7/30/2001	8:50	304-Victorville	310-Construction/Dem	1.88	91
SPRING VALLEY LAKE ASSOC.	Customer	7/30/2001	8:50	344-Spring Valley La	220-Other Organic	0.16	92
CASH CUSTOMERS	Customer	7/30/2001	8:56	302-Apple Valley	200-Yard Waste	0.48	91
CASH CUSTOMERS	Customer	7/30/2001	9:00	304-Victorville	100-Trash	0.42	92
VICTORVILLE DISPOSAL INC	Customer	7/31/2001	7:55	301-Adelanto	100-Trash	1.59	92
CASH CUSTOMERS	Customer	7/31/2001	7:57	302-Apple Valley	310-Construction/Dem	0.72	92
ATLAS CONSTRUCTION	Customer	7/31/2001	7:58	302-Apple Valley	310-Construction/Dem	0.83	92
CASH CUSTOMERS	Customer	7/31/2001	8:00	302-Apple Valley	200-Yard Waste	0.22	92
LAND USE PASS CUSTOMERS	Government	7/31/2001	8:02	380-Victor Valley Un	100-Trash	0.32	92
CASH CUSTOMERS	Customer	7/31/2001	8:04	303-Hesperia	100-Trash	0.41	92

Victorville Landfill
AM Trips

Bill Acct Name	Customer Type	Date In	Time In	OT Label	MT Label	Net TN	Site Code
BURRTEC RECYCLING & TNSFR	Customer	7/31/2001	8:07	302-Apple Valley	100-Trash	3.86	92
CASH CUSTOMERS	Customer	7/31/2001	8:09	303-Hesperia	310-Construction/Dem	2.04	92
CASH CUSTOMERS	Customer	7/31/2001	8:11	303-Hesperia	310-Construction/Dem	0.73	92
CASH CUSTOMERS	Customer	7/31/2001	8:12	302-Apple Valley	100-Trash	0.14	91
CASH CUSTOMERS	Customer	7/31/2001	8:12	302-Apple Valley	100-Trash	0.13	92
CITY OF VICTORVILLE	Customer	7/31/2001	8:13	304-Victorville	100-Trash	11.66	91
CASH CUSTOMERS	Customer	7/31/2001	8:15	302-Apple Valley	200-Yard Waste	0.65	91
TOWN OF APPLE VALLEY	Customer	7/31/2001	8:16	302-Apple Valley	100-Trash	3.54	92
CITY OF VICTORVILLE	Customer	7/31/2001	8:20	304-Victorville	100-Trash	6.76	91
LAND USE PASS CUSTOMERS	Government	7/31/2001	8:22	339-Oak Hills	100-Trash	0.18	91
TOWN OF APPLE VALLEY	Customer	7/31/2001	8:24	302-Apple Valley	100-Trash	8.36	91
CITY OF VICTORVILLE	Customer	7/31/2001	8:28	304-Victorville	100-Trash	13.34	91
CASH CUSTOMERS	Customer	7/31/2001	8:37	302-Apple Valley	200-Yard Waste	0.22	92
CITY OF ADELANTO	Customer	7/31/2001	8:40	301-Adelanto	100-Trash	8.52	91
CITY OF VICTORVILLE	Customer	7/31/2001	8:42	304-Victorville	100-Trash	2.99	91
CASH CUSTOMERS	Customer	7/31/2001	8:43	302-Apple Valley	310-Construction/Dem	1.42	92
CASH CUSTOMERS	Customer	7/31/2001	8:44	302-Apple Valley	310-Construction/Dem	2.46	91
HEAPS PEAK TRANSFER	Norcal	7/31/2001	8:49	2100-Phelan TS	100-Trash	24.72	91
ADVANCE DISPOSAL CO	Customer	7/31/2001	8:52	303-Hesperia	100-Trash	9.96	92
CASH CUSTOMERS	Customer	7/31/2001	8:54	303-Hesperia	310-Construction/Dem	7.47	92
CASH CUSTOMERS	Customer	7/31/2001	8:56	304-Victorville	200-Yard Waste	0.27	91
CASH CUSTOMERS	Customer	7/31/2001	8:58	304-Victorville	310-Construction/Dem	1.28	91

	Trips	Days
Total Two Way Trips	**1618**	30
AM Peak Daily Average	**54**	
8-9 two way trips		

Data was reviewed and the average vehicles entering site was reduce by 7, to adjust data for the trips before 8:00 AM and after 8:30 AM.

Victorville Landfill
PCE Calculations

Bill Acct Name	Customer Type	Date In	Time In	OT Label	MT Label	Net TN	Site Code	PCE Factor	Existing Project Trips In PCE's
CASH CUSTOMERS	Customer	7/1/2001	15:56	302-Apple Valley	200-Yard Waste	0.21	91	1	2
LAND USE PASS CUSTOMERS	Government	7/1/2001	15:37	380-Victor Valley Un	100-Trash	0.21	91	1	2
LAND USE PASS CUSTOMERS	Government	7/1/2001	15:21	380-Victor Valley Un	100-Trash	0.23	91	1	2
LAND USE PASS CUSTOMERS	Government	7/1/2001	15:08	380-Victor Valley Un	100-Trash	0.24	91	1	2
CASH CUSTOMERS	Customer	7/1/2001	15:14	302-Apple Valley	200-Yard Waste	0.25	91	1	2
CASH CUSTOMERS	Customer	7/1/2001	15:44	302-Apple Valley	100-Trash	0.26	91	1	2
CASH CUSTOMERS	Customer	7/1/2001	15:49	302-Apple Valley	100-Trash	0.28	91	1	2
CASH CUSTOMERS	Customer	7/1/2001	15:05	380-Victor Valley Un	100-Trash	0.30	91	1	2
CASH CUSTOMERS	Customer	7/1/2001	15:15	303-Hesperia	100-Trash	0.30	91	1	2
LAND USE PASS CUSTOMERS	Government	7/1/2001	15:51	380-Victor Valley Un	100-Trash	0.32	91	1	2
CASH CUSTOMERS	Customer	7/1/2001	15:23	302-Apple Valley	310-Construction/Dem	0.40	91	1	2
CASH CUSTOMERS	Customer	7/1/2001	15:39	304-Victorville	310-Construction/Dem	0.42	92	1	2
CASH CUSTOMERS	Customer	7/1/2001	15:10	303-Hesperia	310-Construction/Dem	0.64	92	1	2
LAND USE PASS CUSTOMERS	Government	7/1/2001	15:20	380-Victor Valley Un	200-Yard Waste	0.76	91	1	2
CASH CUSTOMERS	Customer	7/1/2001	15:27	302-Apple Valley	100-Trash	0.86	91	1	2
CASH CUSTOMERS	Customer	7/1/2001	15:31	303-Hesperia	100-Trash	1.09	92	2	4
									34
CASH CUSTOMERS	Customer	7/2/2001	15:21	303-Hesperia	100-Trash	0.11	91	1	2
LAND USE PASS CUSTOMERS	Government	7/2/2001	15:13	340-Oro Grande	100-Trash	0.14	91	1	2
CASH CUSTOMERS	Customer	7/2/2001	15:20	302-Apple Valley	310-Construction/Dem	0.43	91	1	2
CASH CUSTOMERS	Customer	7/2/2001	15:25	302-Apple Valley	210-Land Clearing	0.63	91	1	2
LAND USE PASS CUSTOMERS	Government	7/2/2001	15:56	337-Lucerne Valley	100-Trash	0.70	91	1	2
CASH CUSTOMERS	Customer	7/2/2001	15:44	304-Victorville	310-Construction/Dem	1.16	91	2	4
CASH CUSTOMERS	Customer	7/2/2001	15:28	304-Victorville	310-Construction/Dem	1.85	91	2	4
CITY OF ADELANTO	Customer	7/2/2001	15:39	301-Adelanto	100-Trash	5.97	91	2	4
CITY OF VICTORVILLE	Customer	7/2/2001	15:08	304-Victorville	100-Trash	8.70	91	2	4
VICTORVILLE DISPOSAL INC	Customer	7/2/2001	15:05	301-Adelanto	100-Trash	10.94	91	2	4
TOWN OF APPLE VALLEY	Customer	7/2/2001	15:22	302-Apple Valley	100-Trash	11.08	91	2	4
ADVANCE DISPOSAL CO	Customer	7/2/2001	15:33	380-Victor Valley Un	100-Trash	17.07	91	2	4
									38
LAND USE PASS CUSTOMERS	Government	7/3/2001	15:19	380-Victor Valley Un	100-Trash	0.06	92	1	2
CASH CUSTOMERS	Customer	7/3/2001	15:01	301-Adelanto	200-Yard Waste	0.07	92	1	2
CASH CUSTOMERS	Customer	7/3/2001	15:55	302-Apple Valley	310-Construction/Dem	0.13	92	1	2
CASH CUSTOMERS	Customer	7/3/2001	15:34	344-Spring Valley La	210-Land Clearing	0.18	92	1	2
CASH CUSTOMERS	Customer	7/3/2001	15:28	302-Apple Valley	100-Trash	0.23	92	1	2
CASH CUSTOMERS	Customer	7/3/2001	15:31	303-Hesperia	100-Trash	0.27	92	1	2
CASH CUSTOMERS	Customer	7/3/2001	15:16	301-Adelanto	100-Trash	0.29	92	1	2

Victorville Landfill
PCE Calculations

Bill Acct Name	Customer Type	Date In	Time In	OT Label	MT Label	Net TN	Site Code	PCE Factor	Existing Project Trips In PCE's
CASH CUSTOMERS	Customer	7/3/2001	15:22	304-Victorville	200-Yard Waste	0.29	92	1	2
CASH CUSTOMERS	Customer	7/3/2001	15:37	302-Apple Valley	310-Construction/Dem	0.31	92	1	2
LAND USE PASS CUSTOMERS	Government	7/3/2001	15:52	380-Victor Valley Un	100-Trash	0.38	92	1	2
CASH CUSTOMERS	Customer	7/3/2001	15:26	304-Victorville	100-Trash	0.46	92	1	2
CASH CUSTOMERS	Customer	7/3/2001	15:14	304-Victorville	200-Yard Waste	0.51	92	1	2
CASH CUSTOMERS	Customer	7/3/2001	15:41	302-Apple Valley	310-Construction/Dem	0.86	92	1	2
CASH CUSTOMERS	Customer	7/3/2001	15:57	304-Victorville	300-Solid Fill	0.92	92	1	2
CASH CUSTOMERS	Customer	7/3/2001	15:39	303-Hesperia	100-Trash	0.93	92	1	2
CASH CUSTOMERS	Customer	7/3/2001	15:10	344-Spring Valley La	310-Construction/Dem	1.09	92	2	4
CASH CUSTOMERS	Customer	7/3/2001	15:45	302-Apple Valley	300-Solid Fill	1.47	92	2	4
CITY OF VICTORVILLE	Customer	7/3/2001	15:53	304-Victorville	100-Trash	1.79	92	2	4
CITY OF ADELANTO	Customer	7/3/2001	15:12	301-Adelanto	100-Trash	4.53	92	2	4
CITY OF ADELANTO	Customer	7/3/2001	15:07	301-Adelanto	100-Trash	9.27	92	2	4
CITY OF VICTORVILLE	Customer	7/3/2001	15:43	304-Victorville	100-Trash	9.53	92	2	4
CITY OF VICTORVILLE	Customer	7/3/2001	15:23	304-Victorville	100-Trash	12.54	92	2	4
ADVANCE DISPOSAL CO	Customer	7/3/2001	15:20	380-Victor Valley Un	100-Trash	15.86	92	2	4
HEAPS PEAK TRANSFER	Norcal	7/3/2001	15:49	2100-Phelan TS	100-Trash	25.17	92	3	6
									68
CASH CUSTOMERS	Customer	7/5/2001	15:20	302-Apple Valley	100-Trash	0.10	92	1	2
CASH CUSTOMERS	Customer	7/5/2001	15:31	304-Victorville	100-Trash	0.13	92	1	2
CASH CUSTOMERS	Customer	7/5/2001	15:07	304-Victorville	100-Trash	0.14	92	1	2
LAND USE PASS CUSTOMERS	Government	7/5/2001	15:54	339-Oak Hills	100-Trash	0.14	92	1	2
LAND USE PASS CUSTOMERS	Government	7/5/2001	15:55	380-Victor Valley Un	100-Trash	0.15	91	1	2
CASH CUSTOMERS	Customer	7/5/2001	15:15	302-Apple Valley	100-Trash	0.17	91	1	2
LAND USE PASS CUSTOMERS	Government	7/5/2001	15:38	338-Mtn. View Acers	100-Trash	0.19	91	1	2
LAND USE PASS CUSTOMERS	Government	7/5/2001	15:25	380-Victor Valley Un	100-Trash	0.21	91	1	2
LAND USE PASS CUSTOMERS	Government	7/5/2001	15:34	339-Oak Hills	100-Trash	0.24	91	1	2
LAND USE PASS CUSTOMERS	Government	7/5/2001	15:48	339-Oak Hills	100-Trash	0.25	91	1	2
CASH CUSTOMERS	Customer	7/5/2001	15:41	344-Spring Valley La	100-Trash	0.28	92	1	2
LAND USE PASS CUSTOMERS	Government	7/5/2001	15:38	343-Silver Lakes	100-Trash	0.47	92	1	2
CASH CUSTOMERS	Customer	7/5/2001	15:13	302-Apple Valley	100-Trash	0.56	92	1	2
CASH CUSTOMERS	Customer	7/5/2001	15:37	302-Apple Valley	310-Construction/Dem	0.64	92	1	2
CASH CUSTOMERS	Customer	7/5/2001	15:03	380-Victor Valley Un	310-Construction/Dem	0.89	92	1	2
CASH CUSTOMERS	Customer	7/5/2001	15:40	303-Hesperia	100-Trash	1.16	92	2	4
CASH CUSTOMERS	Customer	7/5/2001	15:44	302-Apple Valley	310-Construction/Dem	1.20	92	2	4
LAND USE PASS CUSTOMERS	Government	7/5/2001	15:52	380-Victor Valley Un	100-Trash	1.46	91	2	4
TOWN OF APPLE VALLEY	Customer	7/5/2001	15:29	302-Apple Valley	100-Trash	3.51	91	2	4
TOWN OF APPLE VALLEY	Customer	7/5/2001	15:06	302-Apple Valley	100-Trash	3.71	92	2	4
VICTORVILLE DISPOSAL INC	Customer	7/5/2001	15:46	380-Victor Valley Un	100-Trash	3.89	91	2	4

Victorville Landfill
PCE Calculations

Bill Acct Name	Customer Type	Date In	Time In	OT Label	MT Label	Net TN	Site Code	PCE Factor	Existing Project Trips In PCE's
TOWN OF APPLE VALLEY	Customer	7/5/2001	15:18	302-Apple Valley	100-Trash	4.55	91	2	4
CITY OF VICTORVILLE	Customer	7/5/2001	15:22	304-Victorville	100-Trash	6.42	91	2	4
VICTORVILLE DISPOSAL INC	Customer	7/5/2001	15:42	301-Adelanto	100-Trash	6.78	91	2	4
CITY OF VICTORVILLE	Customer	7/5/2001	15:08	304-Victorville	100-Trash	7.11	91	2	4
VICTORVILLE DISPOSAL INC	Customer	7/5/2001	15:17	336-Helendale	100-Trash	7.30	92	2	4
VICTORVILLE DISPOSAL INC	Customer	7/5/2001	15:31	338-Mtn. View Acers	100-Trash	7.89	91	2	4
BURRTEC RECYCLING & TNSFR	Customer	7/5/2001	15:03	304-Victorville	100-Trash	8.40	91	2	4
VICTORVILLE DISPOSAL INC	Customer	7/5/2001	15:23	337-Lucerne Valley	100-Trash	10.98	91	2	4
YEGHOIAN ROBERT R CO INC	Customer	7/5/2001	15:20	302-Apple Valley	310-Construction/Dem	11.71	91	2	4
HEAPS PEAK TRANSFER	Norcal	7/5/2001	15:25	2100-Phelan TS	100-Trash	24.99	92	3	6
									96
CASH CUSTOMERS	Customer	7/6/2001	15:13	302-Apple Valley	100-Trash	0.16	91	1	2
CASH CUSTOMERS	Customer	7/6/2001	15:34	302-Apple Valley	100-Trash	0.20	91	1	2
CASH CUSTOMERS	Customer	7/6/2001	15:02	301-Adelanto	100-Trash	0.22	92	1	2
CASH CUSTOMERS	Customer	7/6/2001	15:59	304-Victorville	100-Trash	0.22	91	1	2
CASH CUSTOMERS	Customer	7/6/2001	15:15	304-Victorville	210-Land Clearing	0.23	91	1	2
CASH CUSTOMERS	Customer	7/6/2001	15:04	303-Hesperia	100-Trash	0.24	91	1	2
LAND USE PASS CUSTOMERS	Government	7/6/2001	15:41	340-Oro Grande	100-Trash	0.26	91	1	2
LAND USE PASS CUSTOMERS	Government	7/6/2001	15:40	380-Victor Valley Un	200-Yard Waste	0.27	91	1	2
CASH CUSTOMERS	Customer	7/6/2001	15:39	304-Victorville	100-Trash	0.30	92	1	2
CASH CUSTOMERS	Customer	7/6/2001	15:59	303-Hesperia	100-Trash	0.34	92	1	2
CASH CUSTOMERS	Customer	7/6/2001	15:52	302-Apple Valley	100-Trash	0.41	92	1	2
CASH CUSTOMERS	Customer	7/6/2001	15:20	302-Apple Valley	310-Construction/Dem	0.66	92	1	2
CASH CUSTOMERS	Customer	7/6/2001	15:08	330-Baldy Mesa	200-Yard Waste	0.70	92	1	2
CASH CUSTOMERS	Customer	7/6/2001	15:33	302-Apple Valley	310-Construction/Dem	0.76	92	1	2
CASH CUSTOMERS	Customer	7/6/2001	15:17	304-Victorville	310-Construction/Dem	0.77	92	1	2
LAND USE PASS CUSTOMERS	Government	7/6/2001	15:38	338-Mtn. View Acers	100-Trash	0.79	91	1	2
CITY OF VICTORVILLE	Customer	7/6/2001	15:18	304-Victorville	100-Trash	0.82	91	1	2
CASH CUSTOMERS	Customer	7/6/2001	15:12	304-Victorville	100-Trash	0.90	92	1	2
VICTORVILLE DISPOSAL INC	Customer	7/6/2001	15:37	301-Adelanto	100-Trash	1.23	92	2	4
CASH CUSTOMERS	Customer	7/6/2001	15:42	302-Apple Valley	310-Construction/Dem	1.28	91	2	4
CASH CUSTOMERS	Customer	7/6/2001	15:26	303-Hesperia	310-Construction/Dem	1.30	92	2	4
CASH CUSTOMERS	Customer	7/6/2001	15:45	303-Hesperia	310-Construction/Dem	1.57	91	2	4
CASH CUSTOMERS	Customer	7/6/2001	15:57	303-Hesperia	310-Construction/Dem	1.74	92	2	4
CITY OF VICTORVILLE	Customer	7/6/2001	15:50	304-Victorville	100-Trash	2.07	92	2	4
VICTORVILLE DISPOSAL INC	Customer	7/6/2001	15:32	302-Apple Valley	100-Trash	3.10	91	2	4
CITY OF VICTORVILLE	Customer	7/6/2001	15:48	304-Victorville	100-Trash	6.93	91	2	4
VICTORVILLE DISPOSAL INC	Customer	7/6/2001	15:03	337-Lucerne Valley	100-Trash	8.78	91	2	4
TOWN OF APPLE VALLEY	Customer	7/6/2001	15:09	302-Apple Valley	100-Trash	9.32	92	2	4

Victorville Landfill
PCE Calculations

Bill Acct Name	Customer Type	Date In	Time In	OT Label	MT Label	Net TN	Site Code	PCE Factor	Existing Project Trips in PCE's
VICTORVILLE DISPOSAL INC	Customer	7/6/2001	15:21	380-Victor Valley Un	100-Trash	9.79	92	2	4
ADVANCE DISPOSAL CO	Customer	7/6/2001	15:05	303-Hesperia	100-Trash	11.87	91	2	4
ADVANCE DISPOSAL CO	Customer	7/6/2001	15:29	303-Hesperia	100-Trash	15.83	91	2	4
									88
CASH CUSTOMERS	Customer	7/7/2001	15:07	302-Apple Valley	200-Yard Waste	0.10	92	1	2
LAND USE PASS CUSTOMERS	Government	7/7/2001	15:02	338-Mtn. View Acers	100-Trash	0.10	92	1	2
LAND USE PASS CUSTOMERS	Government	7/7/2001	15:46	439-Yermo	100-Trash	0.12	92	1	2
LAND USE PASS CUSTOMERS	Government	7/7/2001	15:49	380-Victor Valley Un	100-Trash	0.18	91	1	2
CASH CUSTOMERS	Customer	7/7/2001	15:19	302-Apple Valley	100-Trash	0.20	91	1	2
LAND USE PASS CUSTOMERS	Government	7/7/2001	15:26	339-Oak Hills	100-Trash	0.20	92	1	2
LAND USE PASS CUSTOMERS	Government	7/7/2001	15:58	344-Spring Valley La	100-Trash	0.22	91	1	2
CASH CUSTOMERS	Customer	7/7/2001	15:33	304-Victorville	100-Trash	0.25	91	1	2
CASH CUSTOMERS	Customer	7/7/2001	15:44	302-Apple Valley	100-Trash	0.25	91	1	2
CASH CUSTOMERS	Customer	7/7/2001	15:08	304-Victorville	200-Yard Waste	0.25	91	1	2
CASH CUSTOMERS	Customer	7/7/2001	15:02	304-Victorville	100-Trash	0.26	91	1	2
CASH CUSTOMERS	Customer	7/7/2001	15:22	302-Apple Valley	100-Trash	0.26	91	1	2
LAND USE PASS CUSTOMERS	Government	7/7/2001	15:06	336-Helendale	200-Yard Waste	0.27	92	1	2
CASH CUSTOMERS	Customer	7/7/2001	15:13	303-Hesperia	100-Trash	0.30	91	1	2
CASH CUSTOMERS	Customer	7/7/2001	15:38	303-Hesperia	200-Yard Waste	0.30	91	1	2
CASH CUSTOMERS	Customer	7/7/2001	15:10	304-Victorville	310-Construction/Dem	0.34	92	1	2
CASH CUSTOMERS	Customer	7/7/2001	15:00	303-Hesperia	100-Trash	0.35	91	1	2
CASH CUSTOMERS	Customer	7/7/2001	15:45	304-Victorville	210-Land Clearing	0.38	92	1	2
CASH CUSTOMERS	Customer	7/7/2001	15:06	303-Hesperia	100-Trash	0.39	92	1	2
CASH CUSTOMERS	Customer	7/7/2001	15:59	304-Victorville	100-Trash	0.41	91	1	2
LAND USE PASS CUSTOMERS	Government	7/7/2001	15:52	338-Mtn. View Acers	200-Yard Waste	0.50	91	1	2
CASH CUSTOMERS	Customer	7/7/2001	15:24	303-Hesperia	100-Trash	0.55	91	1	2
LAND USE PASS CUSTOMERS	Government	7/7/2001	15:23	380-Victor Valley Un	100-Trash	0.55	92	1	2
CASH CUSTOMERS	Customer	7/7/2001	15:40	304-Victorville	210-Land Clearing	0.56	92	1	2
CASH CUSTOMERS	Customer	7/7/2001	15:34	304-Victorville	310-Construction/Dem	0.59	91	1	2
CASH CUSTOMERS	Customer	7/7/2001	15:58	304-Victorville	100-Trash	0.73	91	1	2
CASH CUSTOMERS	Customer	7/7/2001	15:56	303-Hesperia	310-Construction/Dem	0.75	91	1	2
CASH CUSTOMERS	Customer	7/7/2001	15:04	302-Apple Valley	310-Construction/Dem	0.84	91	1	2
CASH CUSTOMERS	Customer	7/7/2001	15:26	304-Victorville	100-Trash	1.94	91	2	4
ADVANCE DISPOSAL CO	Customer	7/7/2001	15:33	303-Hesperia	100-Trash	3.13	92	2	4
VICTORVILLE DISPOSAL INC	Customer	7/7/2001	15:58	304-Victorville	100-Trash	3.75	92	2	4
CITY OF VICTORVILLE	Customer	7/7/2001	15:47	304-Victorville	100-Trash	3.92	92	2	4
CITY OF VICTORVILLE	Customer	7/7/2001	15:36	304-Victorville	100-Trash	5.32	92	2	4
CITY OF VICTORVILLE	Customer	7/7/2001	15:20	304-Victorville	100-Trash	5.71	91	2	4
VICTORVILLE DISPOSAL INC	Customer	7/7/2001	15:35	304-Victorville	100-Trash	7.64	92	2	4

Victorville Landfill
PCE Calculations

Bill Acct Name	Customer Type	Date In	Time In	OT Label	MT Label	Net TN	Site Code	PCE Factor	Existing Project Trips In PCE's
CITY OF VICTORVILLE	Customer	7/7/2001	15:16	304-Victorville	100-Trash	8.04	91	2	4
TOWN OF APPLE VALLEY	Customer	7/7/2001	15:29	302-Apple Valley	100-Trash	10.83	91	2	4
CITY OF ADELANTO	Customer	7/7/2001	15:35	301-Adelanto	100-Trash	12.09	91	2	4
									96
LAND USE PASS CUSTOMERS	Government	7/8/2001	15:10	303-Hesperia	100-Trash	0.08	92	1	2
CASH CUSTOMERS	Customer	7/8/2001	15:04	304-Victorville	100-Trash	0.14	92	1	2
CASH CUSTOMERS	Customer	7/8/2001	15:46	302-Apple Valley	200-Yard Waste	0.19	91	1	2
LAND USE PASS CUSTOMERS	Government	7/8/2001	15:22	380-Victor Valley Un	100-Trash	0.19	91	1	2
CASH CUSTOMERS	Customer	7/8/2001	15:27	302-Apple Valley	100-Trash	0.20	91	1	2
LAND USE PASS CUSTOMERS	Government	7/8/2001	15:02	380-Victor Valley Un	100-Trash	0.21	92	1	2
CASH CUSTOMERS	Customer	7/8/2001	15:35	304-Victorville	100-Trash	0.23	92	1	2
CASH CUSTOMERS	Customer	7/8/2001	15:15	304-Victorville	100-Trash	0.25	92	1	2
CASH CUSTOMERS	Customer	7/8/2001	15:32	380-Victor Valley Un	200-Yard Waste	0.29	92	1	2
CASH CUSTOMERS	Customer	7/8/2001	15:59	303-Hesperia	310-Construction/Dem	0.30	91	1	2
CASH CUSTOMERS	Customer	7/8/2001	15:58	304-Victorville	200-Yard Waste	0.35	92	1	2
CASH CUSTOMERS	Customer	7/8/2001	15:54	303-Hesperia	100-Trash	0.46	92	1	2
CASH CUSTOMERS	Customer	7/8/2001	15:00	304-Victorville	200-Yard Waste	0.51	91	1	2
CASH CUSTOMERS	Customer	7/8/2001	15:14	302-Apple Valley	100-Trash	0.56	91	1	2
LAND USE PASS CUSTOMERS	Government	7/8/2001	15:50	337-Lucerne Valley	100-Trash	0.62	92	1	2
LAND USE PASS CUSTOMERS	Government	7/8/2001	15:43	337-Lucerne Valley	100-Trash	0.63	91	1	2
CASH CUSTOMERS	Customer	7/8/2001	15:32	302-Apple Valley	200-Yard Waste	1.04	91	2	4
									36
LAND USE PASS CUSTOMERS	Government	7/9/2001	15:08	380-Victor Valley Un	100-Trash	0.06	91	1	2
LAND USE PASS CUSTOMERS	Government	7/9/2001	15:13	338-Mtn. View Acers	100-Trash	0.19	91	1	2
CASH CUSTOMERS	Customer	7/9/2001	15:16	304-Victorville	100-Trash	0.21	92	1	2
LAND USE PASS CUSTOMERS	Government	7/9/2001	15:46	343-Silver Lakes	100-Trash	0.21	92	1	2
LAND USE PASS CUSTOMERS	Government	7/9/2001	15:58	380-Victor Valley Un	100-Trash	0.23	91	1	2
CASH CUSTOMERS	Customer	7/9/2001	15:47	303-Hesperia	100-Trash	0.25	91	1	2
LAND USE PASS CUSTOMERS	Government	7/9/2001	15:01	380-Victor Valley Un	100-Trash	0.27	91	1	2
LAND USE PASS CUSTOMERS	Government	7/9/2001	15:35	336-Helendale	100-Trash	0.27	91	1	2
CASH CUSTOMERS	Customer	7/9/2001	15:20	304-Victorville	200-Yard Waste	0.29	92	1	2
CASH CUSTOMERS	Customer	7/9/2001	15:39	302-Apple Valley	200-Yard Waste	0.30	91	1	2
CASH CUSTOMERS	Customer	7/9/2001	15:06	304-Victorville	100-Trash	0.32	92	1	2
CASH CUSTOMERS	Customer	7/9/2001	15:12	304-Victorville	310-Construction/Dem	0.37	92	1	2
CASH CUSTOMERS	Customer	7/9/2001	15:04	302-Apple Valley	200-Yard Waste	0.45	92	1	2
LAND USE PASS CUSTOMERS	Government	7/9/2001	15:38	337-Lucerne Valley	100-Trash	0.95	92	1	2
CASH CUSTOMERS	Customer	7/9/2001	15:43	304-Victorville	210-Land Clearing	1.01	91	2	4

Victorville Landfill
PCE Calculations

Bill Acct Name	Customer Type	Date In	Time In	OT Label	MT Label	Net TN	Site Code	PCE Factor	Existing Project Trips in PCE's
VICTORVILLE DISPOSAL INC	Customer	7/9/2001	15:56	301-Adelanto	100-Trash	1.51	92	2	4
TOWN OF APPLE VALLEY	Customer	7/9/2001	15:37	302-Apple Valley	100-Trash	1.96	91	2	4
CASH CUSTOMERS	Customer	7/9/2001	15:46	302-Apple Valley	100-Trash	1.97	92	2	4
CASH CUSTOMERS	Customer	7/9/2001	15:24	302-Apple Valley	100-Trash	2.23	92	2	4
TOWN OF APPLE VALLEY	Customer	7/9/2001	15:50	302-Apple Valley	100-Trash	7.28	92	2	4
BURRTEC RECYCLING & TNSFR	Customer	7/9/2001	15:05	302-Apple Valley	100-Trash	7.95	92	2	4
CITY OF VICTORVILLE	Customer	7/9/2001	15:02	304-Victorville	100-Trash	8.09	92	2	4
CITY OF ADELANTO	Customer	7/9/2001	15:26	301-Adelanto	100-Trash	8.73	91	2	4
VICTORVILLE DISPOSAL INC	Customer	7/9/2001	15:29	343-Silver Lakes	100-Trash	9.62	92	2	4
ADVANCE DISPOSAL CO	Customer	7/9/2001	15:56	303-Hesperia	100-Trash	13.21	91	2	4
ADVANCE DISPOSAL CO	Customer	7/9/2001	15:27	303-Hesperia	100-Trash	13.50	92	2	4
HEAPS PEAK TRANSFER	Norcal	7/9/2001	15:19	2100-Phelan TS	100-Trash	24.20	91	3	6
									82
CASH CUSTOMERS	Customer	7/10/2001	15:30	304-Victorville	200-Yard Waste	0.10	91	1	2
LAND USE PASS CUSTOMERS	Government	7/10/2001	15:00	343-Silver Lakes	100-Trash	0.16	92	1	2
CASH CUSTOMERS	Customer	7/10/2001	15:50	304-Victorville	200-Yard Waste	0.29	92	1	2
CASH CUSTOMERS	Customer	7/10/2001	15:35	304-Victorville	310-Construction/Dem	0.30	92	1	2
CASH CUSTOMERS	Customer	7/10/2001	15:50	302-Apple Valley	100-Trash	0.35	92	1	2
CASH CUSTOMERS	Customer	7/10/2001	15:04	338-Mtn. View Acers	310-Construction/Dem	0.49	92	1	2
CASH CUSTOMERS	Customer	7/10/2001	15:13	343-Silver Lakes	200-Yard Waste	0.52	92	1	2
CASH CUSTOMERS	Customer	7/10/2001	15:42	338-Mtn. View Acers	210-Land Clearing	0.56	92	1	2
LAND USE PASS CUSTOMERS	Government	7/10/2001	15:25	339-Oak Hills	100-Trash	1.60	91	2	4
CITY OF VICTORVILLE	Customer	7/10/2001	15:10	304-Victorville	100-Trash	2.36	92	2	4
CITY OF VICTORVILLE	Customer	7/10/2001	15:42	304-Victorville	100-Trash	4.00	91	2	4
CASH CUSTOMERS	Customer	7/10/2001	15:46	302-Apple Valley	310-Construction/Dem	4.86	91	2	4
CITY OF ADELANTO	Customer	7/10/2001	15:55	301-Adelanto	100-Trash	6.82	92	2	4
CITY OF VICTORVILLE	Customer	7/10/2001	15:55	304-Victorville	100-Trash	6.93	91	2	4
CITY OF VICTORVILLE	Customer	7/10/2001	15:10	304-Victorville	100-Trash	7.77	91	2	4
CITY OF ADELANTO	Customer	7/10/2001	15:21	301-Adelanto	100-Trash	9.77	91	2	4
CITY OF VICTORVILLE	Customer	7/10/2001	15:12	304-Victorville	100-Trash	11.74	91	2	4
VICTORVILLE DISPOSAL INC	Customer	7/10/2001	15:08	343-Silver Lakes	100-Trash	11.96	92	2	4
TOWN OF APPLE VALLEY	Customer	7/10/2001	15:18	302-Apple Valley	100-Trash	12.06	92	2	4
ADVANCE DISPOSAL CO	Customer	7/10/2001	15:33	303-Hesperia	100-Trash	13.85	92	2	4
HEAPS PEAK TRANSFER	Norcal	7/10/2001	15:26	2100-Phelan TS	100-Trash	24.90	92	3	6
									70
CASH CUSTOMERS	Customer	7/11/2001	15:34	301-Adelanto	100-Trash	0.06	91	1	2
CASH CUSTOMERS	Customer	7/11/2001	15:18	304-Victorville	100-Trash	0.14	92	1	2

Victorville Landfill
PCE Calculations

Bill Acct Name	Customer Type	Date In	Time In	OT Label	MT Label	Net TN	Site Code	PCE Factor	Existing Project Trips in PCE's
CASH CUSTOMERS	Customer	7/11/2001	15:24	303-Hesperia	100-Trash	0.14	92	1	2
LAND USE PASS CUSTOMERS	Government	7/11/2001	15:06	304-Victorville	100-Trash	0.17	91	1	2
CASH CUSTOMERS	Customer	7/11/2001	15:07	303-Hesperia	100-Trash	0.25	92	1	2
CASH CUSTOMERS	Customer	7/11/2001	15:46	303-Hesperia	100-Trash	0.33	91	1	2
CASH CUSTOMERS	Customer	7/11/2001	15:17	304-Victorville	200-Yard Waste	0.39	92	1	2
CASH CUSTOMERS	Customer	7/11/2001	15:24	304-Victorville	100-Trash	0.42	92	1	2
CASH CUSTOMERS	Customer	7/11/2001	15:08	304-Victorville	310-Construction/Dem	0.51	91	1	2
CASH CUSTOMERS	Customer	7/11/2001	15:48	304-Victorville	100-Trash	0.52	92	1	2
LAND USE PASS CUSTOMERS	Government	7/11/2001	15:51	480-North Desert Uni	100-Trash	0.62	91	1	2
CASH CUSTOMERS	Customer	7/11/2001	15:30	302-Apple Valley	100-Trash	0.72	91	1	2
CASH CUSTOMERS	Customer	7/11/2001	15:26	302-Apple Valley	310-Construction/Dem	0.75	91	1	2
CASH CUSTOMERS	Customer	7/11/2001	15:44	302-Apple Valley	200-Yard Waste	1.13	92	2	4
CASH CUSTOMERS	Customer	7/11/2001	15:03	304-Victorville	310-Construction/Dem	1.16	91	2	4
CITY OF VICTORVILLE	Customer	7/11/2001	15:10	304-Victorville	100-Trash	1.28	92	2	4
VICTORVILLE DISPOSAL INC	Customer	7/11/2001	15:59	480-North Desert Uni	100-Trash	2.58	91	2	4
TOWN OF APPLE VALLEY	Customer	7/11/2001	15:25	302-Apple Valley	100-Trash	3.04	92	2	4
CITY OF VICTORVILLE	Customer	7/11/2001	15:48	304-Victorville	100-Trash	4.60	91	2	4
CITY OF VICTORVILLE	Customer	7/11/2001	15:37	304-Victorville	100-Trash	5.57	91	2	4
CITY OF ADELANTO	Customer	7/11/2001	15:31	301-Adelanto	100-Trash	6.64	91	2	4
CITY OF VICTORVILLE	Customer	7/11/2001	15:21	304-Victorville	100-Trash	7.72	92	2	4
CITY OF VICTORVILLE	Customer	7/11/2001	15:12	304-Victorville	100-Trash	8.10	92	2	4
TOWN OF APPLE VALLEY	Customer	7/11/2001	15:52	302-Apple Valley	100-Trash	8.75	91	2	4
CITY OF VICTORVILLE	Customer	7/11/2001	15:12	304-Victorville	100-Trash	9.63	91	2	4
TOWN OF APPLE VALLEY	Customer	7/11/2001	15:53	302-Apple Valley	100-Trash	10.26	92	2	4
TOWN OF APPLE VALLEY	Customer	7/11/2001	15:28	302-Apple Valley	100-Trash	10.50	91	2	4
ADVANCE DISPOSAL CO	Customer	7/11/2001	15:55	303-Hesperia	100-Trash	10.67	91	2	4
CITY OF VICTORVILLE	Customer	7/11/2001	15:41	304-Victorville	100-Trash	11.32	92	2	4
CITY OF VICTORVILLE	Customer	7/11/2001	15:19	304-Victorville	100-Trash	12.77	92	2	4
ADVANCE DISPOSAL CO	Customer	7/11/2001	15:13	303-Hesperia	100-Trash	15.12	92	2	4
HEAPS PEAK TRANSFER	Norcal	7/11/2001	15:18	2100-Phelan TS	100-Trash	25.05	91	3	6
									104
CASH CUSTOMERS	Customer	7/12/2001	15:59	304-Victorville	200-Yard Waste	0.14	91	1	2
CASH CUSTOMERS	Customer	7/12/2001	15:34	304-Victorville	200-Yard Waste	0.17	91	1	2
LAND USE PASS CUSTOMERS	Government	7/12/2001	15:13	344-Spring Valley La	200-Yard Waste	0.18	92	1	2
CASH CUSTOMERS	Customer	7/12/2001	15:29	303-Hesperia	200-Yard Waste	0.19	91	1	2
CASH CUSTOMERS	Customer	7/12/2001	15:17	302-Apple Valley	100-Trash	0.25	91	1	2
CASH CUSTOMERS	Customer	7/12/2001	15:32	302-Apple Valley	100-Trash	0.26	92	1	2
CASH CUSTOMERS	Customer	7/12/2001	15:22	304-Victorville	100-Trash	0.27	92	1	2
LAND USE PASS CUSTOMERS	Government	7/12/2001	15:02	344-Spring Valley La	100-Trash	0.27	91	1	2

Victorville Landfill
PCE Calculations

Bill Acct Name	Customer Type	Date In	Time In	OT Label	MT Label	Net TN	Site Code	PCE Factor	Existing Project Trips in PCE's
LAND USE PASS CUSTOMERS	Government	7/12/2001	15:54	340-Oro Grande	100-Trash	0.28	91	1	2
CASH CUSTOMERS	Customer	7/12/2001	15:04	302-Apple Valley	100-Trash	0.29	91	1	2
CASH CUSTOMERS	Customer	7/12/2001	15:19	302-Apple Valley	100-Trash	0.29	91	1	2
CASH CUSTOMERS	Customer	7/12/2001	15:52	304-Victorville	100-Trash	0.29	91	1	2
CASH CUSTOMERS	Customer	7/12/2001	15:54	302-Apple Valley	200-Yard Waste	0.30	92	1	2
LAND USE PASS CUSTOMERS	Government	7/12/2001	15:50	380-Victor Valley Un	100-Trash	0.33	92	1	2
CASH CUSTOMERS	Customer	7/12/2001	15:25	480-North Desert Uni	100-Trash	0.34	91	1	2
CASH CUSTOMERS	Customer	7/12/2001	15:42	302-Apple Valley	100-Trash	0.36	91	1	2
CASH CUSTOMERS	Customer	7/12/2001	15:08	304-Victorville	310-Construction/Dem	0.53	91	1	2
CASH CUSTOMERS	Customer	7/12/2001	15:08	304-Victorville	310-Construction/Dem	0.74	92	1	2
LAND USE PASS CUSTOMERS	Government	7/12/2001	15:29	337-Lucerne Valley	100-Trash	0.87	92	1	2
LAND USE PASS CUSTOMERS	Government	7/12/2001	15:49	380-Victor Valley Un	100-Trash	0.98	92	1	2
CASH CUSTOMERS	Customer	7/12/2001	15:52	344-Spring Valley La	210-Land Clearing	1.12	92	2	4
CASH CUSTOMERS	Customer	7/12/2001	15:36	303-Hesperia	310-Construction/Dem	1.45	91	2	4
ADVANCE DISPOSAL CO	Customer	7/12/2001	15:11	303-Hesperia	100-Trash	3.78	92	2	4
VICTORVILLE DISPOSAL INC	Customer	7/12/2001	15:14	301-Adelanto	100-Trash	7.66	92	2	4
VICTORVILLE DISPOSAL INC	Customer	7/12/2001	15:15	337-Lucerne Valley	100-Trash	8.65	91	2	4
ADVANCE DISPOSAL CO	Customer	7/12/2001	15:23	303-Hesperia	100-Trash	13.49	92	2	4
HEAPS PEAK TRANSFER	Norcal	7/12/2001	15:56	2100-Phelan TS	100-Trash	25.06	91	3	6
									70
CASH CUSTOMERS	Customer	7/13/2001	15:43	304-Victorville	100-Trash	0.23	91	1	2
CASH CUSTOMERS	Customer	7/13/2001	15:32	304-Victorville	200-Yard Waste	0.23	92	1	2
CASH CUSTOMERS	Customer	7/13/2001	15:04	302-Apple Valley	100-Trash	0.30	91	1	2
CASH CUSTOMERS	Customer	7/13/2001	15:06	304-Victorville	100-Trash	0.31	92	1	2
CASH CUSTOMERS	Customer	7/13/2001	15:49	303-Hesperia	100-Trash	0.39	92	1	2
CASH CUSTOMERS	Customer	7/13/2001	15:17	302-Apple Valley	100-Trash	0.42	91	1	2
LAND USE PASS CUSTOMERS	Government	7/13/2001	15:41	302-Apple Valley	100-Trash	0.46	92	1	2
CASH CUSTOMERS	Customer	7/13/2001	15:02	304-Victorville	310-Construction/Dem	0.59	92	1	2
CASH CUSTOMERS	Customer	7/13/2001	15:11	344-Spring Valley La	310-Construction/Dem	0.59	92	1	2
LAND USE PASS CUSTOMERS	Government	7/13/2001	15:36	380-Victor Valley Un	200-Yard Waste	0.87	92	1	2
TOWN OF APPLE VALLEY	Customer	7/13/2001	15:39	302-Apple Valley	100-Trash	2.95	91	2	4
CITY OF VICTORVILLE	Customer	7/13/2001	15:37	304-Victorville	100-Trash	3.31	91	2	4
CITY OF VICTORVILLE	Customer	7/13/2001	15:15	304-Victorville	100-Trash	4.45	91	2	4
VICTORVILLE DISPOSAL INC	Customer	7/13/2001	15:58	337-Lucerne Valley	100-Trash	6.04	91	2	4
BURRTEC RECYCLING & TNSFR	Customer	7/13/2001	15:06	302-Apple Valley	100-Trash	7.17	92	2	4
CITY OF ADELANTO	Customer	7/13/2001	15:54	301-Adelanto	100-Trash	8.47	91	2	4
CITY OF VICTORVILLE	Customer	7/13/2001	15:04	304-Victorville	100-Trash	10.24	92	2	4
ADVANCE DISPOSAL CO	Customer	7/13/2001	15:32	303-Hesperia	100-Trash	13.37	91	2	4
									52

Victorville Landfill
PCE Calculations

Bill Acct Name	Customer Type	Date In	Time In	OT Label	MT Label	Net TN	Site Code	PCE Factor	Existing Project Trips in PCE's
CASH CUSTOMERS	Customer	7/14/2001	15:41	302-Apple Valley	310-Construction/Dem	0.08	92	1	2
CASH CUSTOMERS	Customer	7/14/2001	15:06	304-Victorville	100-Trash	0.09	92	1	2
CASH CUSTOMERS	Customer	7/14/2001	15:38	303-Hesperia	100-Trash	0.14	92	1	2
CASH CUSTOMERS	Customer	7/14/2001	15:15	304-Victorville	100-Trash	0.19	91	1	2
LAND USE PASS CUSTOMERS	Government	7/14/2001	15:05	338-Mtn. View Acers	100-Trash	0.21	91	1	2
LAND USE PASS CUSTOMERS	Government	7/14/2001	15:47	338-Mtn. View Acers	100-Trash	0.22	91	1	2
CASH CUSTOMERS	Customer	7/14/2001	15:28	303-Hesperia	100-Trash	0.23	91	1	2
LAND USE PASS CUSTOMERS	Government	7/14/2001	15:50	338-Mtn. View Acers	100-Trash	0.26	91	1	2
CASH CUSTOMERS	Customer	7/14/2001	15:54	303-Hesperia	100-Trash	0.28	91	1	2
LAND USE PASS CUSTOMERS	Government	7/14/2001	15:51	380-Victor Valley Un	100-Trash	0.31	91	1	2
LAND USE PASS CUSTOMERS	Government	7/14/2001	15:48	340-Oro Grande	100-Trash	0.34	91	1	2
LAND USE PASS CUSTOMERS	Government	7/14/2001	15:06	338-Mtn. View Acers	200-Yard Waste	0.34	92	1	2
CASH CUSTOMERS	Customer	7/14/2001	15:33	303-Hesperia	100-Trash	0.38	92	1	2
CASH CUSTOMERS	Customer	7/14/2001	15:15	304-Victorville	310-Construction/Dem	0.38	92	1	2
CASH CUSTOMERS	Customer	7/14/2001	15:16	302-Apple Valley	100-Trash	0.42	92	1	2
CASH CUSTOMERS	Customer	7/14/2001	15:58	302-Apple Valley	200-Yard Waste	0.48	92	1	2
CASH CUSTOMERS	Customer	7/14/2001	15:00	344-Spring Valley La	200-Yard Waste	0.58	92	1	2
CASH CUSTOMERS	Customer	7/14/2001	15:31	304-Victorville	310-Construction/Dem	0.60	92	1	2
CASH CUSTOMERS	Customer	7/14/2001	15:10	304-Victorville	310-Construction/Dem	0.61	91	1	2
CASH CUSTOMERS	Customer	7/14/2001	15:40	302-Apple Valley	100-Trash	0.66	91	1	2
VICTORVILLE DISPOSAL INC	Customer	7/14/2001	15:17	301-Adelanto	100-Trash	1.19	91	2	4
HEAPS PEAK TRANSFER	Norcal	7/14/2001	15:11	2210-Apple Valley CC	100-Trash	1.29	92	3	6
LAND USE PASS CUSTOMERS	Government	7/14/2001	15:12	344-Spring Valley La	100-Trash	1.35	91	2	4
CITY OF VICTORVILLE	Customer	7/14/2001	15:19	304-Victorville	100-Trash	2.68	91	2	4
HEAPS PEAK TRANSFER	Norcal	7/14/2001	15:25	3130-Camp Rock TS	100-Trash	3.17	91	3	6
									64
LAND USE PASS CUSTOMERS	Government	7/15/2001	15:36	380-Victor Valley Un	100-Trash	0.05	91	1	2
LAND USE PASS CUSTOMERS	Government	7/15/2001	15:02	344-Spring Valley La	200-Yard Waste	0.15	91	1	2
CASH CUSTOMERS	Customer	7/15/2001	15:47	303-Hesperia	100-Trash	0.22	91	1	2
CASH CUSTOMERS	Customer	7/15/2001	15:27	304-Victorville	100-Trash	0.23	91	1	2
CASH CUSTOMERS	Customer	7/15/2001	15:30	304-Victorville	200-Yard Waste	0.24	91	1	2
LAND USE PASS CUSTOMERS	Government	7/15/2001	15:10	380-Victor Valley Un	200-Yard Waste	0.24	91	1	2
LAND USE PASS CUSTOMERS	Government	7/15/2001	15:55	380-Victor Valley Un	100-Trash	0.26	91	1	2
CASH CUSTOMERS	Customer	7/15/2001	15:38	303-Hesperia	200-Yard Waste	0.28	91	1	2
CASH CUSTOMERS	Customer	7/15/2001	15:59	304-Victorville	200-Yard Waste	0.35	91	1	2
CASH CUSTOMERS	Customer	7/15/2001	15:41	304-Victorville	100-Trash	0.42	91	1	2
CASH CUSTOMERS	Customer	7/15/2001	15:44	303-Hesperia	100-Trash	0.42	91	1	2

Victorville Landfill
PCE Calculations

Bill Acct Name	Customer Type	Date In	Time In	OT Label	MT Label	Net TN	Site Code	PCE Factor	Existing Project Trips in PCE's
LAND USE PASS CUSTOMERS	Government	7/15/2001	15:53	344-Spring Valley La	200-Yard Waste	0.42	91	1	2
CASH CUSTOMERS	Customer	7/15/2001	15:50	304-Victorville	100-Trash	0.96	91	1	2
LAND USE PASS CUSTOMERS	Government	7/15/2001	15:46	338-Mtn. View Acers	100-Trash	1.05	91	2	4
									30
LAND USE PASS CUSTOMERS	Government	7/16/2001	15:15	338-Mtn. View Acers	100-Trash	0.20	91	1	2
LAND USE PASS CUSTOMERS	Government	7/16/2001	15:46	344-Spring Valley La	200-Yard Waste	0.22	91	1	2
CASH CUSTOMERS	Customer	7/16/2001	15:20	302-Apple Valley	100-Trash	0.27	91	1	2
CASH CUSTOMERS	Customer	7/16/2001	15:29	302-Apple Valley	100-Trash	0.30	91	1	2
CASH CUSTOMERS	Customer	7/16/2001	15:49	302-Apple Valley	100-Trash	0.30	91	1	2
LAND USE PASS CUSTOMERS	Government	7/16/2001	15:31	336-Helendale	100-Trash	0.32	92	1	2
CASH CUSTOMERS	Customer	7/16/2001	15:41	343-Silver Lakes	100-Trash	0.43	91	1	2
CASH CUSTOMERS	Customer	7/16/2001	15:21	302-Apple Valley	310-Construction/Dem	0.45	92	1	2
TOWN OF APPLE VALLEY	Customer	7/16/2001	15:33	302-Apple Valley	210-Land Clearing	0.46	91	2	4
CASH CUSTOMERS	Customer	7/16/2001	15:17	302-Apple Valley	100-Trash	0.51	91	1	2
CASH CUSTOMERS	Customer	7/16/2001	15:38	304-Victorville	200-Yard Waste	0.54	92	1	2
CASH CUSTOMERS	Customer	7/16/2001	15:03	304-Victorville	200-Yard Waste	0.67	92	1	2
CASH CUSTOMERS	Customer	7/16/2001	15:44	303-Hesperia	100-Trash	0.92	91	1	2
CASH CUSTOMERS	Customer	7/16/2001	15:50	302-Apple Valley	100-Trash	1.11	91	2	4
CASH CUSTOMERS	Customer	7/16/2001	15:46	302-Apple Valley	310-Construction/Dem	1.15	92	2	4
VICTORVILLE DISPOSAL INC	Customer	7/16/2001	15:35	301-Adelanto	100-Trash	1.70	91	2	4
CASH CUSTOMERS	Customer	7/16/2001	15:08	339-Oak Hills	100-Trash	2.03	91	2	4
CASH CUSTOMERS	Customer	7/16/2001	15:29	302-Apple Valley	310-Construction/Dem	2.10	92	2	4
CASH CUSTOMERS	Customer	7/16/2001	15:47	303-Hesperia	310-Construction/Dem	2.83	91	2	4
CITY OF ADELANTO	Customer	7/16/2001	15:05	301-Adelanto	100-Trash	7.14	91	2	4
VICTORVILLE DISPOSAL INC	Customer	7/16/2001	15:17	343-Silver Lakes	100-Trash	7.35	92	2	4
BURRTEC RECYCLING & TNSFR	Customer	7/16/2001	15:03	304-Victorville	100-Trash	8.31	92	2	4
TOWN OF APPLE VALLEY	Customer	7/16/2001	15:36	302-Apple Valley	100-Trash	10.46	92	2	4
CITY OF VICTORVILLE	Customer	7/16/2001	15:33	304-Victorville	100-Trash	11.78	92	2	4
VICTORVILLE DISPOSAL INC	Customer	7/16/2001	15:57	343-Silver Lakes	100-Trash	12.53	91	2	4
HEAPS PEAK TRANSFER	Norcal	7/16/2001	15:21	2100-Phelan TS	100-Trash	25.30	91	3	6
									82
CASH CUSTOMERS	Customer	7/17/2001	15:27	304-Victorville	100-Trash	0.12	91	1	2
CASH CUSTOMERS	Customer	7/17/2001	15:26	302-Apple Valley	100-Trash	0.28	91	1	2
CASH CUSTOMERS	Customer	7/17/2001	15:36	301-Adelanto	100-Trash	0.29	91	1	2
CASH CUSTOMERS	Customer	7/17/2001	15:16	304-Victorville	100-Trash	0.30	92	1	2
CASH CUSTOMERS	Customer	7/17/2001	15:10	302-Apple Valley	310-Construction/Dem	0.31	92	1	2
LAND USE PASS CUSTOMERS	Government	7/17/2001	15:03	336-Helendale	100-Trash	0.42	91	1	2

Victorville Landfill
PCE Calculations

Bill Acct Name	Customer Type	Date In	Time In	OT Label	MT Label	Net TN	Site Code	PCE Factor	Existing Project Trips in PCE's
CASH CUSTOMERS	Customer	7/17/2001	15:16	302-Apple Valley	200-Yard Waste	0.63	92	1	2
LAND USE PASS CUSTOMERS	Government	7/17/2001	15:25	380-Victor Valley Un	100-Trash	1.10	92	2	4
CASH CUSTOMERS	Customer	7/17/2001	15:26	304-Victorville	310-Construction/Dem	1.17	92	2	4
CASH CUSTOMERS	Customer	7/17/2001	15:06	303-Hesperia	310-Construction/Dem	1.37	91	2	4
CITY OF ADELANTO	Customer	7/17/2001	15:58	301-Adelanto	100-Trash	4.79	91	2	4
BURRTEC RECYCLING & TNSFR	Customer	7/17/2001	15:08	304-Victorville	100-Trash	6.98	91	2	4
VICTORVILLE DISPOSAL INC	Customer	7/17/2001	15:19	304-Victorville	310-Construction/Dem	7.80	92	2	4
TOWN OF APPLE VALLEY	Customer	7/17/2001	15:55	302-Apple Valley	100-Trash	8.13	91	2	4
CITY OF VICTORVILLE	Customer	7/17/2001	15:19	304-Victorville	100-Trash	9.13	91	2	4
CITY OF VICTORVILLE	Customer	7/17/2001	15:12	304-Victorville	100-Trash	9.28	91	2	4
CITY OF VICTORVILLE	Customer	7/17/2001	15:51	304-Victorville	100-Trash	9.85	91	2	4
ADVANCE DISPOSAL CO	Customer	7/17/2001	15:07	303-Hesperia	100-Trash	9.87	91	2	4
ADVANCE DISPOSAL CO	Customer	7/17/2001	15:29	303-Hesperia	100-Trash	13.26	91	2	4
HEAPS PEAK TRANSFER	Norcal	7/17/2001	15:20	2100-Phelan TS	100-Trash	24.86	91	3	6
									68
CASH CUSTOMERS	Customer	7/18/2001	15:03	338-Mtn. View Acers	600-Tires by Weight	0.03	91	1	2
CASH CUSTOMERS	Customer	7/18/2001	15:58	301-Adelanto	100-Trash	0.07	92	1	2
CASH CUSTOMERS	Customer	7/18/2001	15:08	303-Hesperia	310-Construction/Dem	0.14	91	1	2
CASH CUSTOMERS	Customer	7/18/2001	15:00	304-Victorville	100-Trash	0.15	91	1	2
LAND USE PASS CUSTOMERS	Government	7/18/2001	15:06	338-Mtn. View Acers	100-Trash	0.15	91	1	2
CASH CUSTOMERS	Customer	7/18/2001	15:01	302-Apple Valley	100-Trash	0.16	91	1	2
LAND USE PASS CUSTOMERS	Government	7/18/2001	15:15	339-Oak Hills	100-Trash	0.16	91	1	2
CASH CUSTOMERS	Customer	7/18/2001	15:28	301-Adelanto	310-Construction/Dem	0.17	92	1	2
LAND USE PASS CUSTOMERS	Government	7/18/2001	15:20	330-Baldy Mesa	100-Trash	0.20	91	1	2
CASH CUSTOMERS	Customer	7/18/2001	15:35	302-Apple Valley	100-Trash	0.21	91	1	2
CASH CUSTOMERS	Customer	7/18/2001	15:45	304-Victorville	100-Trash	0.26	92	1	2
LAND USE PASS CUSTOMERS	Government	7/18/2001	15:21	380-Victor Valley Un	100-Trash	0.27	91	1	2
CASH CUSTOMERS	Customer	7/18/2001	15:57	303-Hesperia	100-Trash	0.34	92	1	2
CASH CUSTOMERS	Customer	7/18/2001	15:44	302-Apple Valley	100-Trash	0.39	92	1	2
LAND USE PASS CUSTOMERS	Government	7/18/2001	15:19	380-Victor Valley Un	100-Trash	0.40	92	1	2
CASH CUSTOMERS	Customer	7/18/2001	15:03	303-Hesperia	200-Yard Waste	0.50	92	1	2
CASH CUSTOMERS	Customer	7/18/2001	15:30	302-Apple Valley	200-Yard Waste	0.59	91	1	2
CASH CUSTOMERS	Customer	7/18/2001	15:44	303-Hesperia	200-Yard Waste	0.59	92	1	2
TOWN OF APPLE VALLEY	Customer	7/18/2001	15:22	302-Apple Valley	100-Trash	0.67	91	2	4
CASH CUSTOMERS	Customer	7/18/2001	15:56	302-Apple Valley	100-Trash	0.78	91	1	2
CASH CUSTOMERS	Customer	7/18/2001	15:46	302-Apple Valley	310-Construction/Dem	1.45	91	2	4
ADVANCE DISPOSAL CO	Customer	7/18/2001	15:24	303-Hesperia	100-Trash	2.16	92	2	4
CASH CUSTOMERS	Customer	7/18/2001	15:49	302-Apple Valley	310-Construction/Dem	2.87	92	2	4
TOWN OF APPLE VALLEY	Customer	7/18/2001	15:11	302-Apple Valley	100-Trash	3.68	91	2	4

Victorville Landfill
PCE Calculations

Bill Acct Name	Customer Type	Date In	Time In	OT Label	MT Label	Net TN	Site Code	PCE Factor	Existing Project Trips in PCE's
CITY OF VICTORVILLE	Customer	7/18/2001	15:18	304-Victorville	100-Trash	4.00	91	2	4
CITY OF VICTORVILLE	Customer	7/18/2001	15:09	304-Victorville	100-Trash	4.20	92	2	4
VICTORVILLE DISPOSAL INC	Customer	7/18/2001	15:11	380-Victor Valley Un	100-Trash	4.40	92	2	4
CITY OF VICTORVILLE	Customer	7/18/2001	15:18	304-Victorville	100-Trash	7.86	92	2	4
VICTORVILLE DISPOSAL INC	Customer	7/18/2001	15:31	337-Lucerne Valley	100-Trash	7.92	92	2	4
CITY OF VICTORVILLE	Customer	7/18/2001	15:09	304-Victorville	100-Trash	9.74	91	2	4
ADVANCE DISPOSAL CO	Customer	7/18/2001	15:25	303-Hesperia	100-Trash	9.83	91	2	4
CITY OF VICTORVILLE	Customer	7/18/2001	15:06	304-Victorville	100-Trash	10.71	91	2	4
CITY OF VICTORVILLE	Customer	7/18/2001	15:17	304-Victorville	100-Trash	11.58	91	2	4
									94
LAND USE PASS CUSTOMERS	Government	7/19/2001	15:02	380-Victor Valley Un	100-Trash	0.13	92	1	2
LAND USE PASS CUSTOMERS	Government	7/19/2001	15:43	338-Mtn. View Acers	100-Trash	0.18	91	1	2
LAND USE PASS CUSTOMERS	Government	7/19/2001	15:23	344-Spring Valley La	100-Trash	0.23	91	1	2
LAND USE PASS CUSTOMERS	Government	7/19/2001	15:32	338-Mtn. View Acers	100-Trash	0.23	91	1	2
CASH CUSTOMERS	Customer	7/19/2001	15:36	304-Victorville	100-Trash	0.25	91	1	2
LAND USE PASS CUSTOMERS	Government	7/19/2001	15:05	330-Baldy Mesa	100-Trash	0.25	92	1	2
CASH CUSTOMERS	Customer	7/19/2001	15:13	302-Apple Valley	100-Trash	0.28	91	1	2
LAND USE PASS CUSTOMERS	Government	7/19/2001	15:02	344-Spring Valley La	100-Trash	0.28	92	1	2
CASH CUSTOMERS	Customer	7/19/2001	15:27	303-Hesperia	100-Trash	0.30	92	1	2
LAND USE PASS CUSTOMERS	Government	7/19/2001	15:55	344-Spring Valley La	200-Yard Waste	0.31	92	1	2
LAND USE PASS CUSTOMERS	Government	7/19/2001	15:19	337-Lucerne Valley	100-Trash	0.32	91	1	2
TOWN OF APPLE VALLEY	Customer	7/19/2001	15:33	302-Apple Valley	210-Land Clearing	0.63	91	2	4
LAND USE PASS CUSTOMERS	Government	7/19/2001	15:45	341-Phelan	100-Trash	0.74	92	1	2
CASH CUSTOMERS	Customer	7/19/2001	15:22	301-Adelanto	100-Trash	1.22	91	2	4
VICTORVILLE DISPOSAL INC	Customer	7/19/2001	15:17	301-Adelanto	100-Trash	1.64	91	2	4
VICTORVILLE DISPOSAL INC	Customer	7/19/2001	15:58	301-Adelanto	100-Trash	2.35	91	2	4
ADVANCE DISPOSAL CO	Customer	7/19/2001	15:24	303-Hesperia	100-Trash	2.46	92	2	4
CASH CUSTOMERS	Customer	7/19/2001	15:06	301-Adelanto	310-Construction/Dem	2.76	92	2	4
CITY OF VICTORVILLE	Customer	7/19/2001	15:37	304-Victorville	100-Trash	4.59	91	2	4
CITY OF ADELANTO	Customer	7/19/2001	15:55	301-Adelanto	100-Trash	4.82	91	2	4
VICTORVILLE DISPOSAL INC	Customer	7/19/2001	15:15	301-Adelanto	100-Trash	5.13	91	2	4
TOWN OF APPLE VALLEY	Customer	7/19/2001	15:10	302-Apple Valley	100-Trash	5.90	92	2	4
VICTORVILLE DISPOSAL INC	Customer	7/19/2001	15:26	380-Victor Valley Un	100-Trash	8.94	91	2	4
ADVANCE DISPOSAL CO	Customer	7/19/2001	15:07	303-Hesperia	100-Trash	10.89	92	2	4
ADVANCE DISPOSAL CO	Customer	7/19/2001	15:49	303-Hesperia	100-Trash	11.23	91	2	4
TOWN OF APPLE VALLEY	Customer	7/19/2001	15:51	302-Apple Valley	100-Trash	11.28	92	2	4
HEAPS PEAK TRANSFER	Norcal	7/19/2001	15:02	2100-Phelan TS	100-Trash	24.94	91	3	6
									86

Victorville Landfill
PCE Calculations

Bill Acct Name	Customer Type	Date In	Time In	OT Label	MT Label	Net TN	Site Code	PCE Factor	Existing Project Trips in PCE's
CASH CUSTOMERS	Customer	7/20/2001	15:11	304-Victorville	310-Construction/Dem	0.11	91	1	2
CASH CUSTOMERS	Customer	7/20/2001	15:54	304-Victorville	100-Trash	0.20	91	1	2
CASH CUSTOMERS	Customer	7/20/2001	15:22	304-Victorville	100-Trash	0.22	91	1	2
LAND USE PASS CUSTOMERS	Government	7/20/2001	15:35	339-Oak Hills	100-Trash	0.22	91	1	2
CASH CUSTOMERS	Customer	7/20/2001	15:19	304-Victorville	100-Trash	0.23	91	1	2
CASH CUSTOMERS	Customer	7/20/2001	15:12	304-Victorville	100-Trash	0.24	92	1	2
LAND USE PASS CUSTOMERS	Government	7/20/2001	15:47	344-Spring Valley La	200-Yard Waste	0.26	91	1	2
CASH CUSTOMERS	Customer	7/20/2001	15:15	302-Apple Valley	100-Trash	0.28	91	1	2
CASH CUSTOMERS	Customer	7/20/2001	15:53	344-Spring Valley La	200-Yard Waste	0.30	91	1	2
LAND USE PASS CUSTOMERS	Government	7/20/2001	15:38	340-Oro Grande	100-Trash	0.34	91	1	2
CASH CUSTOMERS	Customer	7/20/2001	15:55	302-Apple Valley	200-Yard Waste	0.37	92	1	2
CASH CUSTOMERS	Customer	7/20/2001	15:24	304-Victorville	100-Trash	0.39	92	1	2
CASH CUSTOMERS	Customer	7/20/2001	15:51	302-Apple Valley	100-Trash	0.43	91	1	2
LAND USE PASS CUSTOMERS	Government	7/20/2001	15:05	336-Helendale	100-Trash	0.73	91	1	2
CASH CUSTOMERS	Customer	7/20/2001	15:26	302-Apple Valley	100-Trash	0.78	92	1	2
CASH CUSTOMERS	Customer	7/20/2001	15:32	304-Victorville	100-Trash	0.95	91	1	2
COOLEY CONSTRUCTION INC	Customer	7/20/2001	15:05	304-Victorville	310-Construction/Dem	1.08	92	2	4
VICTORVILLE DISPOSAL INC	Customer	7/20/2001	15:36	380-Victor Valley Un	100-Trash	1.61	91	2	4
VICTORVILLE DISPOSAL INC	Customer	7/20/2001	15:07	336-Helendale	100-Trash	3.41	91	2	4
VICTORVILLE DISPOSAL INC	Customer	7/20/2001	15:12	380-Victor Valley Un	100-Trash	4.12	91	2	4
CITY OF VICTORVILLE	Customer	7/20/2001	15:08	304-Victorville	100-Trash	4.28	92	2	4
CITY OF ADELANTO	Customer	7/20/2001	15:09	301-Adelanto	100-Trash	4.62	91	2	4
TOWN OF APPLE VALLEY	Customer	7/20/2001	15:40	302-Apple Valley	100-Trash	8.50	91	2	4
CITY OF VICTORVILLE	Customer	7/20/2001	15:20	304-Victorville	100-Trash	9.65	91	2	4
ADVANCE DISPOSAL CO	Customer	7/20/2001	15:19	303-Hesperia	100-Trash	12.77	92	2	4
									68
LAND USE PASS CUSTOMERS	Government	7/21/2001	15:28	338-Mtn. View Acers	200-Yard Waste	0.13	92	1	2
LAND USE PASS CUSTOMERS	Government	7/21/2001	15:29	333-El Mirage Valley	100-Trash	0.17	91	1	2
CASH CUSTOMERS	Customer	7/21/2001	15:07	304-Victorville	100-Trash	0.19	91	1	2
CASH CUSTOMERS	Customer	7/21/2001	15:31	301-Adelanto	100-Trash	0.21	91	1	2
CASH CUSTOMERS	Customer	7/21/2001	15:24	304-Victorville	310-Construction/Dem	0.22	91	1	2
CASH CUSTOMERS	Customer	7/21/2001	15:53	302-Apple Valley	100-Trash	0.24	91	1	2
CASH CUSTOMERS	Customer	7/21/2001	15:38	302-Apple Valley	100-Trash	0.24	92	1	2
CASH CUSTOMERS	Customer	7/21/2001	15:44	302-Apple Valley	100-Trash	0.25	91	1	2
CASH CUSTOMERS	Customer	7/21/2001	15:21	304-Victorville	100-Trash	0.27	91	1	2
CASH CUSTOMERS	Customer	7/21/2001	15:43	302-Apple Valley	200-Yard Waste	0.38	92	1	2
CASH CUSTOMERS	Customer	7/21/2001	15:41	304-Victorville	200-Yard Waste	0.44	91	1	2
LAND USE PASS CUSTOMERS	Government	7/21/2001	15:46	333-El Mirage Valley	100-Trash	0.52	91	1	2

Victorville Landfill
PCE Calculations

Bill Acct Name	Customer Type	Date In	Time In	OT Label	MT Label	Net TN	Site Code	PCE Factor	Existing Project Trips in PCE's
CASH CUSTOMERS	Customer	7/21/2001	15:56	302-Apple Valley	100-Trash	0.57	92	1	2
CASH CUSTOMERS	Customer	7/21/2001	15:10	304-Victorville	310-Construction/Dem	0.57	91	1	2
CASH CUSTOMERS	Customer	7/21/2001	15:09	304-Victorville	100-Trash	0.59	92	1	2
CASH CUSTOMERS	Customer	7/21/2001	15:41	302-Apple Valley	100-Trash	0.62	92	1	2
CASH CUSTOMERS	Customer	7/21/2001	15:36	302-Apple Valley	200-Yard Waste	0.66	92	1	2
CASH CUSTOMERS	Customer	7/21/2001	15:18	301-Adelanto	100-Trash	0.67	92	1	2
CASH CUSTOMERS	Customer	7/21/2001	15:48	302-Apple Valley	310-Construction/Dem	0.73	92	1	2
CASH CUSTOMERS	Customer	7/21/2001	15:50	304-Victorville	310-Construction/Dem	0.78	92	1	2
LAND USE PASS CUSTOMERS	Government	7/21/2001	15:00	380-Victor Valley Un	100-Trash	0.91	91	1	2
CASH CUSTOMERS	Customer	7/21/2001	15:33	302-Apple Valley	310-Construction/Dem	0.93	91	1	2
CASH CUSTOMERS	Customer	7/21/2001	15:48	302-Apple Valley	310-Construction/Dem	0.94	91	1	2
CASH CUSTOMERS	Customer	7/21/2001	15:02	303-Hesperia	310-Construction/Dem	1.03	91	2	4
									50
LAND USE PASS CUSTOMERS	Government	7/22/2001	15:41	337-Lucerne Valley	100-Trash	0.09	91	1	2
LAND USE PASS CUSTOMERS	Government	7/22/2001	15:37	380-Victor Valley Un	100-Trash	0.11	91	1	2
CASH CUSTOMERS	Customer	7/22/2001	15:50	338-Mtn. View Acers	100-Trash	0.19	91	1	2
CASH CUSTOMERS	Customer	7/22/2001	15:56	304-Victorville	100-Trash	0.20	91	1	2
LAND USE PASS CUSTOMERS	Government	7/22/2001	15:58	338-Mtn. View Acers	100-Trash	0.20	91	1	2
LAND USE PASS CUSTOMERS	Government	7/22/2001	15:32	380-Victor Valley Un	100-Trash	0.23	91	1	2
CASH CUSTOMERS	Customer	7/22/2001	15:16	303-Hesperia	100-Trash	0.25	92	1	2
CASH CUSTOMERS	Customer	7/22/2001	15:18	302-Apple Valley	200-Yard Waste	0.26	91	1	2
LAND USE PASS CUSTOMERS	Government	7/22/2001	15:28	339-Oak Hills	100-Trash	0.26	91	1	2
LAND USE PASS CUSTOMERS	Government	7/22/2001	15:54	338-Mtn. View Acers	100-Trash	0.26	91	1	2
CASH CUSTOMERS	Customer	7/22/2001	15:09	304-Victorville	210-Land Clearing	0.29	92	1	2
CASH CUSTOMERS	Customer	7/22/2001	15:47	302-Apple Valley	100-Trash	0.34	91	1	2
CASH CUSTOMERS	Customer	7/22/2001	15:29	302-Apple Valley	100-Trash	0.66	91	1	2
CASH CUSTOMERS	Customer	7/22/2001	15:11	304-Victorville	310-Construction/Dem	0.77	91	1	2
CASH CUSTOMERS	Customer	7/22/2001	15:38	302-Apple Valley	100-Trash	2.25	92	2	4
									32
CASH CUSTOMERS	Customer	7/23/2001	15:54	304-Victorville	100-Trash	0.16	91	1	2
CASH CUSTOMERS	Customer	7/23/2001	15:29	304-Victorville	100-Trash	0.17	91	1	2
CASH CUSTOMERS	Customer	7/23/2001	15:44	304-Victorville	100-Trash	0.21	91	1	2
CASH CUSTOMERS	Customer	7/23/2001	15:15	302-Apple Valley	100-Trash	0.22	92	1	2
CASH CUSTOMERS	Customer	7/23/2001	15:37	304-Victorville	100-Trash	0.24	91	1	2
CASH CUSTOMERS	Customer	7/23/2001	15:51	302-Apple Valley	200-Yard Waste	0.25	91	1	2
LAND USE PASS CUSTOMERS	Government	7/23/2001	15:12	345-Summit Valley	100-Trash	0.25	91	1	2
LAND USE PASS CUSTOMERS	Government	7/23/2001	15:49	380-Victor Valley Un	100-Trash	0.26	91	1	2

Victorville Landfill
PCE Calculations

Bill Acct Name	Customer Type	Date In	Time In	OT Label	MT Label	Net TN	Site Code	PCE Factor	Existing Project Trips in PCE's
CASH CUSTOMERS	Customer	7/23/2001	15:47	303-Hesperia	100-Trash	0.27	92	1	2
CASH CUSTOMERS	Customer	7/23/2001	15:05	302-Apple Valley	200-Yard Waste	0.32	91	1	2
LAND USE PASS CUSTOMERS	Government	7/23/2001	15:34	340-Oro Grande	100-Trash	0.39	92	1	2
LAND USE PASS CUSTOMERS	Government	7/23/2001	15:24	337-Lucerne Valley	100-Trash	0.41	92	1	2
LAND USE PASS CUSTOMERS	Government	7/23/2001	15:38	344-Spring Valley La	100-Trash	0.44	92	1	2
CASH CUSTOMERS	Customer	7/23/2001	15:47	304-Victorville	200-Yard Waste	0.46	91	1	2
CASH CUSTOMERS	Customer	7/23/2001	15:42	302-Apple Valley	310-Construction/Dem	0.66	91	1	2
CASH CUSTOMERS	Customer	7/23/2001	15:32	304-Victorville	100-Trash	0.69	92	1	2
CASH CUSTOMERS	Customer	7/23/2001	15:24	301-Adelanto	100-Trash	0.72	92	1	2
CASH CUSTOMERS	Customer	7/23/2001	15:18	303-Hesperia	100-Trash	0.99	91	1	2
TOWN OF APPLE VALLEY	Customer	7/23/2001	15:10	302-Apple Valley	100-Trash	1.00	91	2	4
LAND USE PASS CUSTOMERS	Government	7/23/2001	15:00	340-Oro Grande	100-Trash	1.33	92	2	4
TOWN OF APPLE VALLEY	Customer	7/23/2001	15:50	302-Apple Valley	100-Trash	3.11	92	2	4
CITY OF ADELANTO	Customer	7/23/2001	15:11	301-Adelanto	100-Trash	4.64	92	2	4
VICTORVILLE DISPOSAL INC	Customer	7/23/2001	15:27	343-Silver Lakes	100-Trash	5.59	91	2	4
CITY OF ADELANTO	Customer	7/23/2001	15:03	301-Adelanto	100-Trash	6.06	92	2	4
BURRTEC RECYCLING & TNSFR	Customer	7/23/2001	15:09	302-Apple Valley	100-Trash	6.36	91	2	4
ADVANCE DISPOSAL CO	Customer	7/23/2001	15:31	303-Hesperia	100-Trash	10.49	92	2	4
CITY OF VICTORVILLE	Customer	7/23/2001	15:16	304-Victorville	100-Trash	10.86	91	2	4
TOWN OF APPLE VALLEY	Customer	7/23/2001	15:35	302-Apple Valley	100-Trash	11.47	92	2	4
CITY OF VICTORVILLE	Customer	7/23/2001	15:28	304-Victorville	100-Trash	12.37	92	2	4
ADVANCE DISPOSAL CO	Customer	7/23/2001	15:19	303-Hesperia	100-Trash	13.03	92	2	4
ADVANCE DISPOSAL CO	Customer	7/23/2001	15:58	303-Hesperia	100-Trash	14.30	92	2	4
HEAPS PEAK TRANSFER	Norcal	7/23/2001	15:13	2100-Phelan TS	100-Trash	25.01	91	3	6
									94
CASH CUSTOMERS	Customer	7/24/2001	15:53	303-Hesperia	100-Trash	0.13	92	1	2
CASH CUSTOMERS	Customer	7/24/2001	15:56	302-Apple Valley	200-Yard Waste	0.16	92	1	2
CASH CUSTOMERS	Customer	7/24/2001	15:04	303-Hesperia	100-Trash	0.23	91	1	2
LAND USE PASS CUSTOMERS	Government	7/24/2001	15:40	344-Spring Valley La	100-Trash	0.24	92	1	2
CASH CUSTOMERS	Customer	7/24/2001	15:09	304-Victorville	200-Yard Waste	0.27	91	1	2
LAND USE PASS CUSTOMERS	Government	7/24/2001	15:50	344-Spring Valley La	100-Trash	0.28	91	1	2
LAND USE PASS CUSTOMERS	Government	7/24/2001	15:31	380-Victor Valley Un	100-Trash	0.29	91	1	2
CASH CUSTOMERS	Customer	7/24/2001	15:52	304-Victorville	100-Trash	0.30	91	1	2
CASH CUSTOMERS	Customer	7/24/2001	15:57	302-Apple Valley	100-Trash	0.30	91	1	2
LAND USE PASS CUSTOMERS	Government	7/24/2001	15:22	380-Victor Valley Un	100-Trash	0.38	91	1	2
LAND USE PASS CUSTOMERS	Government	7/24/2001	15:28	339-Oak Hills	100-Trash	0.45	91	1	2
CASH CUSTOMERS	Customer	7/24/2001	15:42	303-Hesperia	100-Trash	0.47	92	1	2
CASH CUSTOMERS	Customer	7/24/2001	15:39	344-Spring Valley La	310-Construction/Dem	0.47	91	1	2
CASH CUSTOMERS	Customer	7/24/2001	15:05	303-Hesperia	200-Yard Waste	0.58	92	1	2

Victorville Landfill
PCE Calculations

Bill Acct Name	Customer Type	Date In	Time In	OT Label	MT Label	Net TN	Site Code	PCE Factor	Existing Project Trips in PCE's
CASH CUSTOMERS	Customer	7/24/2001	15:11	303-Hesperia	310-Construction/Dem	0.96	92	1	2
CITY OF VICTORVILLE	Customer	7/24/2001	15:06	304-Victorville	100-Trash	1.70	92	2	4
CASH CUSTOMERS	Customer	7/24/2001	15:17	303-Hesperia	310-Construction/Dem	3.27	92	2	4
CITY OF VICTORVILLE	Customer	7/24/2001	15:09	304-Victorville	100-Trash	3.44	92	2	4
VICTORVILLE DISPOSAL INC	Customer	7/24/2001	15:05	304-Victorville	100-Trash	4.57	91	2	4
CITY OF ADELANTO	Customer	7/24/2001	15:30	301-Adelanto	100-Trash	5.19	92	2	4
CITY OF VICTORVILLE	Customer	7/24/2001	15:23	304-Victorville	100-Trash	6.83	91	2	4
CITY OF VICTORVILLE	Customer	7/24/2001	15:20	304-Victorville	100-Trash	9.70	91	2	4
CITY OF VICTORVILLE	Customer	7/24/2001	15:00	304-Victorville	100-Trash	11.79	91	2	4
HEAPS PEAK TRANSFER	Norcal	7/24/2001	15:28	2100-Phelan TS	100-Trash	22.47	92	3	6
									68
LAND USE PASS CUSTOMERS	Government	7/25/2001	15:36	340-Oro Grande	100-Trash	0.08	91	1	2
LAND USE PASS CUSTOMERS	Government	7/25/2001	15:40	380-Victor Valley Un	100-Trash	0.08	92	1	2
CASH CUSTOMERS	Customer	7/25/2001	15:25	302-Apple Valley	100-Trash	0.15	91	1	2
CASH CUSTOMERS	Customer	7/25/2001	15:10	304-Victorville	100-Trash	0.19	92	1	2
LAND USE PASS CUSTOMERS	Government	7/25/2001	15:09	380-Victor Valley Un	100-Trash	0.20	91	1	2
CASH CUSTOMERS	Customer	7/25/2001	15:40	303-Hesperia	100-Trash	0.25	91	1	2
CASH CUSTOMERS	Customer	7/25/2001	15:34	302-Apple Valley	200-Yard Waste	0.25	91	1	2
CASH CUSTOMERS	Customer	7/25/2001	15:46	302-Apple Valley	200-Yard Waste	0.25	91	1	2
CASH CUSTOMERS	Customer	7/25/2001	15:54	302-Apple Valley	310-Construction/Dem	0.26	92	1	2
LAND USE PASS CUSTOMERS	Government	7/25/2001	15:01	380-Victor Valley Un	100-Trash	0.26	91	1	2
CASH CUSTOMERS	Customer	7/25/2001	15:13	302-Apple Valley	100-Trash	0.30	92	1	2
CASH CUSTOMERS	Customer	7/25/2001	15:15	303-Hesperia	100-Trash	0.30	92	1	2
CASH CUSTOMERS	Customer	7/25/2001	15:27	303-Hesperia	200-Yard Waste	0.52	91	1	2
LAND USE PASS CUSTOMERS	Government	7/25/2001	15:23	380-Victor Valley Un	100-Trash	0.57	91	1	2
CASH CUSTOMERS	Customer	7/25/2001	15:29	303-Hesperia	200-Yard Waste	0.58	92	1	2
CASH CUSTOMERS	Customer	7/25/2001	15:16	303-Hesperia	310-Construction/Dem	0.59	92	1	2
CASH CUSTOMERS	Customer	7/25/2001	15:02	304-Victorville	310-Construction/Dem	0.60	92	1	2
CASH CUSTOMERS	Customer	7/25/2001	15:51	303-Hesperia	310-Construction/Dem	0.84	92	1	2
LAND USE PASS CUSTOMERS	Government	7/25/2001	15:12	337-Lucerne Valley	100-Trash	0.88	91	1	2
TOWN OF APPLE VALLEY	Customer	7/25/2001	15:59	302-Apple Valley	100-Trash	0.95	91	1	2
ADVANCE DISPOSAL CO	Customer	7/25/2001	15:53	303-Hesperia	100-Trash	2.01	91	2	4
VICTORVILLE DISPOSAL INC	Customer	7/25/2001	15:11	304-Victorville	100-Trash	2.71	92	2	4
ADVANCE DISPOSAL CO	Customer	7/25/2001	15:47	303-Hesperia	100-Trash	3.20	92	2	4
CASH CUSTOMERS	Customer	7/25/2001	15:38	302-Apple Valley	310-Construction/Dem	3.27	91	2	4
VICTORVILLE DISPOSAL INC	Customer	7/25/2001	15:11	380-Victor Valley Un	100-Trash	3.31	91	2	4
CITY OF VICTORVILLE	Customer	7/25/2001	15:20	304-Victorville	100-Trash	4.58	92	2	4
ADVANCE DISPOSAL CO	Customer	7/25/2001	15:04	303-Hesperia	100-Trash	6.36	91	2	4
CITY OF ADELANTO	Customer	7/25/2001	15:44	301-Adelanto	100-Trash	6.55	92	2	4

Victorville Landfill
PCE Calculations

Bill Acct Name	Customer Type	Date In	Time In	OT Label	MT Label	Net TN	Site Code	PCE Factor	Existing Project Trips In PCE's
CITY OF VICTORVILLE	Customer	7/25/2001	15:02	304-Victorville	100-Trash	9.25	91	2	4
TOWN OF APPLE VALLEY	Customer	7/25/2001	15:24	302-Apple Valley	100-Trash	11.76	91	2	4
									80
CASH CUSTOMERS	Customer	7/26/2001	15:04	302-Apple Valley	200-Yard Waste	0.16	91	1	2
CASH CUSTOMERS	Customer	7/26/2001	15:11	303-Hesperia	200-Yard Waste	0.20	91	1	2
LAND USE PASS CUSTOMERS	Government	7/26/2001	15:33	339-Oak Hills	100-Trash	0.20	91	1	2
CASH CUSTOMERS	Customer	7/26/2001	15:35	336-Helendale	310-Construction/Dem	0.26	92	1	2
CASH CUSTOMERS	Customer	7/26/2001	15:02	302-Apple Valley	210-Land Clearing	0.29	91	1	2
CASH CUSTOMERS	Customer	7/26/2001	15:46	303-Hesperia	210-Land Clearing	0.34	91	1	2
CASH CUSTOMERS	Customer	7/26/2001	15:26	304-Victorville	100-Trash	0.43	91	1	2
CASH CUSTOMERS	Customer	7/26/2001	15:06	302-Apple Valley	100-Trash	0.53	91	1	2
CASH CUSTOMERS	Customer	7/26/2001	15:21	380-Victor Valley Un	100-Trash	0.55	92	1	2
CASH CUSTOMERS	Customer	7/26/2001	15:51	304-Victorville	100-Trash	0.63	91	1	2
CASH CUSTOMERS	Customer	7/26/2001	15:19	303-Hesperia	100-Trash	0.80	91	1	2
HEAPS PEAK TRANSFER	Norcal	7/26/2001	15:01	3130-Camp Rock TS	100-Trash	2.76	92	3	6
VICTORVILLE DISPOSAL INC	Customer	7/26/2001	15:31	380-Victor Valley Un	100-Trash	3.46	92	2	4
ADVANCE DISPOSAL CO	Customer	7/26/2001	15:13	303-Hesperia	100-Trash	3.60	91	2	4
CITY OF ADELANTO	Customer	7/26/2001	15:42	301-Adelanto	100-Trash	3.78	92	2	4
CITY OF VICTORVILLE	Customer	7/26/2001	15:17	304-Victorville	100-Trash	4.01	91	2	4
CITY OF VICTORVILLE	Customer	7/26/2001	15:43	304-Victorville	100-Trash	5.86	91	2	4
ADVANCE DISPOSAL CO	Customer	7/26/2001	15:02	303-Hesperia	100-Trash	6.44	91	2	4
CITY OF VICTORVILLE	Customer	7/26/2001	15:07	304-Victorville	100-Trash	7.42	91	2	4
VICTORVILLE DISPOSAL INC	Customer	7/26/2001	15:38	337-Lucerne Valley	100-Trash	7.67	92	2	4
CITY OF VICTORVILLE	Customer	7/26/2001	15:07	304-Victorville	100-Trash	8.57	92	2	4
TOWN OF APPLE VALLEY	Customer	7/26/2001	15:55	302-Apple Valley	100-Trash	12.34	92	2	4
CASH CUSTOMERS	Customer	7/26/2001	15:09	304-Victorville	310-Construction/Dem	12.43	91	2	4
HEAPS PEAK TRANSFER	Norcal	7/26/2001	15:34	2100-Phelan TS	100-Trash	24.98	92	3	6
									78
CASH CUSTOMERS	Customer	7/27/2001	15:43	304-Victorville	200-Yard Waste	0.07	92	1	2
CASH CUSTOMERS	Customer	7/27/2001	15:59	336-Helendale	100-Trash	0.18	91	1	2
LAND USE PASS CUSTOMERS	Government	7/27/2001	15:02	380-Victor Valley Un	100-Trash	0.20	91	1	2
CASH CUSTOMERS	Customer	7/27/2001	15:39	303-Hesperia	100-Trash	0.23	91	1	2
LAND USE PASS CUSTOMERS	Government	7/27/2001	15:00	380-Victor Valley Un	200-Yard Waste	0.36	91	1	2
CASH CUSTOMERS	Customer	7/27/2001	15:58	303-Hesperia	210-Land Clearing	0.47	91	1	2
CASH CUSTOMERS	Customer	7/27/2001	15:10	304-Victorville	200-Yard Waste	0.61	91	1	2
CASH CUSTOMERS	Customer	7/27/2001	15:53	343-Silver Lakes	200-Yard Waste	0.66	92	1	2
CASH CUSTOMERS	Customer	7/27/2001	15:27	304-Victorville	310-Construction/Dem	0.91	91	1	2

Victorville Landfill
PCE Calculations

Bill Acct Name	Customer Type	Date In	Time In	OT Label	MT Label	Net TN	Site Code	PCE Factor	Existing Project Trips in PCE's
VICTORVILLE DISPOSAL INC	Customer	7/27/2001	15:34	337-Lucerne Valley	100-Trash	1.60	91	2	4
LAND USE PASS CUSTOMERS	Government	7/27/2001	15:50	343-Silver Lakes	200-Yard Waste	2.05	92	2	4
CITY OF VICTORVILLE	Customer	7/27/2001	15:14	304-Victorville	100-Trash	2.64	91	2	4
VICTORVILLE DISPOSAL INC	Customer	7/27/2001	15:27	380-Victor Valley Un	100-Trash	3.41	92	2	4
ADVANCE DISPOSAL CO	Customer	7/27/2001	15:30	303-Hesperia	100-Trash	3.95	91	2	4
CITY OF VICTORVILLE	Customer	7/27/2001	15:12	304-Victorville	100-Trash	4.11	91	2	4
VICTORVILLE DISPOSAL INC	Customer	7/27/2001	15:45	301-Adelanto	100-Trash	5.87	92	2	4
ADVANCE DISPOSAL CO	Customer	7/27/2001	15:04	303-Hesperia	100-Trash	6.88	91	2	4
CITY OF ADELANTO	Customer	7/27/2001	15:55	301-Adelanto	100-Trash	7.00	92	2	4
TOWN OF APPLE VALLEY	Customer	7/27/2001	15:00	302-Apple Valley	100-Trash	9.33	92	2	4
HEAPS PEAK TRANSFER	Norcal	7/27/2001	15:06	2100-Phelan TS	100-Trash	24.90	91	3	6
									64
CASH CUSTOMERS	Customer	7/28/2001	15:35	344-Spring Valley La	200-Yard Waste	0.03	91	1	2
LAND USE PASS CUSTOMERS	Government	7/28/2001	15:12	380-Victor Valley Un	100-Trash	0.09	91	1	2
CASH CUSTOMERS	Customer	7/28/2001	15:40	343-Silver Lakes	100-Trash	0.13	92	1	2
LAND USE PASS CUSTOMERS	Government	7/28/2001	15:38	338-Mtn. View Acers	100-Trash	0.17	92	1	2
CASH CUSTOMERS	Customer	7/28/2001	15:18	303-Hesperia	100-Trash	0.21	91	1	2
CASH CUSTOMERS	Customer	7/28/2001	15:02	301-Adelanto	200-Yard Waste	0.21	91	1	2
CASH CUSTOMERS	Customer	7/28/2001	15:36	302-Apple Valley	100-Trash	0.24	92	1	2
CASH CUSTOMERS	Customer	7/28/2001	15:49	302-Apple Valley	100-Trash	0.27	92	1	2
LAND USE PASS CUSTOMERS	Government	7/28/2001	15:16	333-El Mirage Valley	200-Yard Waste	0.28	91	1	2
LAND USE PASS CUSTOMERS	Government	7/28/2001	15:59	380-Victor Valley Un	100-Trash	0.29	91	1	2
CASH CUSTOMERS	Customer	7/28/2001	15:26	302-Apple Valley	310-Construction/Dem	0.38	92	1	2
CASH CUSTOMERS	Customer	7/28/2001	15:09	302-Apple Valley	100-Trash	0.43	91	1	2
LAND USE PASS CUSTOMERS	Government	7/28/2001	15:14	338-Mtn. View Acers	100-Trash	0.46	91	1	2
CASH CUSTOMERS	Customer	7/28/2001	15:33	303-Hesperia	200-Yard Waste	0.57	92	1	2
CASH CUSTOMERS	Customer	7/28/2001	15:00	304-Victorville	100-Trash	0.64	92	1	2
CASH CUSTOMERS	Customer	7/28/2001	15:25	302-Apple Valley	200-Yard Waste	0.70	91	1	2
CASH CUSTOMERS	Customer	7/28/2001	15:29	303-Hesperia	200-Yard Waste	0.73	91	1	2
HEAPS PEAK TRANSFER	Norcal	7/28/2001	15:38	3130-Camp Rock TS	100-Trash	3.44	91	3	6
HEAPS PEAK TRANSFER	Norcal	7/28/2001	15:41	2210-Apple Valley CC	100-Trash	4.25	91	3	6
									46
LAND USE PASS CUSTOMERS	Government	7/29/2001	15:53	339-Oak Hills	100-Trash	0.12	91	1	2
CASH CUSTOMERS	Customer	7/29/2001	15:26	304-Victorville	100-Trash	0.15	91	1	2
CASH CUSTOMERS	Customer	7/29/2001	15:44	302-Apple Valley	100-Trash	0.19	91	1	2
LAND USE PASS CUSTOMERS	Government	7/29/2001	15:12	336-Helendale	100-Trash	0.22	91	1	2
CASH CUSTOMERS	Customer	7/29/2001	15:00	302-Apple Valley	100-Trash	0.24	91	1	2

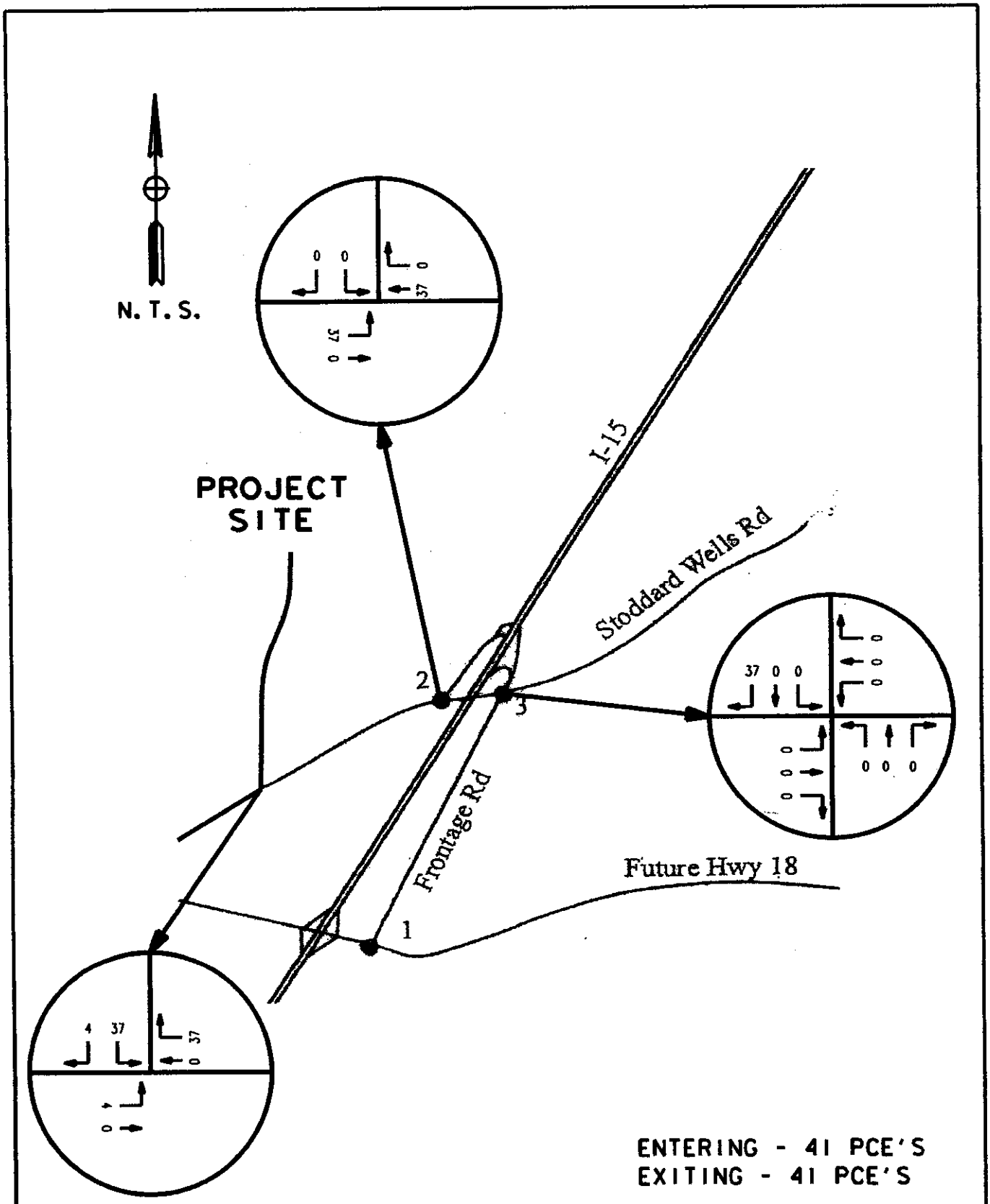
Victorville Landfill
PCE Calculations

Bill Acct Name	Customer Type	Date In	Time In	OT Label	MT Label	Net TN	Site Code	PCE Factor	Existing Project Trips in PCE's
CASH CUSTOMERS	Customer	7/29/2001	15:08	304-Victorville	100-Trash	0.24	91	1	2
CASH CUSTOMERS	Customer	7/29/2001	15:56	302-Apple Valley	100-Trash	0.24	91	1	2
CASH CUSTOMERS	Customer	7/29/2001	15:32	302-Apple Valley	100-Trash	0.26	91	1	2
CASH CUSTOMERS	Customer	7/29/2001	15:50	304-Victorville	100-Trash	0.30	91	1	2
LAND USE PASS CUSTOMERS	Government	7/29/2001	15:28	338-Mtn. View Acers	100-Trash	0.31	91	1	2
CASH CUSTOMERS	Customer	7/29/2001	15:06	303-Hesperia	100-Trash	0.44	91	1	2
CASH CUSTOMERS	Customer	7/29/2001	15:49	304-Victorville	200-Yard Waste	2.12	91	2	4
									26
LAND USE PASS CUSTOMERS	Government	7/30/2001	15:34	434-Hinkley	100-Trash	0.13	92	1	2
LAND USE PASS CUSTOMERS	Government	7/30/2001	15:50	343-Silver Lakes	100-Trash	0.15	91	1	2
CASH CUSTOMERS	Customer	7/30/2001	15:29	303-Hesperia	100-Trash	0.16	91	1	2
LAND USE PASS CUSTOMERS	Government	7/30/2001	15:19	344-Spring Valley La	100-Trash	0.22	92	1	2
CASH CUSTOMERS	Customer	7/30/2001	15:02	303-Hesperia	200-Yard Waste	0.25	91	1	2
CASH CUSTOMERS	Customer	7/30/2001	15:11	302-Apple Valley	200-Yard Waste	0.25	91	1	2
CASH CUSTOMERS	Customer	7/30/2001	15:01	302-Apple Valley	200-Yard Waste	0.30	91	1	2
CASH CUSTOMERS	Customer	7/30/2001	15:18	304-Victorville	100-Trash	0.34	91	1	2
CASH CUSTOMERS	Customer	7/30/2001	15:23	303-Hesperia	100-Trash	0.34	92	1	2
CASH CUSTOMERS	Customer	7/30/2001	15:47	304-Victorville	310-Construction/Dem	0.39	92	1	2
TOWN OF APPLE VALLEY	Customer	7/30/2001	15:20	302-Apple Valley	210-Land Clearing	0.54	92	2	4
CASH CUSTOMERS	Customer	7/30/2001	15:11	302-Apple Valley	200-Yard Waste	0.98	92	1	2
CASH CUSTOMERS	Customer	7/30/2001	15:25	302-Apple Valley	310-Construction/Dem	1.14	92	2	4
CASH CUSTOMERS	Customer	7/30/2001	15:54	302-Apple Valley	310-Construction/Dem	1.22	92	2	4
CASH CUSTOMERS	Customer	7/30/2001	15:27	301-Adelanto	310-Construction/Dem	2.80	92	2	4
CITY OF ADELANTO	Customer	7/30/2001	15:37	301-Adelanto	100-Trash	3.79	92	2	4
ADVANCE DISPOSAL CO	Customer	7/30/2001	15:09	303-Hesperia	100-Trash	5.05	91	2	4
ADVANCE DISPOSAL CO	Customer	7/30/2001	15:08	303-Hesperia	100-Trash	6.33	91	2	4
ADVANCE DISPOSAL CO	Customer	7/30/2001	15:02	303-Hesperia	100-Trash	7.52	92	2	4
TOWN OF APPLE VALLEY	Customer	7/30/2001	15:49	302-Apple Valley	100-Trash	10.49	92	2	4
CITY OF VICTORVILLE	Customer	7/30/2001	15:06	304-Victorville	100-Trash	10.61	92	2	4
CITY OF VICTORVILLE	Customer	7/30/2001	15:23	304-Victorville	100-Trash	10.77	91	2	4
ADVANCE DISPOSAL CO	Customer	7/30/2001	15:04	303-Hesperia	100-Trash	13.04	91	2	4
HEAPS PEAK TRANSFER	Norcal	7/30/2001	15:06	2100-Phelan TS	100-Trash	24.68	91	3	6
									76
CASH CUSTOMERS	Customer	7/31/2001	15:05	380-Victor Valley Un	600-Tires by Weight	0.03	91	1	2
CASH CUSTOMERS	Customer	7/31/2001	15:11	301-Adelanto	100-Trash	0.18	92	1	2
CASH CUSTOMERS	Customer	7/31/2001	15:43	302-Apple Valley	100-Trash	0.19	91	1	2
LAND USE PASS CUSTOMERS	Government	7/31/2001	15:23	380-Victor Valley Un	100-Trash	0.19	92	1	2

Victorville Landfill
PCE Calculations

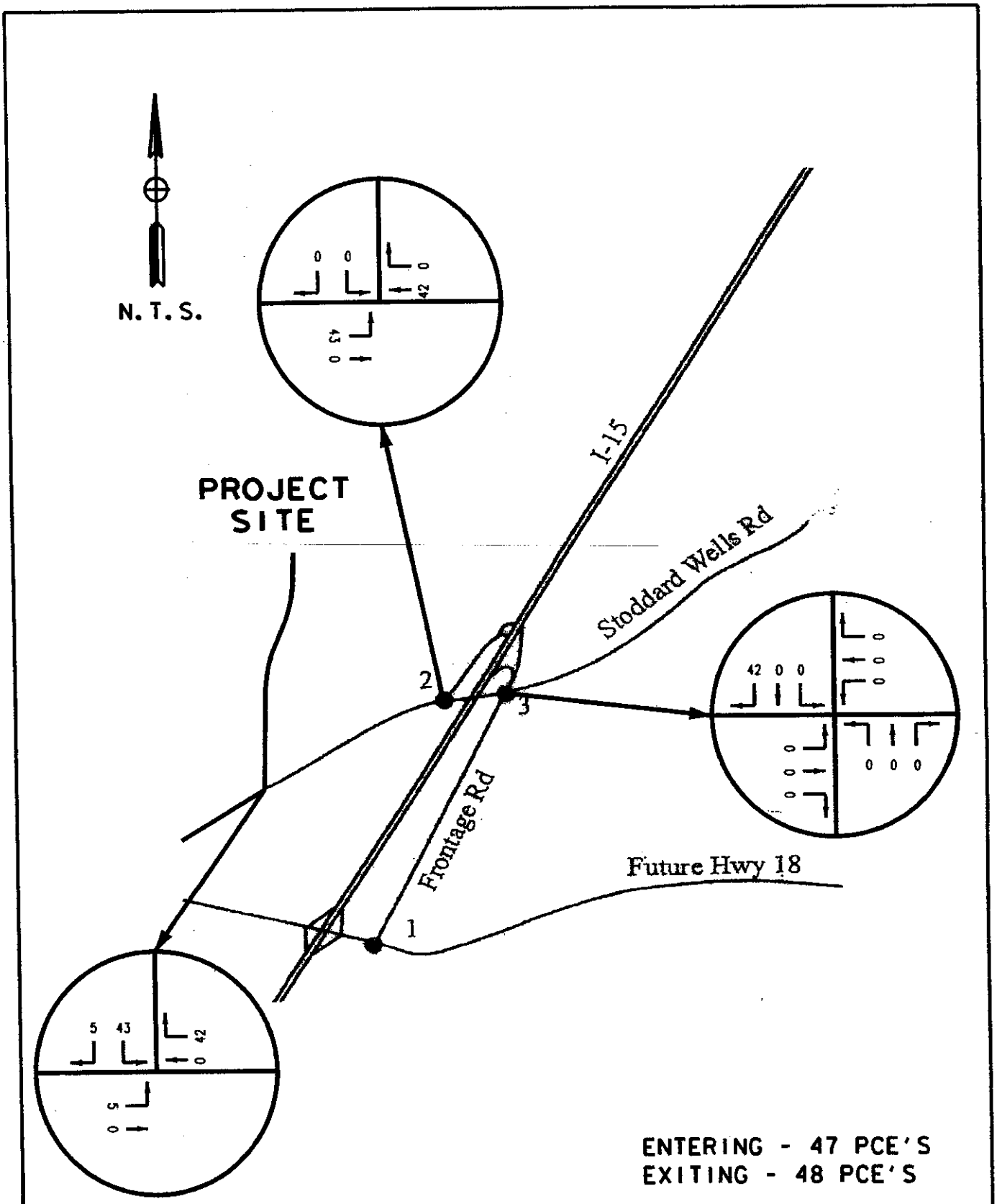
Bill Acct Name	Customer Type	Date In	Time In	OT Label	MT Label	Net TN	Site Code	PCE Factor	Existing Project Trips in PCE's
CASH CUSTOMERS	Customer	7/31/2001	15:10	303-Hesperia	210-Land Clearing	0.25	91	1	2
CITY OF VICTORVILLE	Customer	7/31/2001	15:39	304-Victorville	100-Trash	0.25	92	2	4
CASH CUSTOMERS	Customer	7/31/2001	15:28	304-Victorville	100-Trash	0.26	92	1	2
CASH CUSTOMERS	Customer	7/31/2001	15:32	303-Hesperia	200-Yard Waste	0.30	92	1	2
CASH CUSTOMERS	Customer	7/31/2001	15:16	302-Apple Valley	210-Land Clearing	0.30	91	1	2
CASH CUSTOMERS	Customer	7/31/2001	15:57	304-Victorville	200-Yard Waste	0.33	92	1	2
CASH CUSTOMERS	Customer	7/31/2001	15:35	304-Victorville	100-Trash	0.37	91	1	2
CASH CUSTOMERS	Customer	7/31/2001	15:29	303-Hesperia	200-Yard Waste	0.40	92	1	2
CASH CUSTOMERS	Customer	7/31/2001	15:13	304-Victorville	310-Construction/Dem	0.40	91	1	2
CASH CUSTOMERS	Customer	7/31/2001	15:37	304-Victorville	100-Trash	0.54	92	1	2
LAND USE PASS CUSTOMERS	Government	7/31/2001	15:41	380-Victor Valley Un	100-Trash	0.57	91	1	2
LAND USE PASS CUSTOMERS	Government	7/31/2001	15:36	380-Victor Valley Un	100-Trash	0.59	92	1	2
CASH CUSTOMERS	Customer	7/31/2001	15:02	304-Victorville	200-Yard Waste	0.63	92	1	2
CASH CUSTOMERS	Customer	7/31/2001	15:25	302-Apple Valley	100-Trash	0.78	92	1	2
CASH CUSTOMERS	Customer	7/31/2001	15:58	303-Hesperia	310-Construction/Dem	0.90	91	1	2
LAND USE PASS CUSTOMERS	Government	7/31/2001	15:45	380-Victor Valley Un	100-Trash	1.21	92	2	4
VICTORVILLE DISPOSAL INC	Customer	7/31/2001	15:49	301-Adelanto	100-Trash	2.18	91	2	4
ADVANCE DISPOSAL CO	Customer	7/31/2001	15:54	303-Hesperia	100-Trash	2.71	91	2	4
CITY OF VICTORVILLE	Customer	7/31/2001	15:50	304-Victorville	100-Trash	2.83	91	2	4
CITY OF VICTORVILLE	Customer	7/31/2001	15:57	304-Victorville	100-Trash	4.09	91	2	4
VICTORVILLE DISPOSAL INC	Customer	7/31/2001	15:52	380-Victor Valley Un	100-Trash	5.45	91	2	4
TOWN OF APPLE VALLEY	Customer	7/31/2001	15:21	302-Apple Valley	100-Trash	10.66	92	2	4
ADVANCE DISPOSAL CO	Customer	7/31/2001	15:52	303-Hesperia	100-Trash	12.90	92	2	4
									72

	Trips	Days	
Total Two Way Trips	1430	30	2012
PM Peak Daily Average	48		67



Hernandez, Kroone & Associates, Inc. Consulting Civil Engineers & Land Surveyors 234 East Drake Drive San Bernardino, CA 92408	VICTORVILLE LANDFILL	PROJECT NO. 02-1028
	DESCRIPTION 2025 AM ADDED PROJECT TRIPS	DATE 9-25-2002

...\2002\02-1028\Sheets\2025AM.dgn 10/28/2002 09:54:53 AM



ENTERING - 47 PCE'S
EXITING - 48 PCE'S

Hernandez, Kroone & Associates, Inc. Consulting Civil Engineers & Land Surveyors 234 East Drake Drive San Bernardino, CA 92408	VICTORVILLE LANDFILL	PROJECT NO. 02-1028
	DESCRIPTION 2025 PM ADDED PROJECT TRIPS	DATE 9-25-2002

...\2002\02-1028\Sheets\2025pm.dgn 10/28/2002 09:55:55 AM

APPENDIX B
COUNTS

Barbara N. Sackett

APPLE VALLEY AREA
I-15 NORTHBOUND RAMPS / STODDARD WELLS ROAD

Turning Movement Count
December 2001

Counts Unlimited, Inc.

25424 Jaclyn Avenue

Moreno Valley, CA 92557

T 909 247 6716

F 909 924 8604

E ctsunltd@aol.com

APPLE VALLEY AREA
N/S: I-15 NORTHBOUND RAMPS
E/W: STODDARD WELLS ROAD
WEATHER: SUNNY

COUNTS UNLIMITED, INC.
909.247.6716

File Name : AV15NSWP
Site Code : 00459215
Start Date : 12/11/2001
Page No : 1

Groups Printed- PASSENGER VEHICLES - LGE 2-3 AXLE TRUCKS - 4+ AXLE TRUCKS

	I-15 NBND ON/OFF RAMP Southbound				STODDARD WELLS ROAD Westbound				UNNAMED ROAD Northbound				STODDARD WELLS ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
03:00 PM	1	0	2	3	0	16	0	16	0	1	2	3	0	5	0	5	27
03:15 PM	3	1	3	7	2	14	0	16	0	1	0	1	0	1	0	1	25
03:30 PM	5	0	2	7	0	15	0	15	0	0	1	1	0	3	1	4	27
03:45 PM	5	0	1	6	0	8	1	9	0	0	3	3	0	11	0	11	29
Total	14	1	8	23	2	53	1	56	0	2	6	8	0	20	1	21	108
04:00 PM	4	0	3	7	0	11	0	11	2	0	0	2	1	1	1	3	23
04:15 PM	10	0	1	11	1	37	0	38	0	0	0	0	1	6	1	8	57
04:30 PM	9	0	0	9	2	21	0	23	0	0	1	1	0	1	3	4	37
04:45 PM	3	0	0	3	0	17	0	17	1	2	2	5	1	5	1	7	32
Total	26	0	4	30	3	86	0	89	3	2	3	8	3	13	6	22	149
Grand Total	40	1	12	53	5	139	1	145	3	4	9	16	3	33	7	43	257
Apprch %	75.5	1.9	22.6		3.4	95.9	0.7		18.8	25.0	56.3		7.0	76.7	16.3		
Total %	15.6	0.4	4.7	20.6	1.9	54.1	0.4	56.4	1.2	1.6	3.5	6.2	1.2	12.8	2.7	16.7	

	I-15 NBND ON/OFF RAMP Southbound				STODDARD WELLS ROAD Westbound				UNNAMED ROAD Northbound				STODDARD WELLS ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 04:45 PM - Peak 1 of 1																	
Intersection	04:00 PM																
Volume	26	0	4	30	3	86	0	89	3	2	3	8	3	13	6	22	149
Percent	86.7	0.0	13.3		3.4	96.6	0.0		37.5	25.0	37.5		13.6	59.1	27.3		
04:15 Volume	10	0	1	11	1	37	0	38	0	0	0	0	1	6	1	8	57
Peak Factor																	0.654
High Int.	04:15 PM				04:15 PM				04:45 PM				04:15 PM				
Volume	10	0	1	11	1	37	0	38	1	2	2	5	1	6	1	8	
Peak Factor				0.682				0.586				0.400				0.688	

APPLE VALLEY AREA
N/S: I-15 NORTHBOUND RAMPS
E/W: STODDARD WELLS ROAD
WEATHER: SUNNY

COUNTS UNLIMITED, INC.
909.247.6716

File Name : AV15NSWP
Site Code : 00459215
Start Date : 12/11/2001
Page No : 1

Groups Printed- PASSENGER VEHICLES

	I-15 NBND ON/OFF RAMP Southbound				STODDARD WELLS ROAD Westbound				UNNAMED ROAD Northbound				STODDARD WELLS ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
03:00 PM	1	0	1	2	0	14	0	14	0	1	2	3	0	5	0	5	24
03:15 PM	3	1	2	6	2	12	0	14	0	1	0	1	0	1	0	1	22
03:30 PM	4	0	1	5	0	10	0	10	0	0	1	1	0	2	1	3	19
03:45 PM	5	0	1	6	0	6	1	7	0	0	3	3	0	7	0	7	23
Total	13	1	5	19	2	42	1	45	0	2	6	8	0	15	1	16	88
04:00 PM	4	0	3	7	0	11	0	11	2	0	0	2	1	0	1	2	22
04:15 PM	7	0	1	8	1	36	0	37	0	0	0	0	1	3	1	5	50
04:30 PM	9	0	0	9	2	18	0	20	0	0	1	1	0	1	2	3	33
04:45 PM	3	0	0	3	0	15	0	15	1	1	2	4	1	4	1	6	28
Total	23	0	4	27	3	80	0	83	3	1	3	7	3	8	5	16	133
Grand Total	36	1	9	46	5	122	1	128	3	3	9	15	3	23	6	32	221
Apprch %	78.3	2.2	19.6		3.9	95.3	0.8		20.0	20.0	60.0		9.4	71.9	18.8		
Total %	16.3	0.5	4.1	20.8	2.3	55.2	0.5	57.9	1.4	1.4	4.1	6.8	1.4	10.4	2.7	14.5	

	I-15 NBND ON/OFF RAMP Southbound				STODDARD WELLS ROAD Westbound				UNNAMED ROAD Northbound				STODDARD WELLS ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 04:45 PM - Peak 1 of 1																	
Intersection	04:00 PM																
Volume	23	0	4	27	3	80	0	83	3	1	3	7	3	8	5	16	133
Percent	85.2	0.0	14.8		3.6	96.4	0.0		42.9	14.3	42.9		18.8	50.0	31.3		
04:15 Volume	7	0	1	8	1	36	0	37	0	0	0	0	1	3	1	5	50
Peak Factor																	0.665
High Int.	04:30 PM				04:15 PM				04:45 PM				04:45 PM				
Volume	9	0	0	9	1	36	0	37	1	1	2	4	1	4	1	6	
Peak Factor				0.750				0.561				0.438				0.667	

APPLE VALLEY AREA
N/S: I-15 NORTHBOUND RAMPS
E/W: STODDARD WELLS ROAD
WEATHER: SUNNY

COUNTS UNLIMITED, INC.
909.247.6716

File Name : AV15NSWP
Site Code : 00459215
Start Date : 12/11/2001
Page No : 1

Groups Printed- LGE 2-3 AXLE TRUCKS

	I-15 NBND ON/OFF RAMP Southbound				STODDARD WELLS ROAD Westbound				UNNAMED ROAD Northbound				STODDARD WELLS ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
03:00 PM	0	0	1	1	0	2	0	2	0	0	0	0	0	0	0	0	3
03:15 PM	0	0	1	1	0	2	0	2	0	0	0	0	0	0	0	0	3
03:30 PM	1	0	1	2	0	4	0	4	0	0	0	0	0	1	0	1	7
03:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2	3
Total	1	0	3	4	0	9	0	9	0	0	0	0	0	3	0	3	16
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
04:30 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	0	1	1	4
04:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	5	0	5	0	0	0	0	0	1	1	2	7
Grand Total	1	0	3	4	0	14	0	14	0	0	0	0	0	4	1	5	23
Apprch %	25.0	0.0	75.0		0.0	100.0	0.0		0.0	0.0	0.0		0.0	80.0	20.0		
Total %	4.3	0.0	13.0	17.4	0.0	60.9	0.0	60.9	0.0	0.0	0.0	0.0	0.0	17.4	4.3	21.7	

	I-15 NBND ON/OFF RAMP Southbound				STODDARD WELLS ROAD Westbound				UNNAMED ROAD Northbound				STODDARD WELLS ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 04:45 PM - Peak 1 of 1																	
Intersection	03:00 PM																
Volume	1	0	3	4	0	9	0	9	0	0	0	0	0	3	0	3	16
Percent	25.0	0.0	75.0		0.0	100.0	0.0		0.0	0.0	0.0		0.0	100.0	0.0		
03:30 Volume	1	0	1	2	0	4	0	4	0	0	0	0	0	1	0	1	7
Peak Factor																	0.571
High Int.	03:30 PM				03:30 PM				2:45:00 PM				03:45 PM				
Volume	1	0	1	2	0	4	0	4	0	0	0	0	0	2	0	2	
Peak Factor				0.500				0.563								0.375	

APPLE VALLEY AREA
N/S: I-15 NORTHBOUND RAMPS
E/W: STODDARD WELLS ROAD
WEATHER: SUNNY

COUNTS UNLIMITED, INC.
909.247.6716

File Name : AV15NSWP
Site Code : 00459215
Start Date : 12/11/2001
Page No : 1

Groups Printed- 4+ AXLE TRUCKS

	I-15 NBND ON/OFF RAMP Southbound				STODDARD WELLS ROAD Westbound				UNNAMED ROAD Northbound				STODDARD WELLS ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
03:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2	3
Total	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2	4
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
04:15 PM	3	0	0	3	0	0	0	0	0	0	0	0	0	2	0	2	5
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	1	0	1	0	1	0	1	0	1	0	1	3
Total	3	0	0	3	0	1	0	1	0	1	0	1	0	4	0	4	9
Grand Total	3	0	0	3	0	3	0	3	0	1	0	1	0	6	0	6	13
Apprch %	100.0	0.0	0.0		0.0	100.0	0.0		0.0	100.0	0.0		0.0	100.0	0.0		
Total %	23.1	0.0	0.0	23.1	0.0	23.1	0.0	23.1	0.0	7.7	0.0	7.7	0.0	46.2	0.0	46.2	

	I-15 NBND ON/OFF RAMP Southbound				STODDARD WELLS ROAD Westbound				UNNAMED ROAD Northbound				STODDARD WELLS ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 04:45 PM - Peak 1 of 1																	
Intersection	03:30 PM																
Volume	3	0	0	3	0	2	0	2	0	0	0	0	0	5	0	5	10
Percent	100.0	0.0	0.0		0.0	100.0	0.0		0.0	0.0	0.0		0.0	100.0	0.0		
04:15 Volume	3	0	0	3	0	0	0	0	0	0	0	0	0	2	0	2	5
Peak Factor																	0.500
High Int.	04:15 PM				03:30 PM				2:45:00 PM				03:45 PM				
Volume	3	0	0	3	0	1	0	1	0	0	0	0	0	2	0	2	
Peak Factor				0.250				0.500								0.625	

APPLE VALLEY AREA
/S: I-15 NORTHBOUND RAMP
/W: STODDARD WELLS ROAD
24 HR ENTERING VOLUME COUNT

Counts Unlimited, Inc.
909.247.6716

Site Code : 45925551
Start Date: 12/12/2001
File I.D. : AV15SWNB
Page : 1

EAST/WEST

Begin Time	EBND A.M.		EBND P.M.		WBND A.M.		WBND P.M.		Combined A.M.		Combined P.M.		Wednesday
12:00 12/12	0		7		2		9		2		16		
12:15	0		4		2		20		2		24		
12:30	0		7		0		8		0		15		
12:45	3	3	1	19	0	4	15	52	3	7	16	71	
01:00	0		3		0		5		0		8		
01:15	0		0		1		7		1		7		
01:30	0		8		0		10		0		18		
01:45	0	*	1	12	0	1	7	29	0	1	8	41	
02:00	0		1		0		5		0		6		
02:15	0		1		1		7		1		8		
02:30	3		8		0		11		3		19		
02:45	0	3	1	11	0	1	10	33	0	4	11	44	
03:00	0		2		2		13		2		15		
03:15	0		4		1		11		1		15		
03:30	0		7		0		8		0		15		
03:45	0	*	1	14	1	4	6	38	1	4	7	52	
04:00	1		3		0		8		1		11		
04:15	1		1		1		30		2		31		
04:30	1		2		0		15		1		17		
04:45	1	4	3	9	0	1	8	61	1	5	11	70	
05:00	0		1		0		15		0		16		
05:15	0		0		2		8		2		8		
05:30	0		1		2		7		2		8		
05:45	2	2	0	2	4	8	11	41	6	10	11	43	
06:00	1		0		5		7		6		7		
06:15	2		0		3		7		5		7		
06:30	0		2		7		6		7		8		
06:45	4	7	0	2	2	17	2	22	6	24	2	24	
07:00	0		0		8		3		8		3		
07:15	4		1		12		3		16		4		
07:30	17		0		17		5		34		5		
07:45	8	29	0	1	9	46	3	14	17	75	3	15	
08:00	2		0		9		0		11		0		
08:15	2		1		10		2		12		3		
08:30	7		3		13		1		20		4		
08:45	7	18	0	4	7	39	0	3	14	57	0	7	
09:00	3		0		10		1		13		1		
09:15	10		0		15		1		25		1		
09:30	6		0		8		0		14		0		
09:45	5	24	1	1	7	40	0	2	12	64	1	3	
10:00	1		0		13		0		14		0		
10:15	8		0		12		0		20		0		
10:30	1		0		6		1		7		1		
10:45	4	14	0	*	17	48	0	1	21	62	0	1	
11:00	3		1		11		0		14		1		
11:15	8		0		5		0		13		0		
11:30	8		0		16		1		24		1		
11:45	1	20	0	1	11	43	1	2	12	63	1	3	
Totals	124		76		252		298		376		374		
Day Totals		200				550				750			
Split %	32.9%		20.3%		67.0%		79.6%						
Peak Hour	07:15		12:00		10:45		04:15		07:15		04:15		
Volume	31		19		49		68		78		75		
P.H.F.	.45		.67		.72		.56		.57		.60		

APLLE VALLEY AREA
N/S: I-15 NORTHBOUND RAMP
E/W: STODDARD WELLS ROAD
24 HR ENTERING VOLUME COUNT

Counts Unlimited, Inc.
909.247.6716

Site Code : 45924104
Start Date: 12/12/2001
File I.D. : AV15SWNN
Page : 1

NORTH/SOUTH

Begin Time	NBND A.M.		NBND P.M.		SBND A.M.		SBND P.M.		Combined A.M.		Combined P.M.		Wednesday
12:00 12/12	0		1		1		15		1		16		
12:15	0		2		3		20		3		22		
12:30	1		1		0		26		1		27		
12:45	0	1	1	5	1	5	9	70	1	6	10	75	
01:00	0		0		0		14		0		14		
01:15	0		4		1		3		1		7		
01:30	0		3		0		8		0		11		
01:45	0	*	2	9	0	1	8	33	0	1	10	42	
02:00	0		1		0		6		0		7		
02:15	0		0		0		2		0		2		
02:30	0		0		0		7		0		7		
02:45	0	*	1	2	0	*	5	20	0	*	6	22	
03:00	0		3		1		6		1		9		
03:15	0		0		2		10		2		10		
03:30	0		2		5		0		5		2		
03:45	0	*	1	6	0	8	8	24	0	8	9	30	
04:00	0		1		4		4		4		5		
04:15	0		1		0		11		0		12		
04:30	0		1		1		11		1		12		
04:45	1	1	2	5	4	9	4	30	5	10	6	35	
05:00	0		0		1		13		1		13		
05:15	1		2		12		15		13		17		
05:30	1		2		34		11		35		13		
05:45	2	4	1	5	21	68	10	49	23	72	11	54	
06:00	0		1		15		7		15		8		
06:15	0		1		20		3		20		4		
06:30	1		1		31		4		32		5		
06:45	1	2	0	3	25	91	9	23	26	93	9	26	
07:00	0		0		13		1		13		1		
07:15	2		0		10		2		12		2		
07:30	1		0		3		3		4		3		
07:45	0	3	1	1	19	45	1	7	19	48	2	8	
08:00	0		0		19		2		19		2		
08:15	1		0		28		5		19		5		
08:30	2		0		18		1		20		1		
08:45	0	3	0	*	17	72	0	8	17	75	0	8	
09:00	0		0		6		3		6		3		
09:15	0		0		15		2		15		2		
09:30	3		2		19		1		22		3		
09:45	2	5	0	2	6	46	0	6	8	51	0	8	
10:00	1		0		19		2		20		2		
10:15	3		0		13		1		16		1		
10:30	2		0		14		3		16		3		
10:45	2	8	0	*	13	59	1	7	15	67	1	7	
11:00	0		0		15		0		15		0		
11:15	1		0		9		2		10		2		
11:30	0		0		21		3		21		3		
11:45	0	1	3	3	19	64	3	8	19	65	6	11	
Totals	28		41		468		285		496		326		
Day Totals		69				753				822			
Split %	5.6%		12.5%		94.3%		87.4%						

Peak Hour	09:30	01:15	06:00	12:00	05:30	12:00
Volume	9	10	91	70	93	75
P.H.F.	.75	.62	.73	.67	.66	.69

Barbara N. Sackett

APPLE VALLEY AREA
I-15 SOUTHBOUND RAMPS / STODDARD WELLS ROAD

Turning Movement Count
December 2001

Counts Unlimited, Inc.

25424 Jaclyn Avenue

Moreno Valley, CA 92557

T 909 247 6716

F 909 924 8604

E ctsunltd@aol.com

APPLE VALLEY AREA
N/S: I-15 SOUTHBOUND RAMPS
E/W: STODDARD WELLS ROAD
WEATHER: SUNNY

COUNTS UNLIMITED, INC.
909.247.6716

File Name : AV15SSWP
Site Code : 00459231
Start Date : 12/11/2001
Page No : 1

Groups Printed- PASSENGER VEHICLES - LGE 2-3 AXLE TRUCKS - 4+ AXLE TRUCKS

	I-15 SBND OFF RAMP Southbound				STODDARD WELLS RD Westbound				Northbound				STODDARD WELLS RD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
03:00 PM	1	0	2	3	0	7	9	16	0	0	0	0	0	5	0	5	24
03:15 PM	0	0	4	4	0	10	7	17	0	0	0	0	3	0	0	3	24
03:30 PM	0	0	3	3	0	5	12	17	0	0	0	0	1	4	0	5	25
03:45 PM	0	0	2	2	0	4	4	8	0	0	0	0	4	10	0	14	24
Total	1	0	11	12	0	26	32	58	0	0	0	0	8	19	0	27	97
04:00 PM	0	0	0	0	0	5	12	17	0	0	0	0	0	2	0	2	19
04:15 PM	0	0	0	0	0	7	33	40	0	0	0	0	0	5	0	5	45
04:30 PM	4	0	1	5	0	0	19	19	0	0	0	0	1	0	0	1	25
04:45 PM	1	0	2	3	0	2	17	19	0	0	0	0	1	5	0	6	28
Total	5	0	3	8	0	14	81	95	0	0	0	0	2	12	0	14	117
Grand Total	6	0	14	20	0	40	113	153	0	0	0	0	10	31	0	41	214
Apprch %	30.0	0.0	70.0		0.0	26.1	73.9		0.0	0.0	0.0		24.4	75.6	0.0		
Total %	2.8	0.0	6.5	9.3	0.0	18.7	52.8	71.5	0.0	0.0	0.0	0.0	4.7	14.5	0.0	19.2	

	I-15 SBND OFF RAMP Southbound				STODDARD WELLS RD Westbound				Northbound				STODDARD WELLS RD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 04:45 PM - Peak 1 of 1																	
Intersection	04:00 PM																
Volume	5	0	3	8	0	14	81	95	0	0	0	0	2	12	0	14	117
Percent	62.5	0.0	37.5		0.0	14.7	85.3		0.0	0.0	0.0		14.3	85.7	0.0		
04:15 Volume	0	0	0	0	0	7	33	40	0	0	0	0	0	5	0	5	45
Peak Factor																	0.650
High Int.	04:30 PM				04:15 PM				2:45:00 PM				04:45 PM				
Volume	4	0	1	5	0	7	33	40	0	0	0	0	1	5	0	6	
Peak Factor				0.400				0.594								0.583	

APPLE VALLEY AREA
N/S: I-15 SOUTHBOUND RAMPS
E/W: STODDARD WELLS ROAD
WEATHER: SUNNY

COUNTS UNLIMITED, INC.
909.247.6716

File Name : AV15SSWP
Site Code : 00459231
Start Date : 12/11/2001
Page No : 1

Groups Printed- PASSENGER VEHICLES

	I-15 SBND OFF RAMP Southbound				STODDARD WELLS RD Westbound				Northbound				STODDARD WELLS RD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
03:00 PM	1	0	2	3	0	5	9	14	0	0	0	0	0	4	0	4	21
03:15 PM	0	0	3	3	0	7	7	14	0	0	0	0	3	0	0	3	20
03:30 PM	0	0	2	2	0	3	8	11	0	0	0	0	1	3	0	4	17
03:45 PM	0	0	1	1	0	3	3	6	0	0	0	0	2	7	0	9	16
Total	1	0	8	9	0	18	27	45	0	0	0	0	6	14	0	20	74
04:00 PM	0	0	0	0	0	5	12	17	0	0	0	0	0	2	0	2	19
04:15 PM	0	0	0	0	0	5	32	37	0	0	0	0	0	4	0	4	41
04:30 PM	3	0	1	4	0	0	17	17	0	0	0	0	1	0	0	1	22
04:45 PM	1	0	1	2	0	2	15	17	0	0	0	0	1	4	0	5	24
Total	4	0	2	6	0	12	76	88	0	0	0	0	2	10	0	12	106
Grand Total	5	0	10	15	0	30	103	133	0	0	0	0	8	24	0	32	180
Apprch %	33.3	0.0	66.7		0.0	22.6	77.4		0.0	0.0	0.0		25.0	75.0	0.0		
Total %	2.8	0.0	5.6	8.3	0.0	16.7	57.2	73.9	0.0	0.0	0.0	0.0	4.4	13.3	0.0	17.8	

	I-15 SBND OFF RAMP Southbound				STODDARD WELLS RD Westbound				Northbound				STODDARD WELLS RD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 04:45 PM - Peak 1 of 1																	
Intersection	04:00 PM																
Volume	4	0	2	6	0	12	76	88	0	0	0	0	2	10	0	12	106
Percent	66.7	0.0	33.3		0.0	13.6	86.4		0.0	0.0	0.0		16.7	83.3	0.0		
04:15 Volume	0	0	0	0	0	5	32	37	0	0	0	0	0	4	0	4	41
Peak Factor																	0.646
High Int.	04:30 PM				04:15 PM				2:45:00 PM				04:45 PM				
Volume	3	0	1	4	0	5	32	37	0	0	0	0	1	4	0	5	
Peak Factor				0.375				0.595								0.600	

APPLE VALLEY AREA
N/S: I-15 SOUTHBOUND RAMPS
E/W: STODDARD WELLS ROAD
WEATHER: SUNNY

COUNTS UNLIMITED, INC.
909.247.6716

File Name : AV15SSWP
Site Code : 00459231
Start Date : 12/11/2001
Page No : 1

Groups Printed- LGE 2-3 AXLE TRUCKS

	I-15 SBND OFF RAMP Southbound				STODDARD WELLS RD Westbound				Northbound				STODDARD WELLS RD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
03:00 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
03:15 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	3
03:30 PM	0	0	1	1	0	2	3	5	0	0	0	0	0	1	0	1	7
03:45 PM	0	0	1	1	0	1	0	1	0	0	0	0	2	1	0	3	5
Total	0	0	2	2	0	8	3	11	0	0	0	0	2	3	0	5	18
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	2	1	3	0	0	0	0	0	1	0	1	4
04:30 PM	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	2
04:45 PM	0	0	0	0	0	0	2	2	0	0	0	0	0	1	0	1	3
Total	0	0	0	0	0	2	5	7	0	0	0	0	0	2	0	2	9
Grand Total	0	0	2	2	0	10	8	18	0	0	0	0	2	5	0	7	27
Apprch %	0.0	0.0	100.0		0.0	55.6	44.4		0.0	0.0	0.0		28.6	71.4	0.0		
Total %	0.0	0.0	7.4	7.4	0.0	37.0	29.6	66.7	0.0	0.0	0.0	0.0	7.4	18.5	0.0	25.9	

	I-15 SBND OFF RAMP Southbound				STODDARD WELLS RD Westbound				Northbound				STODDARD WELLS RD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 04:45 PM - Peak 1 of 1																	
Intersection	03:00 PM																
Volume	0	0	2	2	0	8	3	11	0	0	0	0	2	3	0	5	18
Percent	0.0	0.0	100.0		0.0	72.7	27.3		0.0	0.0	0.0		40.0	60.0	0.0		
03:30 Volume	0	0	1	1	0	2	3	5	0	0	0	0	0	1	0	1	7
Peak Factor																	0.643
High Int.	03:30 PM				03:30 PM				2:45:00 PM				03:45 PM				
Volume	0	0	1	1	0	2	3	5	0	0	0	0	2	1	0	3	
Peak Factor				0.500				0.550								0.417	

APPLE VALLEY AREA
N/S: I-15 SOUTHBOUND RAMPS
E/W: STODDARD WELLS ROAD
WEATHER: SUNNY

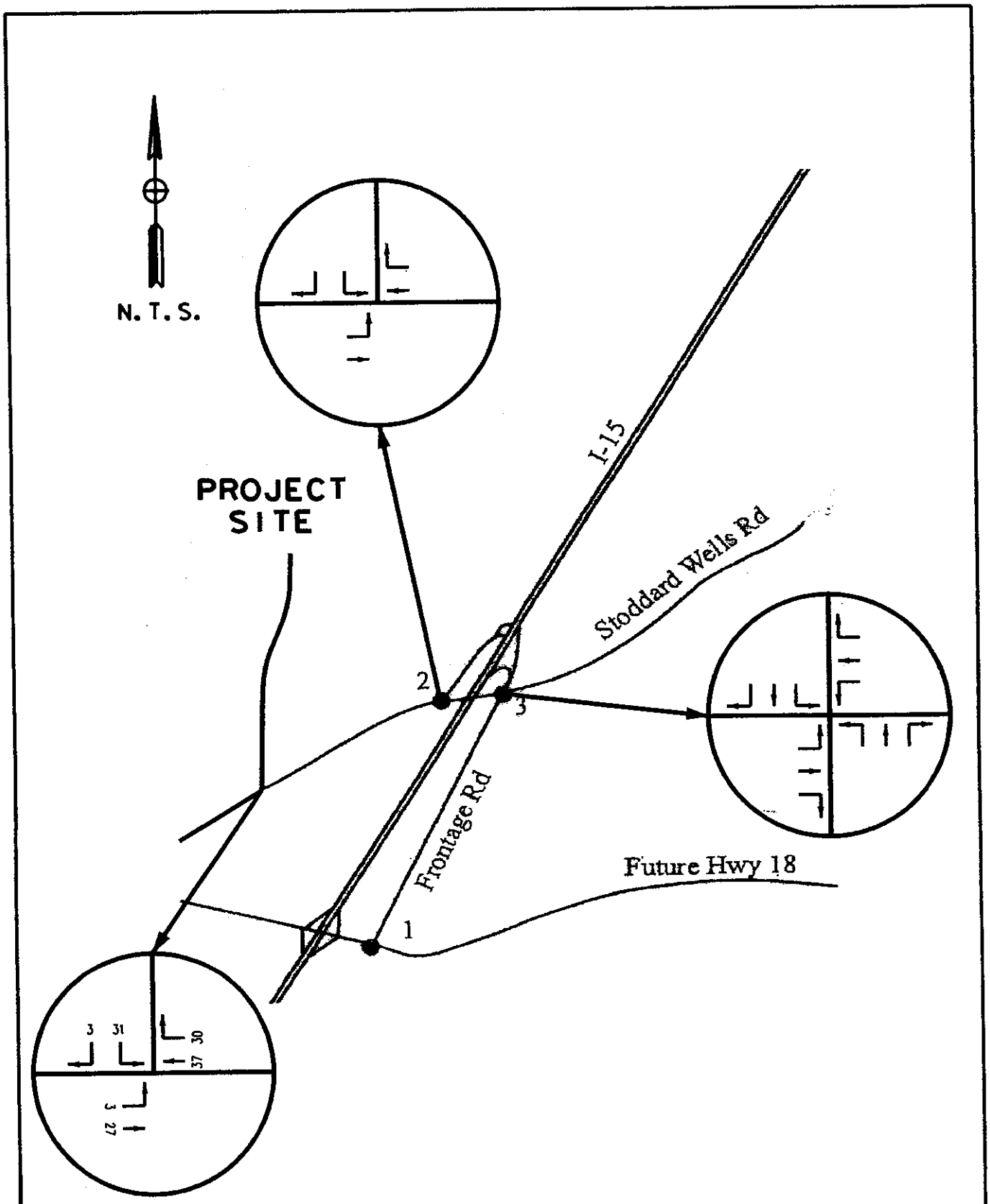
COUNTS UNLIMITED, INC.
909.247.6716

File Name : AV15SSWP
Site Code : 00459231
Start Date : 12/11/2001
Page No : 1

Groups Printed- 4+ AXLE TRUCKS

	I-15 SBND OFF RAMP Southbound				STODDARD WELLS RD Westbound				Northbound				STODDARD WELLS RD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
03:30 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
03:45 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	2	0	2	3
Total	0	0	1	1	0	0	2	2	0	0	0	0	0	2	0	2	5
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	1	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Grand Total	1	0	2	3	0	0	2	2	0	0	0	0	0	2	0	2	7
Apprch %	33.3	0.0	66.7		0.0	0.0	100.0		0.0	0.0	0.0		0.0	100.0	0.0		
Total %	14.3	0.0	28.6	42.9	0.0	0.0	28.6	28.6	0.0	0.0	0.0	0.0	0.0	28.6	0.0	28.6	

	I-15 SBND OFF RAMP Southbound				STODDARD WELLS RD Westbound				Northbound				STODDARD WELLS RD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 04:45 PM - Peak 1 of 1																	
Intersection	03:00 PM																
Volume	0	0	1	1	0	0	2	2	0	0	0	0	0	2	0	2	5
Percent	0.0	0.0	100.0		0.0	0.0	100.0		0.0	0.0	0.0		0.0	100.0	0.0		
03:45 Volume	0	0	0	0	0	0	1	1	0	0	0	0	0	2	0	2	3
Peak Factor																	0.417
High Int.	03:15 PM				03:30 PM				2:45:00 PM				03:45 PM				
Volume	0	0	1	1	0	0	1	1	0	0	0	0	0	2	0	2	
Peak Factor				0.250				0.500								0.250	



Hernandez, Kroone & Associates, Inc. Consulting Civil Engineers & Land Surveyors 234 East Drake Drive San Bernardino, CA 92408	VICTORVILLE LANDFILL	PROJECT NO. 02-1028
	DESCRIPTION PM EXISTING TRAFFIC	DATE 9-25-2002

...\Sheets\PMEXISTING-TRAFFIC.dgn 09/27/2002 11:10:27 AM

APLLE VALLEY AREA
N/S: I-15 SOUTHBOUND OFF RAMP
E/W: STODDARD WELLS ROAD
24 HR ENTERING VOLUME COUNT

Counts Unlimited, Inc.
909.247.6716

Site Code : 45923555
Start Date: 12/12/2001
File I.D. : AV15SWSE
Page : 1

EAST/WEST

Begin Time	<------ EBND ------> A.M.		P.M.		<------ WBND ------> A.M.		P.M.		<------Combined ------> A.M.		P.M.		Wednesday
12:00 12/12	0		13		2		13		2		26		
12:15	0		2		2		19		2		21		
12:30	0		7		0		12		0		19		
12:45	4	4	1	23	1	5	18	62	5	9	19	85	
01:00	0		7		0		27		0		34		
01:15	0		3		1		16		1		19		
01:30	0		8		0		20		0		28		
01:45	0	*	4	22	0	1	22	85	0	1	26	107	
02:00	0		6		0		9		0		15		
02:15	0		5		1		6		1		11		
02:30	0		10		2		23		2		33		
02:45	0	*	7	28	0	3	13	51	0	3	20	79	
03:00	0		2		2		14		2		16		
03:15	0		9		1		13		1		22		
03:30	0		5		0		13		0		18		
03:45	0	*	4	20	3	6	4	44	3	6	8	64	
04:00	1		6		0		10		1		16		
04:15	2		3		2		41		4		44		
04:30	1		2		0		17		1		19		
04:45	0	4	2	13	1	3	12	80	1	7	14	93	
05:00	1		4		0		14		1		18		
05:15	0		1		3		11		3		12		
05:30	1		0		3		9		4		9		
05:45	5	7	1	6	7	13	13	47	12	20	14	53	
06:00	1		1		10		6		11		7		
06:15	4		0		5		5		9		5		
06:30	2		1		5		10		7		11		
06:45	3	10	0	2	4	24	1	22	7	34	1	24	
07:00	1		0		6		5		7		5		
07:15	9		1		19		1		28		2		
07:30	1		0		28		6		29		6		
07:45	3	14	0	1	16	69	3	15	19	83	3	16	
08:00	1		0		9		1		10		1		
08:15	8		1		18		0		26		1		
08:30	0		4		17		2		17		6		
08:45	6	15	0	5	18	62	0	3	24	77	0	8	
09:00	1		0		16		1		17		1		
09:15	11		0		12		1		23		1		
09:30	4		0		9		1		13		1		
09:45	2	18	1	1	19	56	0	3	21	74	1	4	
10:00	8		0		18		3		26		3		
10:15	7		0		18		2		25		2		
10:30	5		0		13		1		18		1		
10:45	4	24	0	*	20	69	0	6	24	93	0	6	
11:00	8		1		18		1		26		2		
11:15	4		0		9		0		13		0		
11:30	8		0		18		1		26		1		
11:45	5	25	0	1	17	62	1	3	22	87	1	4	
Totals	121		122		373		421		494		543		
Day Totals		243				794				1037			
Split %	24.4%		22.4%		75.5%		77.5%						
Peak Hour	09:15		02:00		07:15		01:00		10:00		01:00		
Volume	25		28		72		85		93		107		
P.H.F.	.56		.7		.64		.78		.89		.78		

APPLE VALLEY AREA
N/S: I-15 SOUTHBOUND OFF RAMP
E/W: STODDARD WELLS ROAD
24 HR ENTERING VOLUME COUNT

Counts Unlimited, Inc.
909.247.6716

Site Code : 459232
Start Date: 12/12/2001
File I.D. : AV15SWSS
Page : 1

SOUTHBOUND

Begin Time	<------ SBND		------><------				------><------Combined			------>	Wednesday
	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		
12:00 12/12	0		1		0		0		0		1		
12:15	0		1		0		0		0		1		
12:30	0		1		0		0		0		1		
12:45	2	2	0	3	0	*	0	*	2	2	0	3	
01:00	0		4		0		0		0		4		
01:15	0		1		0		0		0		1		
01:30	0		1		0		0		0		1		
01:45	0	*	0	6	0	*	0	*	0	*	0	6	
02:00	0		1		0		0		0		1		
02:15	0		1		0		0		0		1		
02:30	3		3		0		0		3		3		
02:45	0	3	1	6	0	*	0	*	0	3	1	6	
03:00	0		1		0		0		0		1		
03:15	0		2		0		0		0		2		
03:30	0		2		0		0		0		2		
03:45	2	2	2	7	0	*	0	*	2	2	2	7	
04:00	0		2		0		0		0		2		
04:15	0		1		0		0		0		1		
04:30	0		2		0		0		0		2		
04:45	0	*	0	5	0	*	0	*	0	*	0	5	
05:00	0		2		0		0		0		2		
05:15	0		3		0		0		0		3		
05:30	0		1		0		0		0		1		
05:45	0	*	2	8	0	*	0	*	0	*	2	8	
06:00	0		1		0		0		0		1		
06:15	0		1		0		0		0		1		
06:30	0		0		0		0		0		0		
06:45	1	1	0	2	0	*	0	*	1	1	0	2	
07:00	1		3		0		0		1		3		
07:15	0		1		0		0		0		1		
07:30	2		0		0		0		2		0		
07:45	0	3	0	4	0	*	0	*	0	3	0	4	
08:00	1		3		0		0		1		3		
08:15	1		0		0		0		1		0		
08:30	0		0		0		0		0		0		
08:45	1	3	0	3	0	*	0	*	1	3	0	3	
09:00	2		1		0		0		2		1		
09:15	2		0		0		0		2		0		
09:30	0		1		0		0		0		1		
09:45	0	4	0	2	0	*	0	*	0	4	0	2	
10:00	2		0		0		0		2		0		
10:15	1		0		0		0		1		0		
10:30	0		2		0		0		0		2		
10:45	7	10	0	2	0	*	0	*	7	10	0	2	
11:00	0		0		0		0		0		0		
11:15	4		0		0		0		4		0		
11:30	2		0		0		0		2		0		
11:45	0	6	0	*	0	*	0	*	0	6	0	*	
Totals	34		48		0		0		34		48		
Day Totals		82				0				82			
Split %	140.0%		100.0%		.0%		.0%						

Peak Hour	10:45	03:15	10:45	03:15
Volume	13	8	13	8
P.H.F.	.46	1.00	.46	1.00

Victorville Landfill

Stoddard Wells Road / I-15 Southbound Interchange

Time, AM	SB	NB	EB	WB	Total
7:00	1	0	1	6	8
7:15	0	0	9	19	28
7:30	2	0	1	28	31
7:45	0	0	3	16	19
8:00	1	0	1	9	11
8:15	1	0	8	18	27
8:30	0	0	0	17	17
8:45	1	0	6	18	25

88

Peak four consecutive 15 minute periods for intersection, 7:15 - 8:15 am.

Stoddard Wells Road / I-15 Northbound Interchange

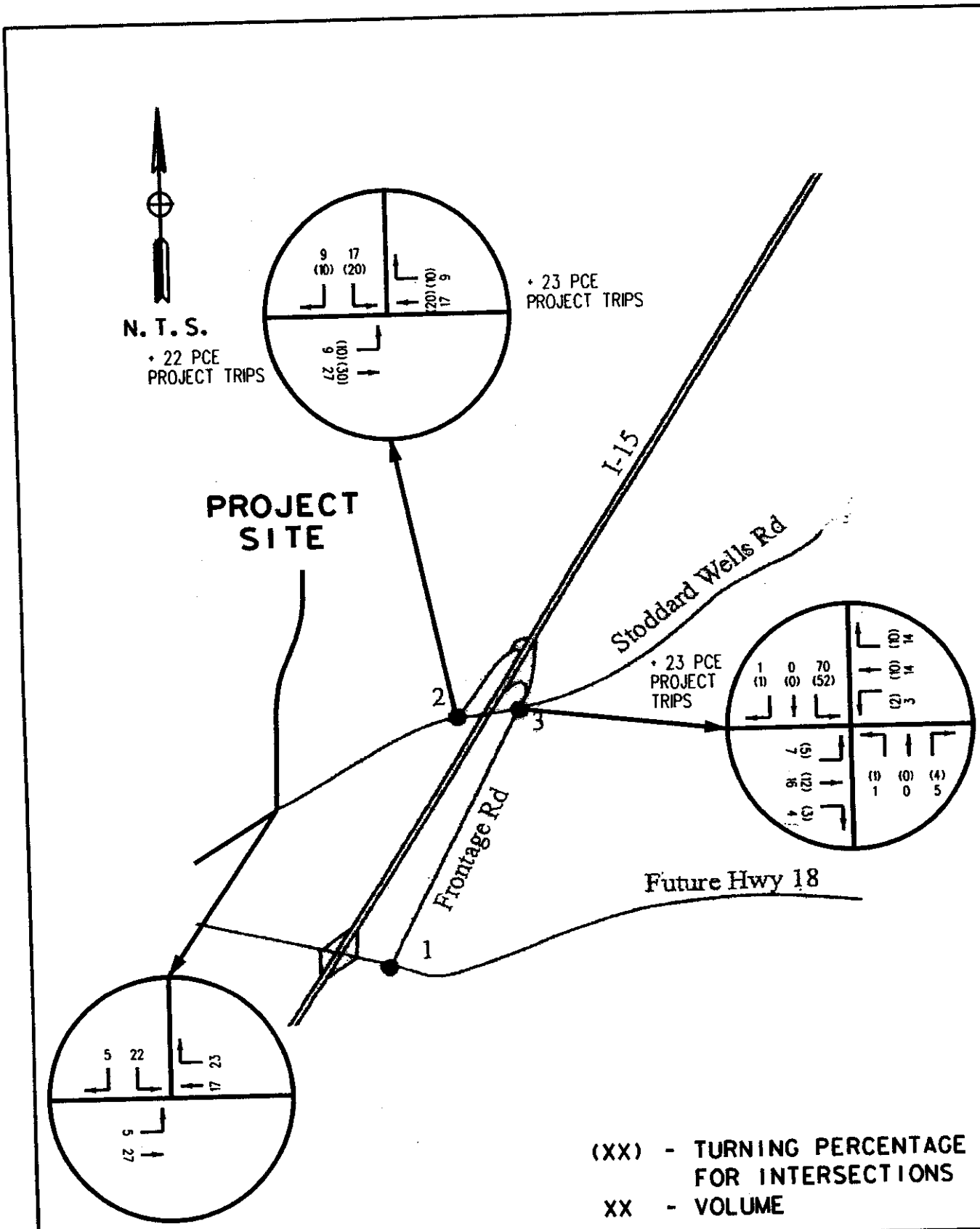
Time, AM	SB	NB	EB	WB	Total
7:00	13	0	0	8	21
7:15	10	2	4	12	28
7:30	3	1	17	17	38
7:45	19	0	8	9	36
8:00	19	0	2	9	30
8:15	18	1	2	10	31
8:30	18	2	7	13	40
8:45	17	0	7	7	31

135

Peak four consecutive 15 minute periods for intersection, 7:45 - 8:45 am.

Combined peak four consecutive 15 minute periods, 7:30 - 8:30 am.

Counts taken by Counts Unlimited, 12-12-2001



Hernandez, Kroone & Associates, Inc. Consulting Civil Engineers & Land Surveyors 234 East Drake Drive San Bernardino, CA 92408	VICTORVILLE LANDFILL	PROJECT NO. 02-1028
	DESCRIPTION AM EXISTING TRAFFIC	DATE 9-25-2002

...\Sheets\AM-EXISTINGTRAFFIC.dgn 09/30/2002 02:03:17 PM

APPENDIX C
CUMULATIVE PROJECTS

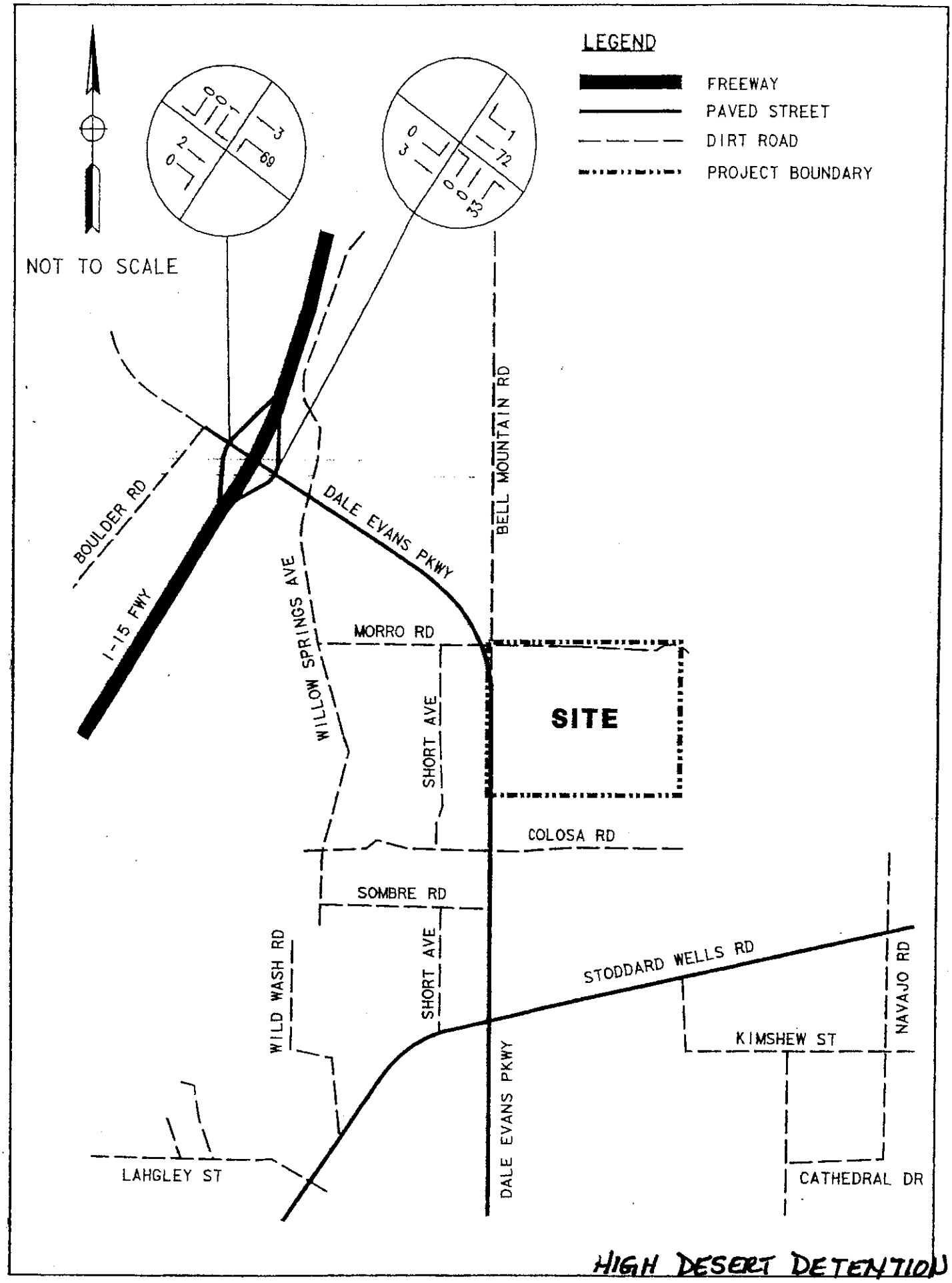
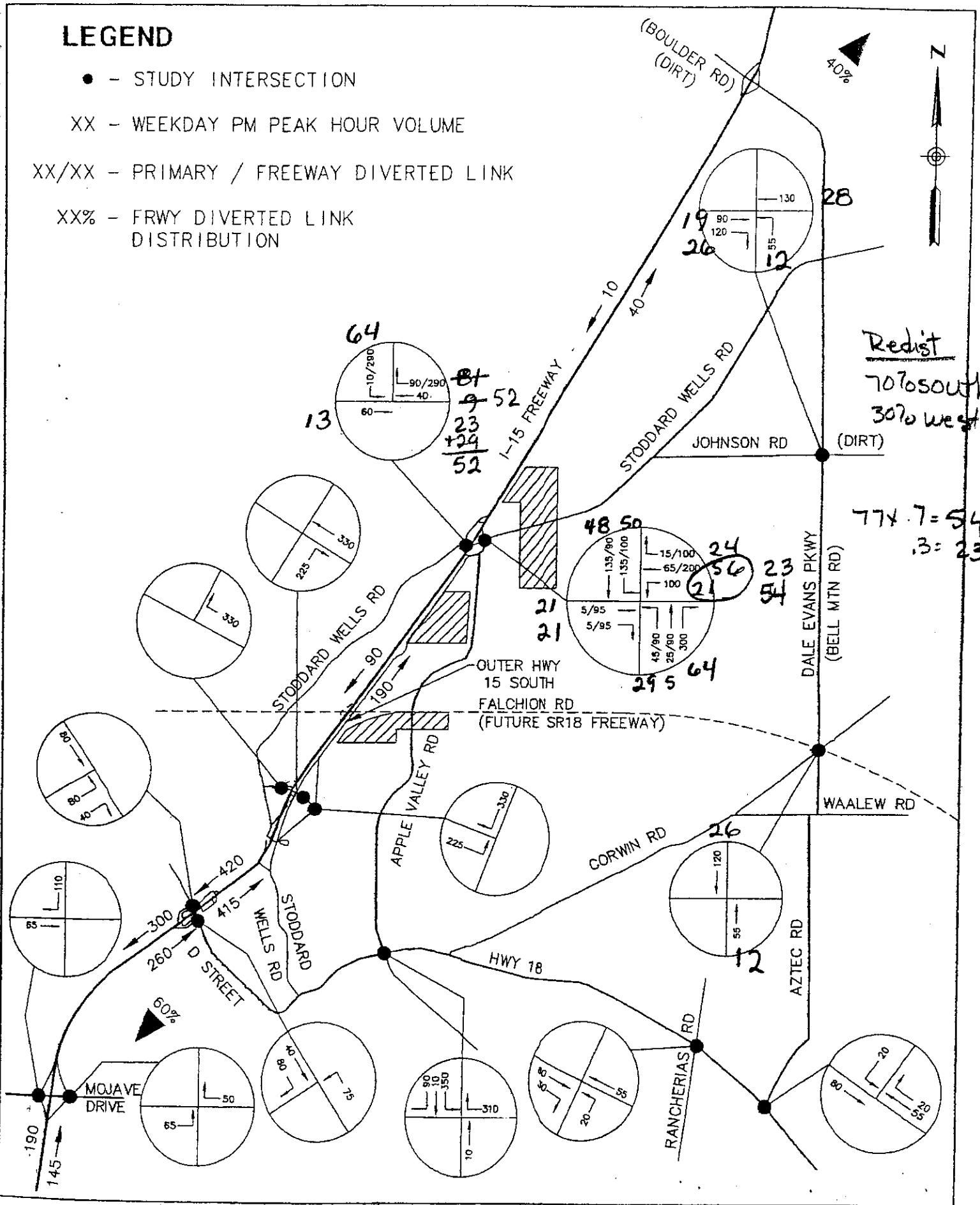


Figure 7
All. 3 Site 12 PM

Hernandez, Kroone

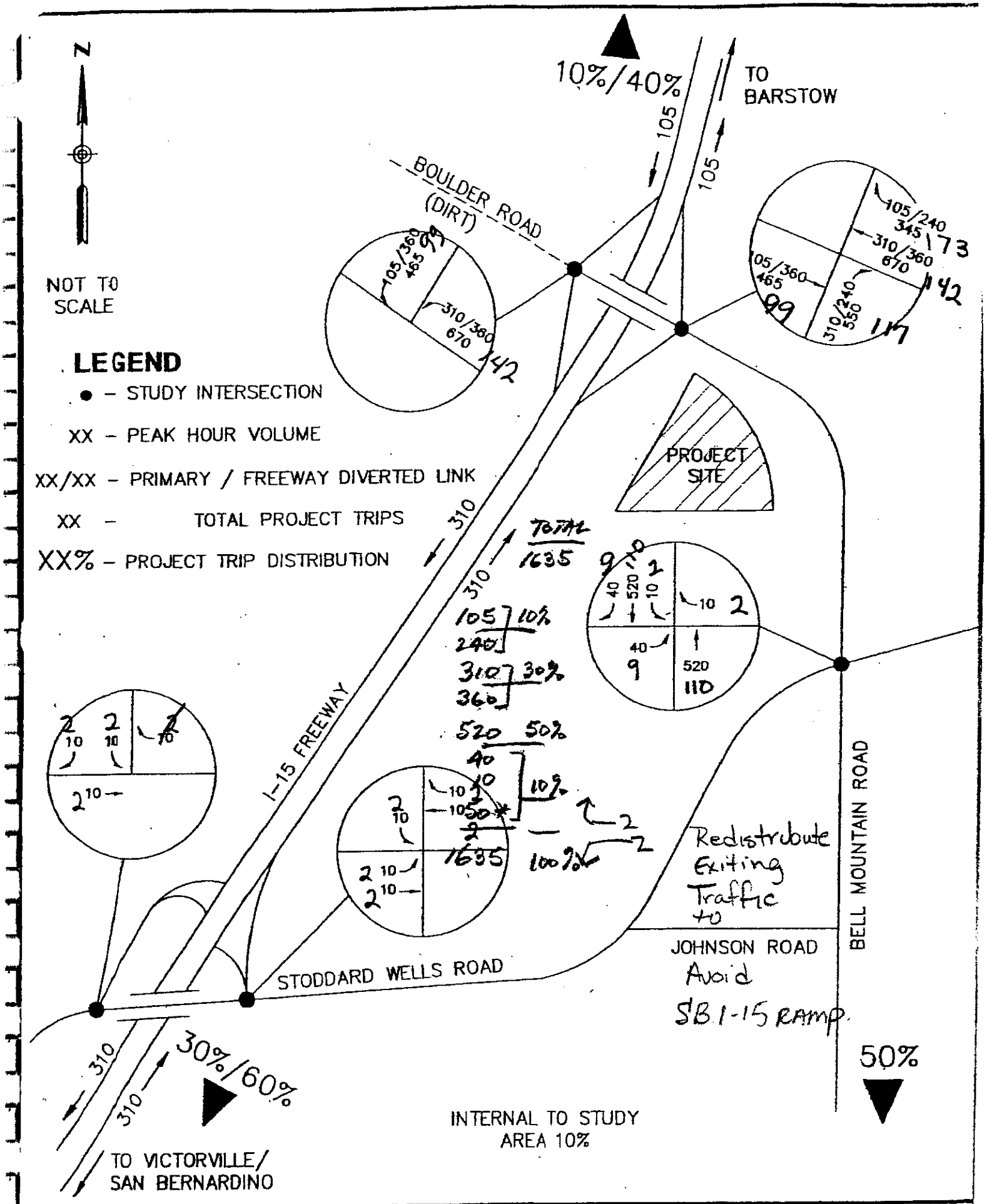


VVCE, Inc.

KATZ

PROJECT TRAFFIC

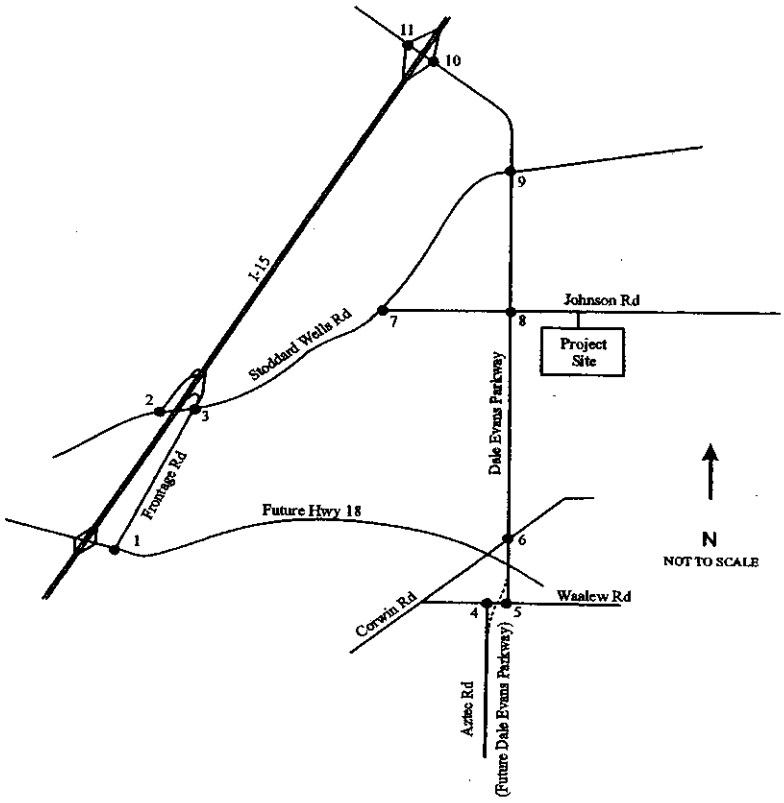
FIGURE 9



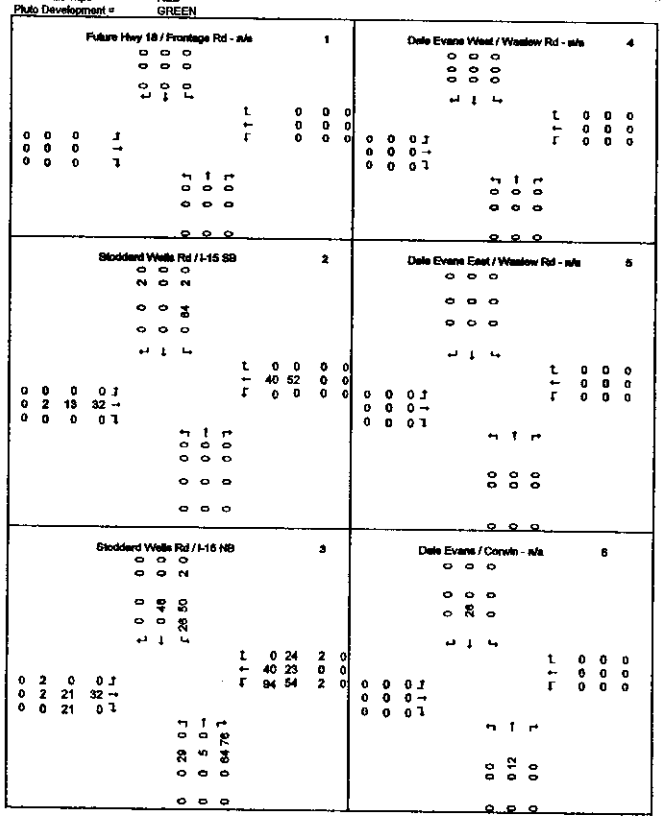
SCHAFFER
PROJECT TRAFFIC

FIGURE

CUMULATIVE PROJECT TRIPS
YEAR 2025



HDDC Trips = BLUE
Schaffer Trips = BLACK
Katz-Hollis Trips = RED
Phuto Development = GREEN



APPENDIX D
VOLUMES

Victorville Landfill
AM Volumes

Stoddard Wells / I-15 NB

	SB - From North			WB - From East			NB -From South			EB - From WEST			
Scenario (Bold)	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Totals
Existing	**70**	**0**	**24**	**3**	**14**	**14**	**1**	**0**	**5**	**7**	**16**	**4**	**158**
Existing Project Trips	0	0	23	0	0	0	0	0	0	0	0	0	23
2025 w/o Project	**129**	**0**	**24**	**5**	**25**	**25**	**1**	**0**	**9**	**12**	**29**	**7**	**266**
2025 Project Trips	0	0	37	0	0	0	0	0	0	0	0	0	37
2025 w/ Project	**129**	**0**	**61**	**5**	**25**	**25**	**1**	**0**	**9**	**12**	**29**	**7**	**303**

Stoddard Wells / I-15 SB

	SB - From North			WB - From East			NB -From South			EB - From WEST			
Scenario (Bold)	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Totals
Existing	**17**	**0**	**9**	**0**	**40**	**9**	**0**	**0**	**0**	**31**	**27**	**0**	**133**
Existing Project Trips	0	0	0	0	23	0	0	0	0	22	0	0	**45**
2025 w/o Project	**31**	**0**	**16**	**0**	**54**	**16**	**0**	**0**	**0**	**38**	**49**	**0**	**204**
2025 Project Trips	0	0	0	0	37	0	0	0	0	37	0	0	74
2025 w/ Project	**31**	**0**	**16**	**0**	**91**	**16**	**0**	**0**	**0**	**75**	**49**	**0**	**278**

Stoddard Wells / Landfill's Dwy

	SB - From North			WB - From East			NB -From South			EB - From WEST			
Scenario (Bold)	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Totals
Existing	**22**	**0**	**5**	**0**	**17**	**23**	**0**	**0**	**0**	**5**	**27**	**0**	**99**
Existing Project Trips	22	0	5	0	0	23	0	0	0	5	0	0	55
2025 w/o Project	**22**	**0**	**5**	**0**	**31**	**23**	**0**	**0**	**0**	**5**	**49**	**0**	**135**
2025 Project Trips	37	0	4	0	0	37	0	0	0	4	0	0	82
2025 w/ Project	**59**	**0**	**9**	**0**	**31**	**60**	**0**	**0**	**0**	**9**	**49**	**0**	**217**

Existing	Estimated from ADT counts and landfill data.
Existing Project Trips	Existing volumes, minus existing project trips, increased by 2.7% for 23 years, and added to the existing project trips. This represents the 2025 situation with the 2025 volumes for the area plus the existing landfill volumes.
2025 w/o Project	Existing volumes inflated by 2.7% for 23 years.
2025 Project Trips	The additional landfill trips in PCE's projected for 2025.
2025 w/ Project	2025 w/o Project volumes plus the new 2025 Project Trip volumes.

Stoddard Wells / I-15 NB

Pluto Development

Counts Taken:	Counts Unlimited	Growth Rate:	3 %
Date:	12/11/2001	Years until 2003:	2
Time:	3-5 PM		

Street Name	I-15 NB Off Ramp -- From North			Stoddard Wells -- From East			Frontage -- From South			Stoddard Wells -- From WEST				
Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Totals	
3:00	1	0	2	0	16	0	0	1	2	0	5	0	27	*
3:15	3	1	3	2	14	0	0	1	0	0	1	0	25	*
3:30	5	0	2	0	15	0	0	0	1	0	3	1	27	*
3:45	5	0	1	0	8	1	0	0	3	0	11	0	29	*
4:00	4	0	3	0	11	0	2	0	0	1	1	1	23	
4:15	10	0	1	1	37	0	0	0	0	1	6	1	57	
4:30	9	0	0	2	21	0	0	0	1	0	1	3	37	
4:45	3	0	0	0	17	0	1	2	2	1	5	1	32	
Count Totals	40	1	12	5	139	1	3	4	9	3	33	7	257	
PK HR Totals	14	1	8	2	53	1	0	2	6	0	20	1	108	
PFH	0.82			0.88			0.67			0.48			0.47	
4+ Axle Vehicles	3	0	0	0	3	0	0	1	0	0	6	0	13	
Heavy Vehicle %	8	0	0	0	2	0	0	25	0	0	18	0		
Scenarios (Bold)														
Existing	14	1	8	2	53	1	0	2	6	0	20	1	108	
2003 Project														
Employees	102	0	0	0	134	0	0	0	0	0	32	0	268	
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	
Trucks, PCEs	0	0	0	0	0	0	0	0	0	0	0	0	0	
2003 w/o Project	15	1	8	2	56	1	0	2	6	0	21	1	113	
2003 w/ Project	117	1	8	2	190	1	0	2	6	0	53	1	381	
2020 Model	8	11	3	113	100	9	0	7	6	0	26	25	308	
2020 Project	26	0	0	94	40	0	0	0	76	0	32	0	268	
2020 Cumulative	52	48	0	56	23	26	29	5	64	2	23	21	349	
2020 w/Cum	60	59	3	169	123	35	29	12	70	2	49	46	657	
2020 w/ Project	86	59	3	263	163	35	29	12	146	2	81	46	925	

Victorville Landfill

Adjusted from Pluto Development

Street Name	I-15 NB Off Ramp -- From North			Stoddard Wells -- From East			Frontage -- From South			Stoddard Wells -- From WEST			
Scenarios (Bold)	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Totals
Existing	**14**	**1**	**8**	**2**	**53**	**1**	**0**	**2**	**6**	**0**	**20**	**1**	**108**
2020 Model	8	11	3	113	100	9	0	7	6	0	26	25	308
2025 Projection	9	12	3	129	114	10	0	7	6	0	29	28	347
Cumulative	78	48	0	150	63	26	29	5	140	2	55	21	617
2025 w/o Project	**87**	**60**	**3**	**279**	**177**	**36**	**29**	**12**	**146**	**2**	**84**	**49**	**964**
2025 Project Trips	0	0	42	0	0	0	0	0	0	0	0	0	42
2025 w/ Project	**87**	**60**	**45**	**279**	**177**	**36**	**29**	**12**	**146**	**2**	**84**	**49**	**1006**

2025 Projected	2020 Model volumes per the Pluto Develoment study, inflated by 2.7% for the 5 years between 2020 and 2025.
Cumulative	Project trip volumes per the Schaffer, Katz-Hollis and Pluto Development. The sum of the 2020 Project and 2020 Cumulative from the Pluto Development table above.
2025 w/o Project	2025 Projected volumes plus the cumulative project trip volumes.
2025 Project Trips	The additional landfill trips in PCE's projected for 2025.
2025 w/ Project	2025 w/o Project volumes plus the new 2025 Project Trip volumes.

Pluto Development

Counts Taken: Counts Unlimited
Date: 12/11/2001
Time: 3-5 PM

Growth Rate: 3 %
Years until 2003: 2

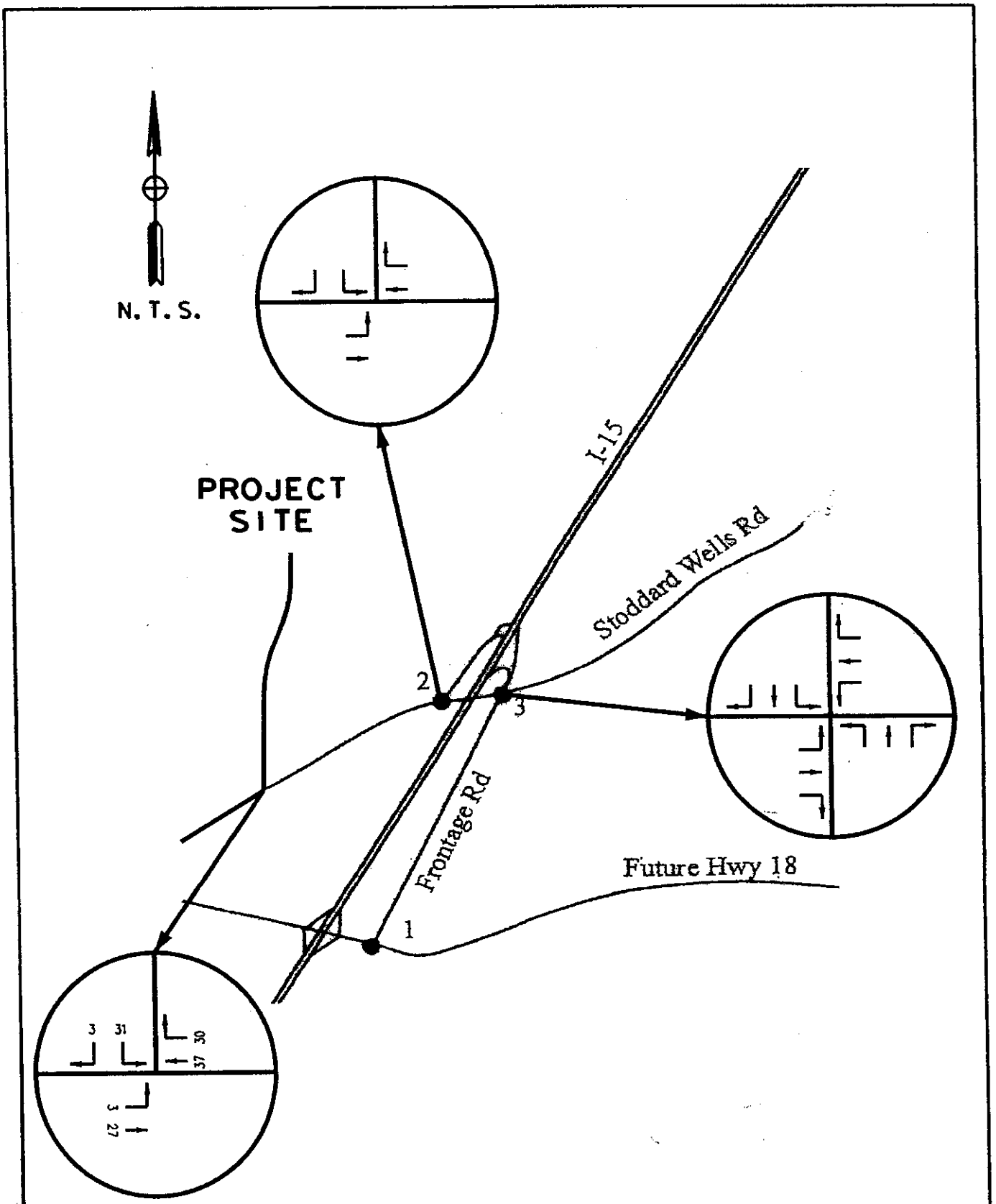
Street Name	I-15 SB -- From North			Stoddard Wells -- From East			I-15 SB -- From South			Stoddard Wells -- From WEST			
Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Totals
3:00	1	0	2	0	7	9	0	0	0	0	5	0	24 *
3:15	0	0	4	0	10	7	0	0	0	3	0	0	24 *
3:30	0	0	3	0	5	12	0	0	0	1	4	0	25 *
3:45	0	0	2	0	4	4	0	0	0	4	10	0	24 *
4:00	0	0	0	0	5	12	0	0	0	0	2	0	19
4:15	0	0	0	0	7	33	0	0	0	0	5	0	45
4:30	4	0	1	0	0	19	0	0	0	1	0	0	25
4:45	1	0	2	0	2	17	0	0	0	1	5	0	28
Count Totals	6	0	14	0	40	113	0	0	0	10	31	0	214
PK HR Totals	1	0	11	0	26	32	0	0	0	8	19	0	97
PFH	0.75			0.85			0.00			0.48			
4+ Axle Vehicles	1	0	2	0	0	2	0	0	0	0	2	0	7
Heavy Vehicle %	17		14		0	2				0	6		
Scenarios (Bold)													
Existing	1	0	11	0	26	32	0	0	0	8	19	0	97
2003 Project													
Employees	0	0	0	0	32	102	0	0	0	0	32	0	166
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
Trucks, PCEs	0	0	0	0	0	0	0	0	0	0	0	0	0
2003 w/o Project	1	0	12	0	28	34	0	0	0	8	20	0	103
2003 w/ Project	1	0	12	0	60	136	0	0	0	8	52	0	269
2020 Model	0	0	17	0	140	0	0	0	0	0	63	0	220
2020 Project	0	0	0	0	40	0	0	0	0	0	32	0	72
2020 Cumulative	66	0	2	0	52	0	0	0	0	0	15	0	135
2020 w/Cum	66	0	19	0	192	0	0	0	0	0	78	0	355
2020 w/ Project	66	0	19	0	232	0	0	0	0	0	110	0	427

Victorville Landfill

Adjusted from Pluto Development

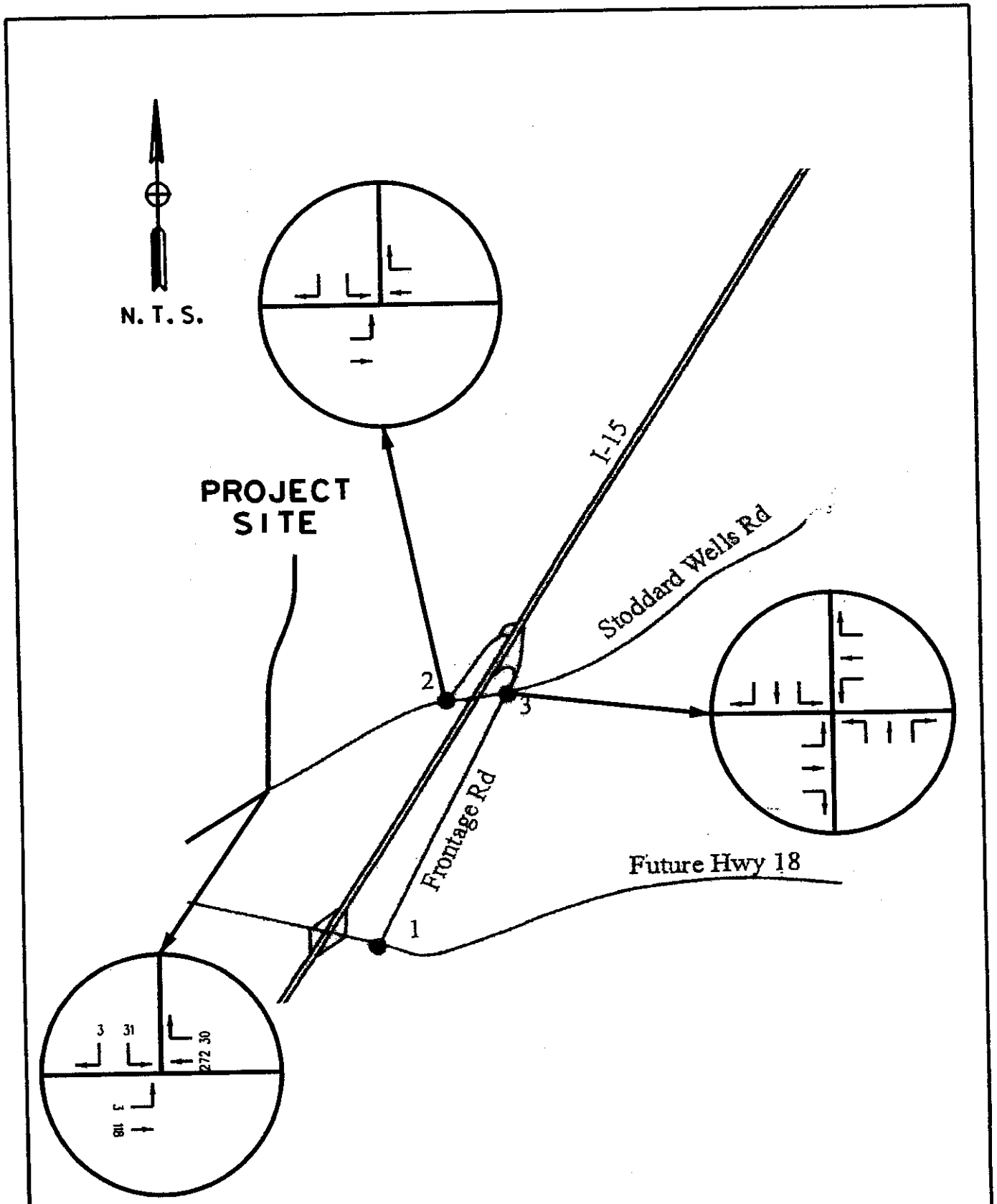
Street Name	I-15 SB -- From North			Stoddard Wells -- From East			I-15 SB -- From South			Stoddard Wells -- From WEST			
Scenario (Bold)	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Totals
Existing	1	0	11	0	26	32	0	0	0	8	19	0	97
2020 Model	0	0	17	0	140	0	0	0	0	0	63	0	220
2025 Projected	0	0	19	0	159	0	0	0	0	0	71	0	249
Cumulative	66	0	2	0	92	0	0	0	0	0	47	0	207
2025 w/o Project	66	0	21	0	251	0	0	0	0	0	118	0	456
2025 Project Trips	0	0	0	0	42	0	0	0	0	43	0	0	85
2025 w/ Project	66	0	21	0	293	0	0	0	0	43	118	0	541

2025 Projected	2020 Model volumes per the Pluto Develoment study, inflated by 2.7% for the 5 years between 2020 and 2025.
Cumulative	Project trip volumes per the Schaffer, Katz-Hollis and Pluto Development. The sum of the 2020 Project and 2020 Cumulative from the Pluto Development table above.
2025 w/o Project	2025 Projected volumes plus the cumulative project trip volumes.
2025 Project Trips	The additional landfill trips in PCE's projected for 2025.
2025 w/ Project	2025 w/o Project volumes plus the new 2025 Project Trip volumes.



Hernandez, Kroone & Associates, Inc. Consulting Civil Engineers & Land Surveyors 234 East Drake Drive San Bernardino, CA 92408	VICTORVILLE LANDFILL	PROJECT NO. 02-1028
	DESCRIPTION PM EXISTING TRAFFIC	DATE 9-25-2002

...\Sheets\PMEXISTING-TRAFFIC.dgn 09/27/2002 11:10:27 AM



Hernandez, Kroone & Associates, Inc. Consulting Civil Engineers & Land Surveyors 234 East Drake Drive San Bernardino, CA 92408	VICTORVILLE LANDFILL	PROJECT NO. 02-1028
	DESCRIPTION 2025 PM WITHOUT PROJECT TRAFFIC	DATE 9-25-2002

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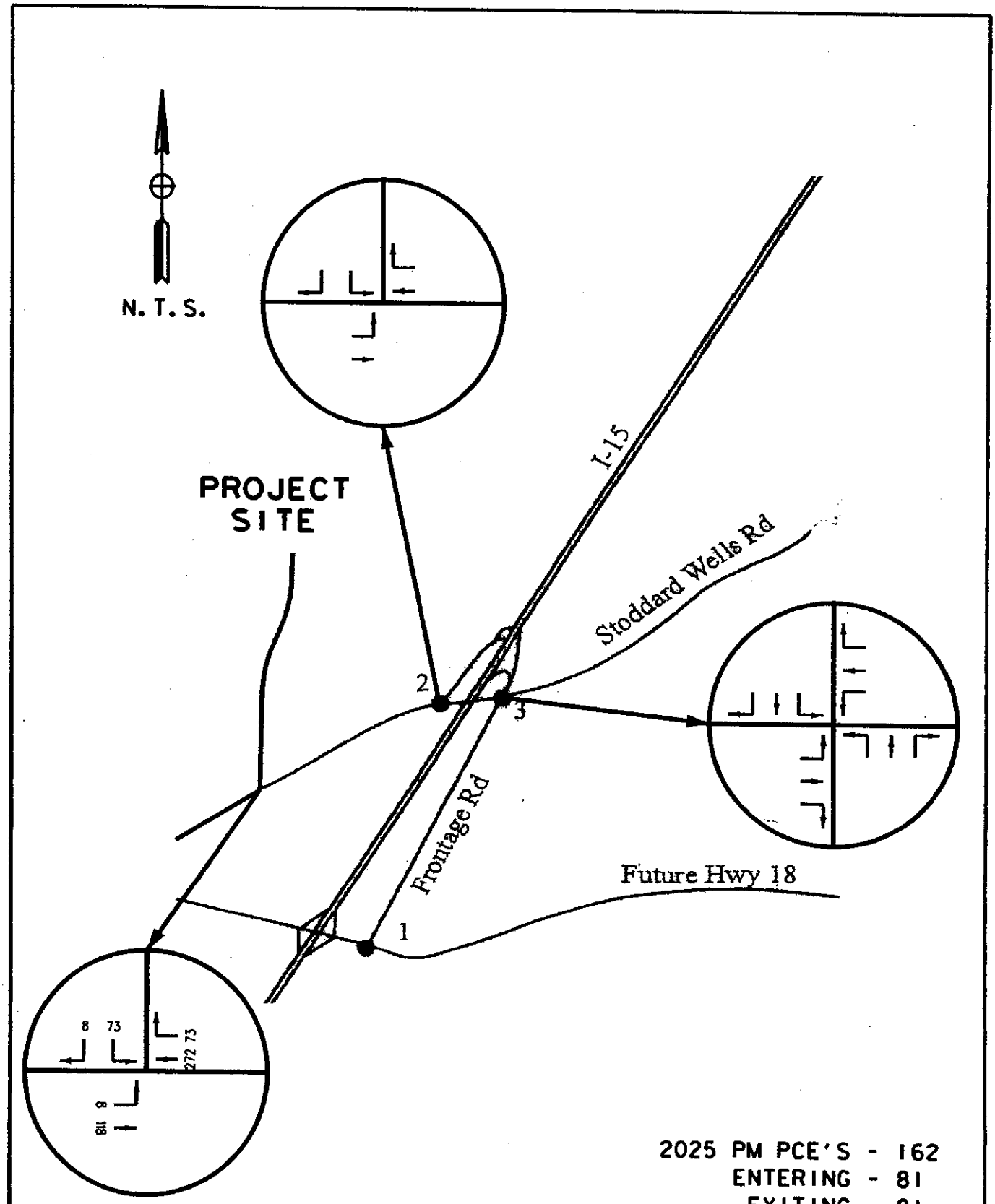

2025 PM PCE'S - 162
ENTERING - 81
EXITING - 81

Hernandez, Kroone & Associates, Inc. Consulting Civil Engineers & Land Surveyors 234 East Drake Drive San Bernardino, CA 92408	VICTORVILLE LANDFILL	PROJECT NO. 02-1028
	DESCRIPTION 2025 PM WITH PROJECT TRAFFIC	DATE 9-25-2002

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APPENDIX E
LEVEL OF SERVICE

HCS2000: Unsignalized Intersections Release 4.1c

TWO-WAY STOP CONTROL SUMMARY

Analyst: Cooper
Agency/Co.: HKA
Date Performed: 9/24/2002
Analysis Time Period: AM peak hour
Intersection: Std Well - I-15 NB
Jurisdiction: County of San Bernardino
Units: U. S. Customary
Analysis Year: Existing
Project ID: 02-1028
East/West Street: Stoddard Wells Road
North/South Street: I-15 NB on/off ramp
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	7	16	4	3	14	14
Peak-Hour Factor, PHF	0.80	0.80	0.80	0.80	0.80	0.80
Hourly Flow Rate, HFR	8	19	4	3	17	17
Percent Heavy Vehicles	10	--	--	0	--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	1	0	5	70	0	24
Peak Hour Factor, PHF	0.80	0.80	0.80	0.80	0.80	0.80
Hourly Flow Rate, HFR	1	0	6	87	0	29
Percent Heavy Vehicles	0	0	0	10	0	10
Percent Grade (%)		0			0	
Median Storage						
Flared Approach: Exists?		No			No	
Storage						
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	8	3		7			116	

HCS2000: Unsignalized Intersections Release 4.1c

TWO-WAY STOP CONTROL SUMMARY

Analyst: Cooper
Agency/Co.: HKA
Date Performed: 9/24/2002
Analysis Time Period: AM peak hour
Intersection: Std Well - I-15 NB
Jurisdiction: County of San Bernardino
Units: U. S. Customary
Analysis Year: Existing
Project ID: 02-1028
East/West Street: Stoddard Wells Road
North/South Street: I-15 NB on/off ramp
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	7	16	4	3	14	14
Peak-Hour Factor, PHF	0.80	0.80	0.80	0.80	0.80	0.80
Hourly Flow Rate, HFR	8	19	4	3	17	17
Percent Heavy Vehicles	10	--	--	0	--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	1	0	5	70	0	24
Peak Hour Factor, PHF	0.80	0.80	0.80	0.80	0.80	0.80
Hourly Flow Rate, HFR	1	0	6	87	0	29
Percent Heavy Vehicles	0	0	0	10	0	10
Percent Grade (%)		0			0	
Median Storage						
Flared Approach: Exists?		No			No	
Storage						
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	8	3		7			116	

C(m) (vph)	1527	1605	1031	921
v/c	0.01	0.00	0.01	0.13
95% queue length	0.02	0.01	0.02	0.43
Control Delay	7.4	7.2	8.5	9.5
LOS	A	A	A	A
Approach Delay			8.5	9.5
Approach LOS			A	A

HCS2000: Unsignalized Intersections Release 4.1c

Hernandez, Kroone & Associates

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TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst: Cooper
Agency/Co.: HKA
Date Performed: 9/24/2002
Analysis Time Period: AM peak hour
Intersection: Std Well - I-15 NB
Jurisdiction: County of San Bernardino
Units: U. S. Customary
Analysis Year: Existing
Project ID: 02-1028
East/West Street: Stoddard Wells Road
North/South Street: I-15 NB on/off ramp
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movements	1 L	2 T	3 R	4 L	5 T	6 R
Volume	7	16	4	3	14	14
Peak-Hour Factor, PHF	0.80	0.80	0.80	0.80	0.80	0.80
Peak-15 Minute Volume	2	5	1	1	4	4
Hourly Flow Rate, HFR	8	19	4	3	17	17
Percent Heavy Vehicles	10	--	--	0	--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street Movements	7 L	8 T	9 R	10 L	11 T	12 R
Volume	1	0	5	70	0	24
Peak Hour Factor, PHF	0.80	0.80	0.80	0.80	0.80	0.80

HCS2000: Unsignalized Intersections Release 4.1c

TWO-WAY STOP CONTROL SUMMARY

Analyst: Cooper
Agency/Co.: HKA
Date Performed: 9/24/2002
Analysis Time Period: AM peak hour
Intersection: Std Well - I-15 NB
Jurisdiction: County of San Bernardino
Units: U. S. Customary
Analysis Year: 2025 without Project
Project ID: 02-1028
East/West Street: Stoddard Wells Road
North/South Street: I-15 NB on/off ramp
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	12	29	7	5	25	25
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR	12	30	7	5	26	26
Percent Heavy Vehicles	10	--	--	0	--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	1	0	9	129	0	24
Peak Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR	1	0	9	135	0	25
Percent Heavy Vehicles	0	0	0	10	0	10
Percent Grade (%)		0			0	
Median Storage						
Flared Approach: Exists?		No			No	
Storage						
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	12	5		10			160	

C(m) (vph)	1504	1587	1019	856
v/c	0.01	0.00	0.01	0.19
95% queue length	0.02	0.01	0.03	0.68
Control Delay	7.4	7.3	8.6	10.2
LOS	A	A	A	B
Approach Delay			8.6	10.2
Approach LOS			A	B

HCS2000: Unsignalized Intersections Release 4.1c

Hernandez, Kroone & Associates

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TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst: Cooper
Agency/Co.: HKA
Date Performed: 9/24/2002
Analysis Time Period: AM peak hour
Intersection: Std Well - I-15 NB
Jurisdiction: County of San Bernardino
Units: U. S. Customary
Analysis Year: 2025 without Project
Project ID: 02-1028
East/West Street: Stoddard Wells Road
North/South Street: I-15 NB on/off ramp
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movements	1 L	2 T	3 R	4 L	5 T	6 R
Volume	12	29	7	5	25	25
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Peak-15 Minute Volume	3	8	2	1	7	7
Hourly Flow Rate, HFR	12	30	7	5	26	26
Percent Heavy Vehicles	10	--	--	0	--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street Movements	7 L	8 T	9 R	10 L	11 T	12 R
Volume	1	0	9	129	0	24
Peak Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95

HCS2000: Unsignalized Intersections Release 4.1c

TWO-WAY STOP CONTROL SUMMARY

Analyst: Cooper
Agency/Co.: HKA
Date Performed: 9/24/2002
Analysis Time Period: AM peak hour
Intersection: Std Well - I-15 NB
Jurisdiction: County of San Bernardino
Units: U. S. Customary
Analysis Year: 2025 with Project
Project ID: 02-1028
East/West Street: Stoddard Wells Road
North/South Street: I-15 NB on/off ramp
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	12	29	7	5	25	25
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR	12	30	7	5	26	26
Percent Heavy Vehicles	10	--	--	0	--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	1	0	9	129	0	61
Peak Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR	1	0	9	135	0	64
Percent Heavy Vehicles	0	0	0	10	0	10
Percent Grade (%)		0			0	
Median Storage						
Flared Approach: Exists?		No			No	
Storage						
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	12	5		10			199	

C(m) (vph)	1504	1587	1010	883
v/c	0.01	0.00	0.01	0.23
95% queue length	0.02	0.01	0.03	0.86
Control Delay	7.4	7.3	8.6	10.3
LOS	A	A	A	B
Approach Delay			8.6	10.3
Approach LOS			A	B

HCS2000: Unsignalized Intersections Release 4.1c

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TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst: Cooper
Agency/Co.: HKA
Date Performed: 9/24/2002
Analysis Time Period: AM peak hour
Intersection: Std Well - I-15 NB
Jurisdiction: County of San Bernardino
Units: U. S. Customary
Analysis Year: 2025 with Project
Project ID: 02-1028
East/West Street: Stoddard Wells Road
North/South Street: I-15 NB on/off ramp
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movements	1 L	2 T	3 R	4 L	5 T	6 R
Volume	12	29	7	5	25	25
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Peak-15 Minute Volume	3	8	2	1	7	7
Hourly Flow Rate, HFR	12	30	7	5	26	26
Percent Heavy Vehicles	10	--	--	0	--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street Movements	7 L	8 T	9 R	10 L	11 T	12 R
Volume	1	0	9	129	0	61
Peak Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95

HCS2000: Unsignalized Intersections Release 4.1c

TWO-WAY STOP CONTROL SUMMARY

Analyst: Cooper
Agency/Co.: HKA
Date Performed: 9/24/2002
Analysis Time Period: AM peak hour
Intersection: Std Well - I-15 SB
Jurisdiction: County of San Bernardino
Units: U. S. Customary
Analysis Year: Existing
Project ID: 02-1028
East/West Street: Stoddard Wells Road
North/South Street: I-15 SB on/off ramp
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	31	27			40	9
Peak-Hour Factor, PHF	0.80	0.80			0.80	0.80
Hourly Flow Rate, HFR	38	33			49	11
Percent Heavy Vehicles	10	--	--		--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				17		9
Peak Hour Factor, PHF				0.80		0.80
Hourly Flow Rate, HFR				21		11
Percent Heavy Vehicles				10		10
Percent Grade (%)		0			0	
Median Storage						
Flared Approach: Exists?					No	
Storage						
RT Channelized?						
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	38						32	

C(m) (vph)	1494	848
v/c	0.03	0.04
95% queue length	0.08	0.12
Control Delay	7.5	9.4
LOS	A	A
Approach Delay		9.4
Approach LOS		A

HCS2000: Unsignalized Intersections Release 4.1c

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TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst: Cooper
Agency/Co.: HKA
Date Performed: 9/24/2002
Analysis Time Period: AM peak hour
Intersection: Std Well - I-15 SB
Jurisdiction: County of San Bernardino
Units: U. S. Customary
Analysis Year: Existing
Project ID: 02-1028
East/West Street: Stoddard Wells Road
North/South Street: I-15 SB on/off ramp
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movements	1 L	2 T	3 R	4 L	5 T	6 R
Volume	31	27			40	9
Peak-Hour Factor, PHF	0.80	0.80			0.80	0.80
Peak-15 Minute Volume	10	8			12	3
Hourly Flow Rate, HFR	38	33			49	11
Percent Heavy Vehicles	10	--	--		--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street Movements	7 L	8 T	9 R	10 L	11 T	12 R
Volume				17		9
Peak Hour Factor, PHF				0.80		0.80

HCS2000: Unsignalized Intersections Release 4.1c

TWO-WAY STOP CONTROL SUMMARY

Analyst: Cooper
Agency/Co.: HKA
Date Performed: 9/24/2002
Analysis Time Period: AM peak hour
Intersection: Std Well - I-15 SB
Jurisdiction: County of San Bernardino
Units: U. S. Customary
Analysis Year: 2025 without Project
Project ID: 02-1028
East/West Street: Stoddard Wells Road
North/South Street: I-15 SB on/off ramp
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	38	49			54	16
Peak-Hour Factor, PHF	0.95	0.95			0.95	0.95
Hourly Flow Rate, HFR	40	51			56	16
Percent Heavy Vehicles	10	--	--		--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				31		16
Peak Hour Factor, PHF				0.95		0.95
Hourly Flow Rate, HFR				32		16
Percent Heavy Vehicles				10		10
Percent Grade (%)		0			0	
Median Storage						
Flared Approach: Exists?					No	
Storage						
RT Channelized?						
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	40						48	

C(m) (vph)	1479	817
v/c	0.03	0.06
95% queue length	0.08	0.19
Control Delay	7.5	9.7
LOS	A	A
Approach Delay		9.7
Approach LOS		A

HCS2000: Unsignalized Intersections Release 4.1c

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TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst: Cooper
Agency/Co.: HKA
Date Performed: 9/24/2002
Analysis Time Period: AM peak hour
Intersection: Std Well - I-15 SB
Jurisdiction: County of San Bernardino
Units: U. S. Customary
Analysis Year: 2025 without Project
Project ID: 02-1028
East/West Street: Stoddard Wells Road
North/South Street: I-15 SB on/off ramp
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movements	1 L	2 T	3 R	4 L	5 T	6 R
Volume	38	49			54	16
Peak-Hour Factor, PHF	0.95	0.95			0.95	0.95
Peak-15 Minute Volume	10	13			14	4
Hourly Flow Rate, HFR	40	51			56	16
Percent Heavy Vehicles	10	--	--		--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street Movements	7 L	8 T	9 R	10 L	11 T	12 R
Volume				31		16
Peak Hour Factor, PHF				0.95		0.95

HCS2000: Unsignalized Intersections Release 4.1c

TWO-WAY STOP CONTROL SUMMARY

Analyst: Cooper
Agency/Co.: HKA
Date Performed: 9/24/2002
Analysis Time Period: AM peak hour
Intersection: Std Well - I-15 SB
Jurisdiction: County of San Bernardino
Units: U. S. Customary
Analysis Year: 2025 with Project
Project ID: 02-1028
East/West Street: Stoddard Wells Road
North/South Street: I-15 SB on/off ramp
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	75	49			91	16
Peak-Hour Factor, PHF	0.95	0.95			0.95	0.95
Hourly Flow Rate, HFR	78	51			95	16
Percent Heavy Vehicles	10	--	--		--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT				TR	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				31		16
Peak Hour Factor, PHF				0.95		0.95
Hourly Flow Rate, HFR				32		16
Percent Heavy Vehicles				10		10
Percent Grade (%)		0			0	
Median Storage						
Flared Approach: Exists?					No	
Storage						
RT Channelized?						
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	78						48	

C(m) (vph)	1430	706
v/c	0.05	0.07
95% queue length	0.17	0.22
Control Delay	7.7	10.5
LOS	A	B
Approach Delay		10.5
Approach LOS		B

HCS2000: Unsignalized Intersections Release 4.1c

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TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst: Cooper
Agency/Co.: HKA
Date Performed: 9/24/2002
Analysis Time Period: AM peak hour
Intersection: Std Well - I-15 SB
Jurisdiction: County of San Bernardino
Units: U. S. Customary
Analysis Year: 2025 with Project
Project ID: 02-1028
East/West Street: Stoddard Wells Road
North/South Street: I-15 SB on/off ramp
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movements	1 L	2 T	3 R	4 L	5 T	6 R
Volume	75	49			91	16
Peak-Hour Factor, PHF	0.95	0.95			0.95	0.95
Peak-15 Minute Volume	20	13			24	4
Hourly Flow Rate, HFR	78	51			95	16
Percent Heavy Vehicles	10	--	--		--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street Movements	7 L	8 T	9 R	10 L	11 T	12 R
Volume				31		16
Peak Hour Factor, PHF				0.95		0.95

HCS2000: Unsignalized Intersections Release 4.1c

TWO-WAY STOP CONTROL SUMMARY

Analyst: Cooper
Agency/Co.: HKA
Date Performed: 9/24/2002
Analysis Time Period: AM
Intersection: Std Wells & Landfill Drive
Jurisdiction: County of San Bernardino
Units: U. S. Customary
Analysis Year: Existing
Project ID: 02-1028
East/West Street: Stoddard Wells Road
North/South Street: Landfill Drive
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	5	27			17	23
Peak-Hour Factor, PHF	0.80	0.80			0.80	0.80
Hourly Flow Rate, HFR	6	33			21	28
Percent Heavy Vehicles	0	--	--		--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				22		5
Peak Hour Factor, PHF				0.80		0.80
Hourly Flow Rate, HFR				27		6
Percent Heavy Vehicles				0		0
Percent Grade (%)		0			0	
Median Storage						
Flared Approach: Exists?					No	
Storage						
RT Channelized?						
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	6						33	

C(m) (vph)	1571	943
v/c	0.00	0.03
95% queue length	0.01	0.11
Control Delay	7.3	9.0
LOS	A	A
Approach Delay		9.0
Approach LOS		A

HCS2000: Unsignalized Intersections Release 4.1c

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TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst: Cooper
Agency/Co.: HKA
Date Performed: 9/24/2002
Analysis Time Period: AM
Intersection: Std Wells & Landfill Drive
Jurisdiction: County of San Bernardino
Units: U. S. Customary
Analysis Year: Existing
Project ID: 02-1028
East/West Street: Stoddard Wells Road
North/South Street: Landfill Drive
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movements	1 L	2 T	3 R	4 L	5 T	6 R
Volume	5	27			17	23
Peak-Hour Factor, PHF	0.80	0.80			0.80	0.80
Peak-15 Minute Volume	2	8			5	7
Hourly Flow Rate, HFR	6	33			21	28
Percent Heavy Vehicles	0	--	--		--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street Movements	7 L	8 T	9 R	10 L	11 T	12 R
Volume				22		5
Peak Hour Factor, PHF				0.80		0.80

HCS2000: Unsignalized Intersections Release 4.1c

TWO-WAY STOP CONTROL SUMMARY

Analyst: Cooper
Agency/Co.: HKA
Date Performed: 9/24/2002
Analysis Time Period: AM
Intersection: Std Wells & Landfill Drive
Jurisdiction: County of San Bernardino
Units: U. S. Customary
Analysis Year: 2025 without Project
Project ID: 02-1028
East/West Street: Stoddard Wells Road
North/South Street: Landfill Drive
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	5	49			31	23
Peak-Hour Factor, PHF	0.95	0.95			0.95	0.95
Hourly Flow Rate, HFR	5	51			32	24
Percent Heavy Vehicles	0	--	--		--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				22		5
Peak Hour Factor, PHF				0.95		0.95
Hourly Flow Rate, HFR				23		5
Percent Heavy Vehicles				0		0
Percent Grade (%)		0			0	
Median Storage						
Flared Approach: Exists?					No	
Storage						
RT Channelized?						
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	5						28	

C(m) (vph)	1562	917
v/c	0.00	0.03
95% queue length	0.01	0.09
Control Delay	7.3	9.0
LOS	A	A
Approach Delay		9.0
Approach LOS		A

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TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst: Cooper
Agency/Co.: HKA
Date Performed: 9/24/2002
Analysis Time Period: AM
Intersection: Std Wells & Landfill Drive
Jurisdiction: County of San Bernardino
Units: U. S. Customary
Analysis Year: 2025 without Project
Project ID: 02-1028
East/West Street: Stoddard Wells Road
North/South Street: Landfill Drive
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movements	1 L	2 T	3 R	4 L	5 T	6 R
Volume	5	49			31	23
Peak-Hour Factor, PHF	0.95	0.95			0.95	0.95
Peak-15 Minute Volume	1	13			8	6
Hourly Flow Rate, HFR	5	51			32	24
Percent Heavy Vehicles	0	--	--		--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street Movements	7 L	8 T	9 R	10 L	11 T	12 R
Volume				22		5
Peak Hour Factor, PHF				0.95		0.95

HCS2000: Unsignalized Intersections Release 4.1c

TWO-WAY STOP CONTROL SUMMARY

Analyst: Cooper
Agency/Co.: HKA
Date Performed: 9/24/2002
Analysis Time Period: AM
Intersection: Std Wells & Landfill Drive
Jurisdiction: County of San Bernardino
Units: U. S. Customary
Analysis Year: 2025 with Project
Project ID: 02-1028
East/West Street: Stoddard Wells Road
North/South Street: Landfill Drive
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	9	49			31	60
Peak-Hour Factor, PHF	0.95	0.95			0.95	0.95
Hourly Flow Rate, HFR	9	51			32	63
Percent Heavy Vehicles	0	--	--		--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				59		9
Peak Hour Factor, PHF				0.95		0.95
Hourly Flow Rate, HFR				62		9
Percent Heavy Vehicles				0		0
Percent Grade (%)		0			0	
Median Storage						
Flared Approach: Exists?					No	
Storage						
RT Channelized?						
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	9						71	

C(m) (vph)	1512	877
v/c	0.01	0.08
95% queue length	0.02	0.26
Control Delay	7.4	9.5
LOS	A	A
Approach Delay		9.5
Approach LOS		A

HCS2000: Unsignalized Intersections Release 4.1c

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TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst: Cooper
Agency/Co.: HKA
Date Performed: 9/24/2002
Analysis Time Period: AM
Intersection: Std Wells & Landfill Drive
Jurisdiction: County of San Bernardino
Units: U. S. Customary
Analysis Year: 2025 with Project
Project ID: 02-1028
East/West Street: Stoddard Wells Road
North/South Street: Landfill Drive
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movements	1 L	2 T	3 R	4 L	5 T	6 R
Volume	9	49			31	60
Peak-Hour Factor, PHF	0.95	0.95			0.95	0.95
Peak-15 Minute Volume	2	13			8	16
Hourly Flow Rate, HFR	9	51			32	63
Percent Heavy Vehicles	0	--	--		--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street Movements	7 L	8 T	9 R	10 L	11 T	12 R
Volume				59		9
Peak Hour Factor, PHF				0.95		0.95

HCS2000: Unsignalized Intersections Release 4.1

TWO-WAY STOP CONTROL SUMMARY

Analyst: Cooper
Agency/Co.: HKA
Date Performed: 5/6/02
Analysis Time Period:
Intersection: I-15 NB - Std Wells
Jurisdiction:
Analysis Year: Existing Conditions
Project ID: 01-1088
East/West Street: Stoddard Wells Road
North/South Street: I-15 NB - Frontage

Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	0	20	1	2	53	1
Peak-Hour Factor, PHF	0.50	0.50	0.50	0.88	0.88	0.88
Hourly Flow Rate, HFR	0	40	2	2	60	1
Percent Heavy Vehicles	18	--	--	2	--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	2	6	14	1	8
Peak Hour Factor, PHF	0.67	0.67	0.67	0.82	0.82	0.82
Hourly Flow Rate, HFR	0	2	8	17	1	9
Percent Heavy Vehicles	0	25	0	0	8	0
Percent Grade (%)		0			0	
Median Storage						
Flared Approach: Exists?		No			No	
Storage						
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	0	2		10			27	
C(m) (vph)	1446	1567		960			904	

v/c	0.00	0.00	0.01	0.03
95% queue length	0.00	0.00	0.03	0.09
Control Delay	7.5	7.3	8.8	9.1
LOS	A	A	A	A
Approach Delay			8.8	9.1
Approach LOS			A	A

HCS2000: Unsignalized Intersections Release 4.1

Phone:
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Fax:

TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst: Cooper
Agency/Co.: HKA
Date Performed: 5/6/02
Analysis Time Period:
Intersection: I-15 NB - Std Wells
Jurisdiction:
Analysis Year: Existing Conditions
Project ID: 01-1088
East/West Street: Stoddard Wells Road
North/South Street: I-15 NB - Frontage

Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movements	1 L	2 T	3 R	4 L	5 T	6 R
Volume	0	20	1	2	53	1
Peak-Hour Factor, PHF	0.50	0.50	0.50	0.88	0.88	0.88
Peak-15 Minute Volume	0	10	0	1	15	0
Hourly Flow Rate, HFR	0	40	2	2	60	1
Percent Heavy Vehicles	18	--	--	2	--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street Movements	7 L	8 T	9 R	10 L	11 T	12 R
Volume	0	2	6	14	1	8
Peak Hour Factor, PHF	0.67	0.67	0.67	0.82	0.82	0.82
Peak-15 Minute Volume	0	1	2	4	0	2
Hourly Flow Rate, HFR	0	2	8	17	1	9

HCS2000: Unsignalized Intersections Release 4.1c

TWO-WAY STOP CONTROL SUMMARY

Analyst: Cooper
Agency/Co.: HKA
Date Performed: 9/24/2002
Analysis Time Period: PM peak hour
Intersection: Std Well - I-15 NB
Jurisdiction: County of San Bernardino
Units: U. S. Customary
Analysis Year: 2025 without Project
Project ID: 02-1028
East/West Street: Stoddard Wells Road
North/South Street: I-15 NB on/off ramp
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	2	84	49	279	177	36
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR	2	88	51	293	186	37
Percent Heavy Vehicles	10	--	--	0	--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	29	12	146	87	60	3
Peak Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR	30	12	153	91	63	3
Percent Heavy Vehicles	0	0	0	10	0	10
Percent Grade (%)		0			0	
Median Storage						
Flared Approach: Exists?		No			No	
Storage						
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	2	293		195			157	

C(m) (vph)	1300	1457	471	167
v/c	0.00	0.20	0.41	0.94
95% queue length	0.00	0.75	2.00	7.07
Control Delay	7.8	8.1	17.9	109.5
LOS	A	A	C	F
Approach Delay			17.9	109.5
Approach LOS			C	F

HCS2000: Unsignalized Intersections Release 4.1c

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TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst: Cooper
Agency/Co.: HKA
Date Performed: 9/24/2002
Analysis Time Period: PM peak hour
Intersection: Std Well - I-15 NB
Jurisdiction: County of San Bernardino
Units: U. S. Customary
Analysis Year: 2025 without Project
Project ID: 02-1028
East/West Street: Stoddard Wells Road
North/South Street: I-15 NB on/off ramp
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movements	1 L	2 T	3 R	4 L	5 T	6 R
Volume	2	84	49	279	177	36
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Peak-15 Minute Volume	1	22	13	73	47	9
Hourly Flow Rate, HFR	2	88	51	293	186	37
Percent Heavy Vehicles	10	--	--	0	--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street Movements	7 L	8 T	9 R	10 L	11 T	12 R
Volume	29	12	146	87	60	3
Peak Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95

HCS2000: Unsignalized Intersections Release 4.1c

TWO-WAY STOP CONTROL SUMMARY

Analyst: Cooper
Agency/Co.: HKA
Date Performed: 9/24/2002
Analysis Time Period: PM peak hour
Intersection: Std Well - I-15 NB
Jurisdiction: County of San Bernardino
Units: U. S. Customary
Analysis Year: 2025 with Project
Project ID: 02-1028
East/West Street: Stoddard Wells Road
North/South Street: I-15 NB on/off ramp
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	2	84	49	279	177	36
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR	2	88	51	293	186	37
Percent Heavy Vehicles	10	--	--	0	--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	29	12	146	87	60	45
Peak Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR	30	12	153	91	63	47
Percent Heavy Vehicles	0	0	0	10	0	10
Percent Grade (%)		0			0	
Median Storage						
Flared Approach: Exists?		No			No	
Storage						
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	2	293		195			201	

C(m) (vph)	1300	1457	451	202
v/c	0.00	0.20	0.43	1.00
95% queue length	0.00	0.75	2.14	8.62
Control Delay	7.8	8.1	18.9	111.0
LOS	A	A	C	F
Approach Delay			18.9	111.0
Approach LOS			C	F

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TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst: Cooper
Agency/Co.: HKA
Date Performed: 9/24/2002
Analysis Time Period: PM peak hour
Intersection: Std Well - I-15 NB
Jurisdiction: County of San Bernardino
Units: U. S. Customary
Analysis Year: 2025 with Project
Project ID: 02-1028
East/West Street: Stoddard Wells Road
North/South Street: I-15 NB on/off ramp
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movements	1 L	2 T	3 R	4 L	5 T	6 R
Volume	2	84	49	279	177	36
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Peak-15 Minute Volume	1	22	13	73	47	9
Hourly Flow Rate, HFR	2	88	51	293	186	37
Percent Heavy Vehicles	10	--	--	0	--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street Movements	7 L	8 T	9 R	10 L	11 T	12 R
Volume	29	12	146	87	60	45
Peak Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95

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TWO-WAY STOP CONTROL SUMMARY

Analyst:	Cooper
Agency/Co.:	HKA
Date Performed:	5/6/02
Analysis Time Period:	
Intersection:	Std Wells - I 15 SB
Jurisdiction:	
Analysis Year:	Existing Conditions
Project ID: 01-1088	
East/West Street:	Stoddard Wells
North/South Street:	I-15 SB

Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	8	19			26	32
Peak-Hour Factor, PHF	0.50	0.50			0.85	0.85
Hourly Flow Rate, HFR	16	38			30	37
Percent Heavy Vehicles	6	--	--		--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1			1	0
Configuration		LT				TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				1		11
Peak Hour Factor, PHF				0.75		0.75
Hourly Flow Rate, HFR				1		14
Percent Heavy Vehicles				17		14
Percent Grade (%)		0			0	
Median Storage						
Flared Approach: Exists?						
Storage						
RT Channelized?						No
Lanes				1		1
Configuration				L		R

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT					L		R
v (vph)	16					1		14
C(m) (vph)	1509					834		988

v/c	0.01		0.00		0.01
95% queue length	0.03		0.00		0.04
Control Delay	7.4		9.3		8.7
LOS	A		A		A
Approach Delay				8.7	
Approach LOS				A	

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TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst:	Cooper
Agency/Co.:	HKA
Date Performed:	5/6/02
Analysis Time Period:	
Intersection:	Std Wells - I 15 SB
Jurisdiction:	
Analysis Year:	Existing Conditions
Project ID: 01-1088	
East/West Street:	Stoddard Wells
North/South Street:	I-15 SB

Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movements	1 L	2 T	3 R	4 L	5 T	6 R
Volume	8	19			26	32
Peak-Hour Factor, PHF	0.50	0.50			0.85	0.85
Peak-15 Minute Volume	4	10			8	9
Hourly Flow Rate, HFR	16	38			30	37
Percent Heavy Vehicles	6	--	--		--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1			1	0
Configuration		LT				TR
Upstream Signal?		No			No	

Minor Street Movements	7 L	8 T	9 R	10 L	11 T	12 R
Volume				1		11
Peak Hour Factor, PHF				0.75		0.75
Peak-15 Minute Volume				0		4
Hourly Flow Rate, HFR				1		14

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TWO-WAY STOP CONTROL SUMMARY

Analyst: Cooper
Agency/Co.: HKA
Date Performed: 9/24/2002
Analysis Time Period: PM peak hour
Intersection: Std Well - I-15 SB
Jurisdiction: County of San Bernardino
Units: U. S. Customary
Analysis Year: 2025 without Project
Project ID: 02-1028
East/West Street: Stoddard Wells Road
North/South Street: I-15 SB on/off ramp
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	0	118			251	0
Peak-Hour Factor, PHF	0.95	0.95			0.95	0.95
Hourly Flow Rate, HFR	0	124			264	0
Percent Heavy Vehicles	10	--	--		--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				66		21
Peak Hour Factor, PHF				0.95		0.95
Hourly Flow Rate, HFR				69		22
Percent Heavy Vehicles				10		10
Percent Grade (%)		0			0	
Median Storage						
Flared Approach: Exists?					No	
Storage						
RT Channelized?						
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	0						91	

C(m) (vph)	1255	632
v/c	0.00	0.14
95% queue length	0.00	0.50
Control Delay	7.9	11.7
LOS	A	B
Approach Delay		11.7
Approach LOS		B

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TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst: Cooper
Agency/Co.: HKA
Date Performed: 9/24/2002
Analysis Time Period: PM peak hour
Intersection: Std Well - I-15 SB
Jurisdiction: County of San Bernardino
Units: U. S. Customary
Analysis Year: 2025 without Project
Project ID: 02-1028
East/West Street: Stoddard Wells Road
North/South Street: I-15 SB on/off ramp
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movements	1 L	2 T	3 R	4 L	5 T	6 R
Volume	0	118			251	0
Peak-Hour Factor, PHF	0.95	0.95			0.95	0.95
Peak-15 Minute Volume	0	31			66	0
Hourly Flow Rate, HFR	0	124			264	0
Percent Heavy Vehicles	10	--	--		--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street Movements	7 L	8 T	9 R	10 L	11 T	12 R
Volume				66		21
Peak Hour Factor, PHF				0.95		0.95

HCS2000: Unsignalized Intersections Release 4.1c

TWO-WAY STOP CONTROL SUMMARY

Analyst: Cooper
Agency/Co.: HKA
Date Performed: 9/24/2002
Analysis Time Period: PM peak hour
Intersection: Std Well - I-15 SB
Jurisdiction: County of San Bernardino
Units: U. S. Customary
Analysis Year: 2025 with Project
Project ID: 02-1028
East/West Street: Stoddard Wells Road
North/South Street: I-15 SB on/off ramp
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	43	118			293	0
Peak-Hour Factor, PHF	0.95	0.95			0.95	0.95
Hourly Flow Rate, HFR	45	124			308	0
Percent Heavy Vehicles	10	--	--		--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				66		21
Peak Hour Factor, PHF				0.95		0.95
Hourly Flow Rate, HFR				69		22
Percent Heavy Vehicles				10		10
Percent Grade (%)		0			0	
Median Storage						
Flared Approach: Exists?					No	
Storage						
RT Channelized?						
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	45						91	

C(m) (vph)	1209	523
v/c	0.04	0.17
95% queue length	0.12	0.62
Control Delay	8.1	13.3
LOS	A	B
Approach Delay		13.3
Approach LOS		B

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TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst: Cooper
Agency/Co.: HKA
Date Performed: 9/24/2002
Analysis Time Period: PM peak hour
Intersection: Std Well - I-15 SB
Jurisdiction: County of San Bernardino
Units: U. S. Customary
Analysis Year: 2025 with Project
Project ID: 02-1028
East/West Street: Stoddard Wells Road
North/South Street: I-15 SB on/off ramp
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movements	1 L	2 T	3 R	4 L	5 T	6 R
Volume	43	118			293	0
Peak-Hour Factor, PHF	0.95	0.95			0.95	0.95
Peak-15 Minute Volume	11	31			77	0
Hourly Flow Rate, HFR	45	124			308	0
Percent Heavy Vehicles	10	--	--		--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street Movements	7 L	8 T	9 R	10 L	11 T	12 R
Volume				66		21
Peak Hour Factor, PHF				0.95		0.95

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TWO-WAY STOP CONTROL SUMMARY

Analyst: Cooper
Agency/Co.: HKA
Date Performed: 9/24/2002
Analysis Time Period: PM
Intersection: Std Wells & Landfill Drive
Jurisdiction: County of San Bernardino
Units: U. S. Customary
Analysis Year: Existing
Project ID: 02-1028
East/West Street: Stoddard Wells Road
North/South Street: Landfill Drive
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	3	27			37	30
Peak-Hour Factor, PHF	0.80	0.80			0.80	0.80
Hourly Flow Rate, HFR	3	33			46	37
Percent Heavy Vehicles	0	--	--		--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1			1	0
Configuration		LT				TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				31		3
Peak Hour Factor, PHF				0.80		0.80
Hourly Flow Rate, HFR				38		3
Percent Heavy Vehicles				0		0
Percent Grade (%)		0			0	
Median Storage						
Flared Approach: Exists?					No	
Storage						
RT Channelized?						
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	3						41	

C(m) (vph)	1527	905
v/c	0.00	0.05
95% queue length	0.01	0.14
Control Delay	7.4	9.2
LOS	A	A
Approach Delay		9.2
Approach LOS		A

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TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst: Cooper
Agency/Co.: HKA
Date Performed: 9/24/2002
Analysis Time Period: PM
Intersection: Std Wells & Landfill Drive
Jurisdiction: County of San Bernardino
Units: U. S. Customary
Analysis Year: Existing
Project ID: 02-1028
East/West Street: Stoddard Wells Road
North/South Street: Landfill Drive
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movements	1 L	2 T	3 R	4 L	5 T	6 R
Volume	3	27			37	30
Peak-Hour Factor, PHF	0.80	0.80			0.80	0.80
Peak-15 Minute Volume	1	8			12	9
Hourly Flow Rate, HFR	3	33			46	37
Percent Heavy Vehicles	0	--	--		--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street Movements	7 L	8 T	9 R	10 L	11 T	12 R
Volume				31		3
Peak Hour Factor, PHF				0.80		0.80

HCS2000: Unsignalized Intersections Release 4.1c

TWO-WAY STOP CONTROL SUMMARY

Analyst: Cooper
Agency/Co.: HKA
Date Performed: 9/24/2002
Analysis Time Period: PM
Intersection: Std Wells & Landfill Drive
Jurisdiction: County of San Bernardino
Units: U. S. Customary
Analysis Year: 2025 without Project
Project ID: 02-1028
East/West Street: Stoddard Wells Road
North/South Street: Landfill Drive
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	3	118			272	30
Peak-Hour Factor, PHF	0.95	0.95			0.95	0.95
Hourly Flow Rate, HFR	3	124			286	31
Percent Heavy Vehicles	0	--	--		--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				31		3
Peak Hour Factor, PHF				0.95		0.95
Hourly Flow Rate, HFR				32		3
Percent Heavy Vehicles				0		0
Percent Grade (%)		0			0	
Median Storage						
Flared Approach: Exists?					No	
Storage						
RT Channelized?						
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	3						35	

C(m) (vph)	1255	594
v/c	0.00	0.06
95% queue length	0.01	0.19
Control Delay	7.9	11.4
LOS	A	B
Approach Delay		11.4
Approach LOS		B

HCS2000: Unsignalized Intersections Release 4.1c

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TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst: Cooper
Agency/Co.: HKA
Date Performed: 9/24/2002
Analysis Time Period: PM
Intersection: Std Wells & Landfill Drive
Jurisdiction: County of San Bernardino
Units: U. S. Customary
Analysis Year: 2025 without Project
Project ID: 02-1028
East/West Street: Stoddard Wells Road
North/South Street: Landfill Drive
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movements	1 L	2 T	3 R	4 L	5 T	6 R
Volume	3	118			272	30
Peak-Hour Factor, PHF	0.95	0.95			0.95	0.95
Peak-15 Minute Volume	1	31			72	8
Hourly Flow Rate, HFR	3	124			286	31
Percent Heavy Vehicles	0	--	--		--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street Movements	7 L	8 T	9 R	10 L	11 T	12 R
Volume				31		3
Peak Hour Factor, PHF				0.95		0.95

HCS2000: Unsignalized Intersections Release 4.1c

TWO-WAY STOP CONTROL SUMMARY

Analyst: Cooper
Agency/Co.: HKA
Date Performed: 9/24/2002
Analysis Time Period: PM
Intersection: Std Wells & Landfill Drive
Jurisdiction: County of San Bernardino
Units: U. S. Customary
Analysis Year: 2025 with Project
Project ID: 02-1028
East/West Street: Stoddard Wells Road
North/South Street: Landfill Drive
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1 L	2 T	3 R	4 L	5 T	6 R
Volume	8	118			272	73
Peak-Hour Factor, PHF	0.95	0.95			0.95	0.95
Hourly Flow Rate, HFR	8	124			286	76
Percent Heavy Vehicles	0	--	--		--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1			1	0
Configuration		LT				TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7 L	8 T	9 R	10 L	11 T	12 R
Volume				73		8
Peak Hour Factor, PHF				0.95		0.95
Hourly Flow Rate, HFR				76		8
Percent Heavy Vehicles				0		0
Percent Grade (%)		0			0	
Median Storage						
Flared Approach: Exists?					No	
Storage						
RT Channelized?						
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	8						84	

C(m) (vph)	1208	568
v/c	0.01	0.15
95% queue length	0.02	0.52
Control Delay	8.0	12.4
LOS	A	B
Approach Delay		12.4
Approach LOS		B

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TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst:	Cooper
Agency/Co.:	HKA
Date Performed:	9/24/2002
Analysis Time Period:	PM
Intersection:	Std Wells & Landfill Drive
Jurisdiction:	County of San Bernardino
Units: U. S. Customary	
Analysis Year:	2025 with Project
Project ID: 02-1028	
East/West Street:	Stoddard Wells Road
North/South Street:	Landfill Drive
Intersection Orientation: EW	Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movements	1 L	2 T	3 R	4 L	5 T	6 R
Volume	8	118			272	73
Peak-Hour Factor, PHF	0.95	0.95			0.95	0.95
Peak-15 Minute Volume	2	31			72	19
Hourly Flow Rate, HFR	8	124			286	76
Percent Heavy Vehicles	0	--	--		--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1			1	0
Configuration	LT					TR
Upstream Signal?		No			No	

Minor Street Movements	7 L	8 T	9 R	10 L	11 T	12 R
Volume				73		8
Peak Hour Factor, PHF				0.95		0.95

HCS2000: Unsignalized Intersections Release 4.1c

TWO-WAY STOP CONTROL SUMMARY

Analyst: Cooper
Agency/Co.: HKA
Date Performed: 9/24/2002
Analysis Time Period: PM peak hour
Intersection: Std Well - I-15 NB
Jurisdiction: County of San Bernardino
Units: U. S. Customary
Analysis Year: 2025 without Project MIT
Project ID: 02-1028
East/West Street: Stoddard Wells Road
North/South Street: I-15 NB on/off ramp
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	2	84	49	279	177	36
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR	2	88	51	293	186	37
Percent Heavy Vehicles	10	--	--	0	--	--
Median Type	Undivided					
RT Channelized?						No
Lanes	0	2	0	1	1	1
Configuration	LT		TR	L	T	R
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	29	12	146	87	60	3
Peak Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR	30	12	153	91	63	3
Percent Heavy Vehicles	0	0	0	10	0	10
Percent Grade (%)		0			0	
Median Storage						
Flared Approach: Exists?		No			No	
Storage						
RT Channelized?						
Lanes	0	1	0	1	1	0
Configuration		LTR		L		TR

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT	L		LTR		L		TR
v (vph)	2	293		195		91		66

C(m) (vph)	1287	1457	468	172	226
v/c	0.00	0.20	0.42	0.53	0.29
95% queue length	0.00	0.75	2.02	2.67	1.17
Control Delay	7.8	8.1	18.1	47.3	27.4
LOS	A	A	C	E	D
Approach Delay			18.1	38.9	
Approach LOS			C	E	

HCS2000: Unsignalized Intersections Release 4.1c

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TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst: Cooper
Agency/Co.: HKA
Date Performed: 9/24/2002
Analysis Time Period: PM peak hour
Intersection: Std Well - I-15 NB
Jurisdiction: County of San Bernardino
Units: U. S. Customary
Analysis Year: 2025 without Project MIT
Project ID: 02-1028
East/West Street: Stoddard Wells Road
North/South Street: I-15 NB on/off ramp
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movements	1 L	2 T	3 R	4 L	5 T	6 R
Volume	2	84	49	279	177	36
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Peak-15 Minute Volume	1	22	13	73	47	9
Hourly Flow Rate, HFR	2	88	51	293	186	37
Percent Heavy Vehicles	10	--	--	0	--	--
Median Type	Undivided					
RT Channelized?						No
Lanes	0	2	0	1	1	1
Configuration	LT		TR	L	T	R
Upstream Signal?		No			No	

Minor Street Movements	7 L	8 T	9 R	10 L	11 T	12 R
Volume	29	12	146	87	60	3
Peak Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95

HCS2000: Unsignalized Intersections Release 4.1c

TWO-WAY STOP CONTROL SUMMARY

Analyst: Cooper
Agency/Co.: HKA
Date Performed: 9/24/2002
Analysis Time Period: PM peak hour
Intersection: Std Well - I-15 NB
Jurisdiction: County of San Bernardino
Units: U. S. Customary
Analysis Year: 2025 with Project MIT
Project ID: 02-1028
East/West Street: Stoddard Wells Road
North/South Street: I-15 NB on/off ramp
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	2	84	49	279	177	36
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR	2	88	51	293	186	37
Percent Heavy Vehicles	10	--	--	0	--	--
Median Type	Undivided					
RT Channelized?						No
Lanes	0	2	0	1	1	1
Configuration		LT	TR	L	T	R
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	29	12	146	87	60	45
Peak Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Hourly Flow Rate, HFR	30	12	153	91	63	47
Percent Heavy Vehicles	0	0	0	10	0	10
Percent Grade (%)		0			0	
Median Storage						
Flared Approach: Exists?		No			No	
Storage						
RT Channelized?						
Lanes	0	1	0	1	1	0
Configuration		LTR		L		TR

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT	L		LTR		L		TR
v (vph)	2	293		195		91		110

C(m) (vph)	1287	1457	447	172	318
v/c	0.00	0.20	0.44	0.53	0.35
95% queue length	0.00	0.75	2.17	2.67	1.50
Control Delay	7.8	8.1	19.1	47.3	22.2
LOS	A	A	C	E	C
Approach Delay			19.1	33.6	
Approach LOS			C	D	

HCS2000: Unsignalized Intersections Release 4.1c

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TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst: Cooper
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Date Performed: 9/24/2002
Analysis Time Period: PM peak hour
Intersection: Std Well - I-15 NB
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Project ID: 02-1028
East/West Street: Stoddard Wells Road
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Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movements	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	2	84	49	279	177	36
Peak-Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Peak-15 Minute Volume	1	22	13	73	47	9
Hourly Flow Rate, HFR	2	88	51	293	186	37
Percent Heavy Vehicles	10	--	--	0	--	--
Median Type	Undivided					
RT Channelized?						No
Lanes	0	2	0	1	1	1
Configuration	LT		TR	L	T	R
Upstream Signal?		No			No	

Minor Street Movements	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	29	12	146	87	60	45
Peak Hour Factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95

APPENDIX F
BACKGROUND FROM PLUTO DEVELOPMENT REPORT

HKA

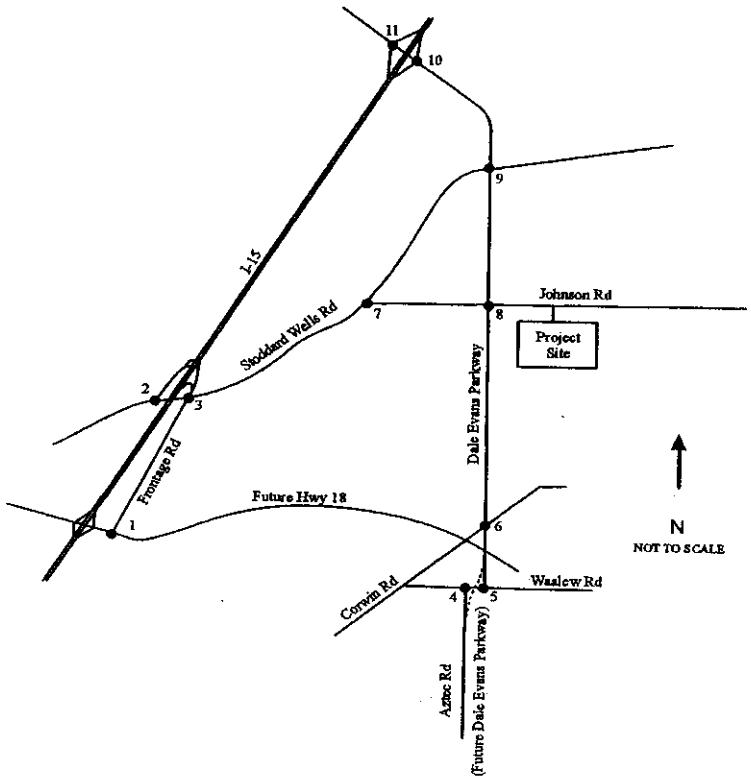
Pluto Development

PROJECT TRIP GENERATION
AM WEEK DAY

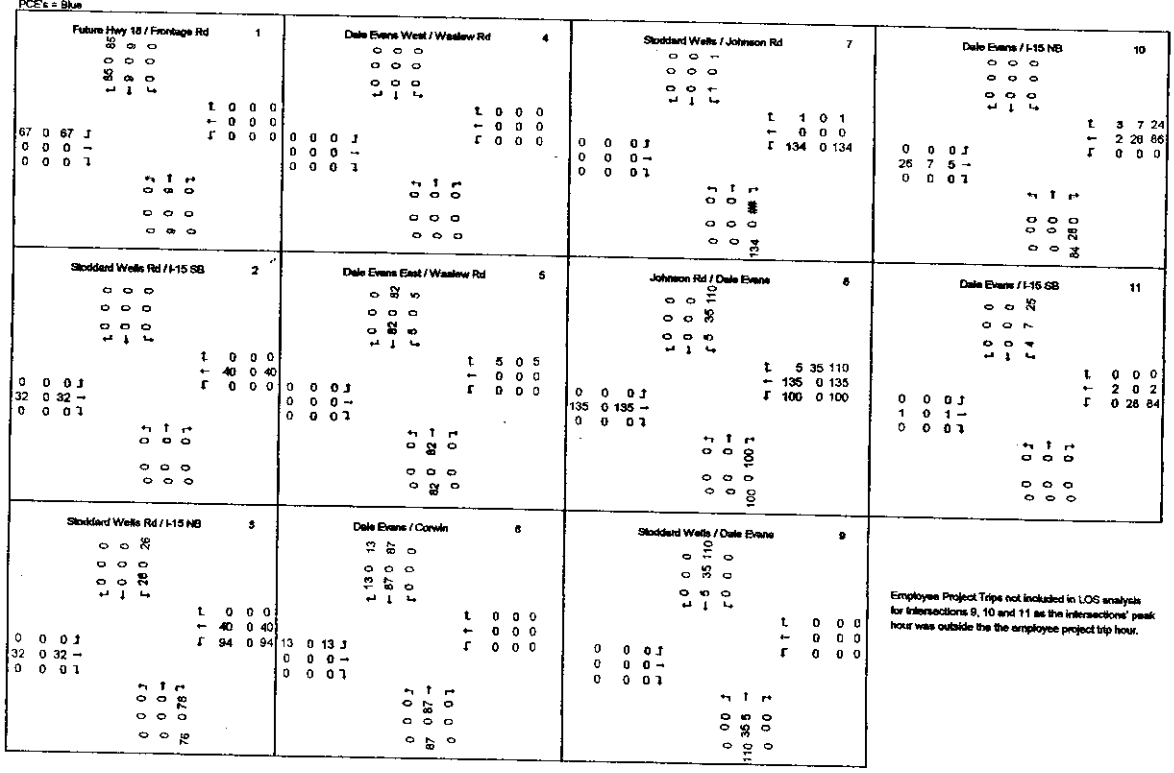
Week Day Shift Changes

Trip Type				4:30-5:30 AM			5:30-6:30 AM			6:30-7:30 AM			7:30-8:30 AM		
	# of People	# of Vehicles	Daily Trips	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
Employee Trip Traffic At Build-Out															
Weekday (Tuesday - Friday)															
Employee Shift Changes (Client to enter shift times and number of people in column to the right)															
Office Personnel & Warehouse															
Shift One 5:30 AM to 3:30 PM	275	264	528	253	0	253	11	0	11	0	0	0	0	0	0
Shift Two 3:30 PM to 1:30 AM	275	264	528	0	0	0	0	0	0	0	0	0	0	0	0
Maintenance 1:30 AM to 5:30 AM	25	24	48	0	0	0	0	24	24	0	0	0	0	0	0
Trucks															
Daily total 834 entering over 24 hours; Uniform size 5- axle	834	834	1,668	35	35	70	35	35	70	35	35	70	35	35	70
PCE Value, 3 each	2,502	2,502	5,004	105	105	210	105	105	210	105	105	210	105	105	210
Total Trips (Employees + PCE's)				358	105	463	116	129	245	105	105	210	105	105	210
Total Daily Trip Values - Shift Change			6,108												
Total AM Peak Hour Trips				358	105	463	116	129	245	105	105	210	105	105	210
Total PM Peak Hour Trips															

2020 Project Trips



Employees Trips = Black, 1 PCE per employee trip
Truck Trips = Red, 3 PCE's per truck trip
PCE's = Blue



Employees Project Trips not included in LOS analysis for intersections 9, 10 and 11 as the intersections' peak hour was outside the the employee project trip hour.