Operation of the Richard W. Curry West Central Landfill

Final Environmental Impact Report

Shasta County
Department of Public Works

August 2003

Consulting Engineers & Geologists, Inc.
480 Hemsted Drive
Redding, CA 96002
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Reference 502006

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S.0 Summary

The County of Shasta has prepared this Environmental Impact Report (EIR) to address the ongoing operation and further development, as planned and approved, of the Richard W. Curry West Central Landfill (West Central Landfill), a regional solid waste disposal facility. The landfill is located approximately 12 miles southwest of Redding on County-owned property, near the rural communities of Igo and Ono; access is via Clear Creek Road. This EIR has been prepared in accordance with the California Environmental Quality Act (CEQA) and the implementing CEQA Guidelines.

This document has been prepared in response to substantive comments received from the public review of the Draft EIR. Those substantive changes in response to comments, and updates due to new information have been shown in **bold and underlined text** in this document.

S.1 Scope and Uses of This EIR

S.1.1 Scope

This EIR evaluates the potential environmental effects of ongoing and future operations at the West Central Landfill, **within the confines of the existing permitted area**, focusing on potentially significant issues identified by the County and issues known to be of concern to the public and regulatory agencies. The document is an update of previous environmental assessments, beginning with the first programmatic and siting review of potential landfill locations and continuing through two subsequent addenda. This EIR addresses the landfill area currently approved by the State Integrated Waste Management Board (IWMB), the County of Shasta, Department of Resource Management, Environmental Health Division (serving as the Local Enforcement Agency), and other agencies.

Eventual final closure of the entire site is reasonably foreseeable, although not in complete detail at this time; consequently, final closure is addressed only generally in this EIR. Similarly, future expansion of the West Central Landfill beyond the waste volumes and land areas currently approved is also reasonably foreseeable; it is conceivable that other suitable portions of the County-owned property at West Central may be developed for solid waste disposal in the future. Such expansion, which would require detailed design and permitting, is undefined and not proposed at this time; therefore, it is not addressed in this EIR. The environmental effects of future expansions, if any, and final closure of the landfill are actions that would be subject to CEQA reviews at the appropriate time.

The County of Shasta's Notice of Preparation for this EIR invited comments from state and federal agencies on the scope and content of the document. Comments were received from the IWMB, California Department of Fish and Game, Region 1; California Department of Transportation, District 2 (Caltrans); the City of Redding, Development Services Department; and the County Environmental Health Division (serving as the Local

Enforcement Agency). Issues addressed in these scoping letters are addressed in the Draft EIR, including: compliance with the Solid Waste Facility Permit; traffic volumes and intersection congestion as attributable to landfill use; road conditions and maintenance on County and City roads; and possible alteration of surface water features as part of landfill operations and further development.

The Draft EIR was circulated for public and agency review in March 2003 and comments were invited from interested citizens and public agencies. Nine comments were received to the Draft EIR; comments were very similar to those received in response to the County's Notice of Preparation. Based on comments to the Draft EIR, this Final EIR has been prepared.

S.1.2 Uses

This EIR is intended to provide the lead agency (i.e., the County of Shasta), other responsible and trustee agencies, and the general public with an objective assessment of the environmental effects of continued operation of the West Central Landfill. It also updates and consolidates past CEQA documentation related to the landfill. Additional uses are:

- To consider environmental effects of continued operations at the landfill in light of changes in regulations;
- To consider and document new issues or information not addressed in previous assessments.
- To update potential effects based on accumulated monitoring data and other recent information;
- To review previously identified environmental effects and examine the effectiveness of previously prescribed mitigation measures;
- To identify additional mitigation measures, as appropriate; and
- To invite public and agency involvement and review.

The EIR will be used by the County and other public agencies as required or otherwise appropriate when considering permit renewals or other reviews and approvals for the project. Among these possible discretionary actions and reviews are the following:

- Periodic reviews by the Regional Water Quality Control Board of ongoing compliance with established Waste Discharge Requirements.
- Periodic reviews of the Solid Waste Facility Permit by Shasta County Department of Resource Management's Division of Environmental Health (the Local Enforcement Agency; see Section 2.3) and the California Integrated Waste Management Board, as required by Title 27, California Code of Regulations, Section 21675(a). This permit review is required every five years over the life of the landfill.

- Compliance with federal, state, and regional air quality laws and regulations as administered by the Shasta County Air Quality Management District (AQMD). In addition to acting as a responsible agency under CEQA in reviewing air quality impacts of projects, the District also has authority for issuing air quality permits for the landfill under the federal Clean Air Act Amendments. Among these requirements is compliance with Title V of the Clean Air Act Amendments, under which landfill operations are subject to a "Title V permit" issued by the Shasta County AQMD (see Section 5.4.2).
- Approvals by the County Public Works Department and County Board of Supervisors of construction contracts for future waste management units within the permitted disposal area.
- Any required 1600-Streambed Alteration Permit issued by the California Department of Fish and Game.

In addition, this EIR may serve in the future as a tiering document for future CEQA documentation. Tiering is a multi-level approach to document preparation where general matters are covered in a broader, first tier EIR, and subsequent tiers focus on specific activities of narrower focus. This approach is intended to help streamline the CEQA process and eliminate repetitive discussions (e.g., by incorporating by reference the general discussions in the broader document).

S.2 Project Objectives

Through proper development and operation of the West Central Landfill, the County of Shasta provides a regional solid waste disposal facility where County residents and commercial entities can meet their ongoing and future needs for the sanitary disposal of nonhazardous municipal wastes. The County's underlying objective is to provide a cost-effective facility for disposal of nonhazardous solid waste in a manner that protects public health and safety and the environment, in accordance with state and federal laws and regulations. The County seeks to provide a state-of-the-art waste disposal facility with sufficient capacity to handle current and projected volumes of nonhazardous solid waste for the reasonably foreseeable future.

S.3 Project Description

The "project" addressed in this EIR is the ongoing operation and future development, as permitted and approved, of the West Central Landfill, a regional facility for the disposal of nonhazardous, municipal solid waste. The landfill is jointly operated by Shasta County and the City of Redding serves the Cities of Redding, Anderson, and Shasta Lake, and unincorporated areas of the County. West Central Landfill receives about 120,000 tons of solid waste annually. The first phase of disposal occurred in the early 1980s. By current projections, the currently permitted landfill disposal area will reach capacity in about 2019.

S.4 Summary of Alternatives

The focus of this EIR is on the proposed project and the "no-project" alternative. As discussed below and in Chapter 4.0, the County considered other alternatives in the context of this EIR; however, none was found to warrant detailed analysis. The decision to site the regional landfill in the Igo-Ono area was made in the early 1980s, based on environmental and other information made available to decision-makers and the public at that time; that siting decision is not revisited in this "update" EIR.

S.4.1 No-Project Alternative

An EIR must evaluate the specific alternative of no project and consider its potential effects (CEQA Guidelines Section 15126.6(e)). For analysis purposes in this EIR, the County has defined the no-project alternative as cessation of operations and closure of the landfill. Under this scenario, the County would stop receiving waste at West Central Landfill. Required closure activities, including final grading and proper installation of final cover would be conducted as required for active disposal units. Additional units of Phase II would not be developed. Leachate collection and monitoring, surface and groundwater monitoring, and landfill gas monitoring would continue indefinitely.

This scenario would not meet the County's basic objectives, nor would it be cost-effective because it would not take full advantage of the County's financial investment to date in developing West Central Landfill. It does, however, provide the necessary comparison to the proposed project for the purpose of analyzing and comparing potential environmental effects.

S.4.2 Other Alternatives

The EIR generally discusses and rejects a number of "alternatives" to the project. None of these options was considered by the County of Shasta to warrant detailed analysis for the reasons explained below. Some alternatives are considered not technically or economically feasible; other "alternatives" do not meet the basic project objectives or would clearly result in significant effects greater than the proposed project. These conceptual alternatives are described in the following sections.

Off-Site Alternatives. Development of new, undisturbed locations would involve unknown, but presumably greater, environmental effects compared to continued operations at an existing, already disturbed site. It is unlikely that any significant effects would be avoided or substantially lessened by putting the project in another location. Also, other sites could not be developed as economically as continued operations at the existing site. Therefore, the County finds that offsite alternatives do not meet the basic objectives for this project, and, for economic and environmental reasons, no other offsite alternative landfill disposal site is at this time feasible.

Waste Transport Alternatives. Transporting some or all the volume of solid waste that would go to the West Central Landfill to another landfill outside the County or even outside the State – e.g., a waste-by-truck or waste-by-rail program – would use landfill capacity elsewhere and could encourage expansion of landfills in other jurisdictions, instead of making use of the permitted capacity and existing infrastructure at the West Central Landfill. Such a program presumably would involve permitting and approval issues and considerably higher transportation costs and transportation-related impacts. Therefore, the County finds that, under present circumstances, waste transport alternatives do not meet the basic objectives for this project, and, for economic and environmental reasons are not feasible.

Smaller Area Alternative. An apparent "alternative" to the project is the development of only a portion of the permitted area and containment of the landfill within a smaller area than that planned. Instead of developing all units with Phase II, for example, the County could, conceivably, restrict the landfill to only some of the units. This restriction, while technically feasible, would be completely artificial, and this "alternative" would not attain the basic objective to provide disposal capacity for the foreseeable future. It would also not be cost-effective for County government in the long term because capacity for the continuing waste stream would need to be developed elsewhere. Therefore, the County finds that detailed consideration in this EIR of a smaller area alternative is not warranted.

Other Variations in Disposal Area "Footprint". Variations in the disposal area configuration could involve higher or lower vertical limits for waste units, larger or smaller horizontal limits, changes in phasing sequence or timing, or changes in landfill design or operation. However, as long as the waste disposal remains within the permitted quantity and area limits, changing the dimensions of the waste units generally offers little opportunity to reduce environmental impacts. The effect of different height waste units may, however, have implications for visual effects, and accordingly, height variations are addressed in this EIR to the extent that they may serve as mitigation measures for reducing identified potential impacts of the proposed project. Overall, however, the County finds that disposal area footprint "alternatives," while technically feasible, do not assist in avoiding or reducing significant impacts. Therefore, with the exception noted for mitigation measures, disposal variations within the approved footprint are not considered in detail in this EIR.

Alternative Waste Technology Alternatives. Waste-to-energy programs recycle waste into more useful products and convert waste materials into energy. Such waste-to-energy facilities offer a number of benefits, particularly for public agencies required to manage extremely large quantities of solid waste; among these benefits are the reduction of landfill waste volumes, the commensurate extension of landfill life, and the generation of useful electrical power. Such facilities, however, also present inherent environmental issues, including those related to air quality, disposal of by-products, and consumption of large amounts of water for cooling. For Shasta County, such a facility would require considerable advance planning, financing, and design work. It would not meet the

County's basic objectives for providing the needed ongoing and future waste disposal capacity. Therefore, the County finds that alternative waste technology alternatives do not meet the basic objectives for this project, and, for economic and environmental reasons, they are at this time considered not feasible.

S.5 Summary of Environmental Effects and Proposed Mitigation Measures

This EIR assesses the potential impact of the continued operation of West Central Landfill as permitted and approved. The analysis of potential effects and mitigation measures is presented in Chapter 5.0 for the physical environment, Chapter 6.0 for the biological environment, and Chapter 7.0 for the human environment. A summary of potential effects and mitigation measures is presented in Table S-1. Following Table S-1 are brief, topic-specific descriptions of the project's effects.

Table S-1
Environmental Effects of Operation and Development of the West Central Landfill and Proposed Mitigation Measures

Potentially Significant Effect	Mitigation Measures	Significance Level After Mitigation Applied
Physical Environment (Phys)		
Phys-1. Potential effects on groundwater from leachate, contact water, and landfill gas.	**Phys-1/MM-1.** Construction of future unit liners according to specifications approved by the Regional Water Quality Control Board. Continued use of underdrain and leachate collection system; continued use and further development of runoff diversion trenches and pipe; continued monitoring for landfill gas.	Below significant.
Phys-2. Landfill contribution to a cumulative air quality problem in the region related to particulate matter and ozone.	**Phys-2/MM-2a.** Compliance with requirements of the Title V permit program, as mandated by the Clean Air Act Amendments of 1990 and enforced by the Shasta County Air Quality Management District. **Phys-2/MM-2b.** Continued use of dust-control and emissions-control measures and similar best management practices.	Cumulatively significant, but unavoidable.
Biological Environment (Bio)		
Bio-1. Low probability of adverse effects to sensitive species.	**Bio-1/MM-1.** Field investigations for sensitive species by qualified personnel will be conducted prior to further construction of new landfill	Below significant.

Table S-1
Environmental Effects of Operation and Development of the West Central Landfill and Proposed Mitigation Measures

Potentially Significant Effect	Mitigation Measures	Significance Level After Mitigation Applied
	units beyond the currently approved area.	
Bio-2. Loss and conversion of oak woodland and other habitat areas, including possible riparian habitat in the lower canyon area.	**Bio-2/MM-2a.** Implementation of a natural resources conservation program for the overall landfill property. **Bio-2/MM-2b.** To the extent that future riparian or other sensitive habitat is lost to landfill areas, the County, in conjunction with the California Department of Fish and Game, will restore comparable amounts of similar habitat in other County- controlled locations. **Bio-2/MM-2c.** Management of oak woodlands on buffer areas of the County landfill property in accordance with State and County policies. **Bio-2/MM-2d.** Restoration and revegetation of closed landfill units using seed mixtures and plant species that more closely resemble and restore the habitat values and ecological functions that existed onsite prior to development, while complying with landfill closure requirements. Appropriate environmental restoration manuals will be used to develop revegetation and restoration specifications.	Below significant.
Bio-3. Some degree of sediment loading of the downstream aquatic ecosystem, particularly during wet seasons.	**Bio-2/MM-2e.** The County shall revise existing sediment and erosion control plans to increase the likely retention onsite of sediment arising from ongoing operations, and shall enact additional onsite Best Management Practices to assure that sediment is not released to offsite aquatic ecosystem elements.	Below significant.

Table S-1
Environmental Effects of Operation and Development of the West Central Landfill and Proposed Mitigation Measures

Potentially Significant Effect	Mitigation Measures	Significance Level After Mitigation Applied
Human Environment (Hum)		
Hum-1. Landfill traffic contributes to a cumulative traffic congestion problem at the State 273/Clear Creek Road intersection.	**Hum-1/MM-1.** West Central Landfill will contribute to the installation of a new traffic signal at the intersection in conjunction with Caltrans and the City of Redding.	Below significant.
Hum-2. Viewshed effects resulting from alteration of the existing landforms and topography, including views of the landfill from nearby rural residential areas and the future Northern California Veterans Cemetery.	**Hum-2/MM-2.** Preservation and maintenance of a vegetated buffer between the landfill and the Veterans Cemetery and residential areas as needed to provide landfill screening.	Below significant.
Hum-3. Inadvertent discovery of previously unknown cultural resource artifacts, sites, or materials.	**Hum-3/MM-2.** In the event that project activities encounter any previously unknown archaeological or historical discoveries (e.g., human skeletal remains, culturally modified stone materials, structural features, or historical artifacts), all ground-disturbing activities shall cease within a 100-foot radius of the discovery, and a qualified archaeologist shall be contacted to determine the nature of the find, evaluate its significance, and, if appropriate, suggest preservation or mitigation measures.	Below significant.

S.5.1 Physical Environment

The West Central Landfill is located in a tributary canyon that drains to Dry Creek, a tributary of Cottonwood Creek, which flows into the upper Sacramento River. The region surrounding the landfill is generally characterized by hilly terrain and dendritic-style drainages, dissected canyons with moderate to steep slopes, and moderately level ridgetops.

Available evidence suggests that potential environmental effects associated with geologic hazards are less-than-significant. Generally, geologic formations and soils at the site are considered suitable for landfill development and use in terms of stability, soil texture, permeability, and other factors. Potential geologic hazards associated with the landfill resulting from seismic events and slope instability have been considered insignificant in previous site planning evaluations. The nearest significant fault is the Battle Creek Fault, a Quaternary east-west-trending normal fault approximately 20 miles to the east. The last known major movement on this fault appears to have been over 400,000 years ago; the maximum credible earthquake on the Battle Creek Fault has been estimated to be a Richter magnitude of 6.0 to 6.5. West Central Landfill is not located in an Alquist-Priolo Earthquake Special Study Zone.

Extensive alteration of canyon topography has been, and will continue to be, a major consequence of operation and further development of West Central Landfill under the existing operation. The operation will ultimately fill up the canyon with a compacted mixture of solid waste and soil. The landfill area will be graded for stability and drainage in a generally mounded shape across the canyon. Topsoil, were possible, is, and will continued to be, stockpiled for subsequent use as cover. Final grading for the closed units will be designed to blend with the existing landforms, and grading will be supplemented with routine surface maintenance to remediate any differential settlement. Final grades defining the final topographic "shape" of the site when the landfill reaches capacity were developed through the Preliminary Closure plan and will be reviewed as part of final closure plans; the County will evaluate at that time the need, if any, for further CEQA compliance.

Routine monitoring at West Central Landfill discovered the presence of volatile organic compounds (VOC) in January 2003 in the landfill underdrain system, in excess of amounts allowed by the Regional water Quality Control Board (RWQCB) in the waste discharge requirements for the landfill. Subsequent follow-up inspections resulted in the RWQCB issuing of a Notice of Violation to the County for this release. In response, the County has taken corrective action to address the immediate release and is working with the RWQCB to develop an evaluation monitoring program and Corrective Action Plan.

S.5.2 Biological Environment

The dominant plant association in the landfill area may be generally described as a blue oak–foothill pine woodland, with a mixed-structure understory of shrubs, plants, and grasses; the habitat can be classified as Blue Oak–Foothill Pine type. Under other biological classification systems, the area can be described as presenting three broad plant "series": (1) whiteleaf manzanita chaparral, (2) blue oak woodland, and (3) arroyo willow riparian. Within active and previously developed areas, this vegetation has largely been converted to revegetated grassland or reduced to "islands"; substantial oak woodlands, however, remain on the remainder of the 1,058-acre County property. Policies adopted by both the state and Shasta County recognize hardwood resources as important natural and economic resources and generally encouraging long-term conservation of hardwood habitats.

No special-status species are known to occur on the landfill site; however additional field surveys are warranted. Previous environmental documents for West Central Landfill did not identify the presence of, or high potential for, any endangered, rare, or other special-status plants, animals, or natural communities. Records reviews by the California Natural Diversity Data Base (CNDDB) for the subject USGS topographic quadrangle and adjacent areas identified no special-status species or communities at or near the West Central Landfill. Prior to development of future landfill areas, the County will retain qualified personnel to conduct sensitive species surveys in the appropriate seasons.

An intermittent, natural water feature previously existed in the landfill canyon; the County in 1990 diverted the surface flow that would have entered this channel around the disposal area into another canyon. Existing operations, particularly in wet seasons, may be contributing sediment to downstream aquatic habitat. Further consultation with the Department of Fish and Game is warranted, as required, regarding potential impacts to riparian habitat prior to any future development of landfill units lower in the canyon, as well as appropriate restoration measures as mitigation.

Black bears have been a (relatively minor) management issue at West Central Landfill. At West Central, no serious incidents have been reported, although foraging bears may occasionally disrupt the daily cover on the active face. For bears, feeding on refuse may be a health concern. Landfill operators have taken steps to minimize wildlife problems by maintaining the active face in a small area, covering the refuse daily, "bear-proofing" refuse containers, and equipping the Class II leachate pond with an electrified perimeter fence to discourage entry by larger wildlife.

The landfill project in future stages will eliminate or reduce existing vegetation within active and developed areas of the landfill, with corresponding decreases in wildlife habitat values. Future development of the West Central Landfill will mean that additional oak woodland and other habitat areas, including possible riparian habitat in the lower canyon area, will be affected, resulting in additional habitat conversion from current conditions to

revegetated cover. Remaining oak woodland will be managed in accordance with existing State and County policies.

Avoiding or minimizing the potential, adverse effects of future development of the landfill on biological resources deserves additional consideration, particularly with respect to riparian habitat and special-status species. Measures have been identified in this EIR to reduce potential effects to these biological components.

S.5.3 Human Environment

S.5.3.1 Land Use

West Central Landfill is located in a sparsely populated, rural region of Shasta County off Clear Creek Road, approximately 10 miles west of State Route 273. Along Clear Creek Road, mostly within the City of Redding limits, are a number of commercial and industrial land uses; there are also single-family residences in this area. The Bureau of Land Management administers public land to the west of the landfill and along Clear Creek Road to the east, including the Horsetown / Clear Creek Nature Preserve.

The small community of Igo is located along Placer Road approximately 2 miles to north of the landfill; the small community of Ono is located along Platina Road, approximately 4 miles west of the landfill. Along Clear Creek Road west of the landfill access and off Gas Point Road and Small Farms Drive west and south of the landfill are rural residential parcels generally varying in size from approximately 5 to 20 acres.

Continuing operations of the West Central Landfill is consistent with, and further implements, the Shasta County General Plan and the County's Solid Waste Management Plan. In the General Plan, the West Central Landfill is identified as the largest of three operating landfills in the County. The land use designation for the landfill property is "Public Facility"; surrounding areas are designated "Rural Residential." The West Central Landfill property is zoned U–Unclassified (zoning provisions, however, do not apply to lands owned by the County); surrounding properties are classified as various types of residential zones including Rural Residential A.

Continued development of the landfill may have some implications for surrounding land uses, especially with respect to further residential growth and development in the surrounding area. There may also be potential visual quality and noise compatibility issues between the landfill and the future Northern California Veterans Cemetery, a project sponsored by the federal and state offices of Veterans Affairs and the County of Shasta on approximately 60 acres off Gas Point Road west of West Central Landfill, as discussed below.

S.5.3.2 Public Health and Safety

The protection of public health and safety is the County's essential underlying objective in developing and operating the West Central Landfill, in accordance with state and federal laws and regulations. Specific procedures for response to fires, accidents, explosions, spills, and other emergencies at the West Central Landfill are provided in the site's Operation Manual. Public health and safety issues considered for this EIR concern three areas: hazardous materials, wildland fires, and vector control.

No significant effects have been identified in the area of public health and safety. The continued operation and development of the West Central Landfill as permitted and approved will not pose any known significant hazard to public health and safety. There is no evidence to indicate that the landfill is now emitting, or would in the future emit, hazardous emissions or acutely hazardous materials that would have any impact on residences, schools, or other land uses.

West Central Landfill is a designated Class III disposal site and is permitted to accept only non-hazardous solid waste; hazardous materials are prohibited. The landfill has a load screening program to help reduce the possibility of hazardous materials entering the site, as well as operating procedures to follow if questionable or suspicious waste loads are encountered. The waste screening program is not infallible; however, there is no evidence to suggest that significant quantities of hazardous materials are entering the landfill.

The West Central Landfill is located in an area of high fire hazard for wildland fires. Fire prevention and suppression in Shasta County is the shared responsibility of various agencies at local, state, and federal levels of government who provide mutual aid fire response across jurisdictional boundaries. At West Central Landfill, the first response to a fire, as with any emergency, is the responsibility of the site operators, who are trained to begin fire suppression activities using on-site heavy equipment, fire extinguishers, and other means to the extent they can do so without endangering personnel or equipment. No serious fire incidents have occurred at West Central Landfill.

The County and the City of Redding will continue to use an integrated vector control program, which will continue to include: the use of a minimal working face at the active disposal area; solid waste compaction; application of daily soil or equivalent and approved cover; and revegetation of completed or inactive areas. Shasta County Environmental Health Division will continue its current schedule of periodic inspections. Overall, the potential effects of continued operation of West Central Landfill on public health and safety are less-than-significant.

S.5.3.3 Traffic and Circulation

Traffic related to the West Central Landfill contributes to cumulative traffic congestion at the intersection of State Route 273 and Clear Creek Road. Caltrans has proposed a joint signal installation at this intersection. In keeping with past accepted practice, the responsible public jurisdictions contribute to the signal project according to an accepted formula. The County expects that the City of Redding will continue to work with Caltrans to program traffic impact fees for the City's share of the Clear Creek Road signal costs at State Route 273. West Central Landfill will also contribute a fair share of the signal cost, and other maintenance costs along Clear Creek Road.

Traffic impacts associated with continued landfill operations can also be reduced by additional transfer stations, larger (and therefore fewer) trucks, compaction of refuse prior to hauling, increased recycling, and reduction in waste discarded.

S.5.3.4 Utilities and Services

The proposed continued operations and future development of the West Central Landfill would not have adverse effects on existing services and utilities at the site. The project would not result in the need for new or expanded services or facilities, or otherwise affect current levels of service ratios, response times, or other performance objectives for fire protection; police protection; or schools, parks, and other public facilities. Continued operation would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities. Stormwater management is an essential part of the landfill design and continued operation.

The County is aware of one other proposed project in the vicinity of West Central Landfill that would require future utilities and services, including a water service extension – the Northern California Veterans Cemetery, mentioned above. This project, which would involve the development of a cemetery accommodating about 34,000 burials located off Gas Point Road, will require a new water line extension for potable water and irrigation. As proposed, an 8-inch water line would be extended from the Clear Creek Community Services District water pump site across country to the cemetery. The specific location of this line will need to be coordinated with activities at West Central Landfill.

S.5.3.5 Visual Quality

As additional landfill units are developed within the permitted and approved area, landfill areas and possibly operational activities will become more visible from surrounding viewpoints. Units will likely be filled to elevations similar to the closed Phased I – i.e., about 1130 feet above sea level, which is the approximate elevation of the ridges in the landfill canyon. As future units are developed and filled, landfill working areas and graded, revegetated units will potentially become more visible from the future Northern California Veterans Cemetery. This potentially adverse effect on visual quality as experienced by visitors to the Cemetery is reduced to a less-than-significant level by landscaping measures included in the cemetery design and by the maintenance of a vegetated buffer on the landfill property.

S.5.3.6 Noise

The County has not recently received complaints regarding noise at the landfill. Nevertheless, daily operation does involve heavy equipment that generates noise, which is audible offsite. Continued operation activities at West Central Landfill will involve the use of heavy equipment and trucks that generate noise. Future development of disposal units will involve periods of elevated construction noise. No new activities are proposed, however, that would generate new types of noise, such as blasting or tire shredding.

Operation and construction at the landfill will be periodically audible at the future Northern California Veterans Cemetery, including sounds generated by heavy equipment, trucks, diesel engines, and vehicle back-up alarms. Environmental documentation for the cemetery indicates that the existing noise environment was considered in siting and preliminary design of the cemetery. No significant noise effects were identified in the associated document, however, and no mitigation measures were found to be needed (ENPLAN 2002). Nevertheless, noise from the landfill is likely to be occasionally audible to future visitors at the cemetery.

S.5.3.6 Cultural Resources

In conjunction with this EIR, an archaeological reconnaissance was conducted for the entire landfill property; this study also incorporated the results of previous cultural resource studies. Nine recorded sites have been identified on the landfill property; all of these sites are historical. Because the landfill property overall was found to contain numerous, scattered historical mining-related features, the entire landfill property was recorded as one large historic mining site. Other individually recorded sites are also related to mining activity, or otherwise characterized as historic camps, ditches, or debris.

Based on the criteria for eligibility of historic properties for the National Register of Historic Places and the California Register of Historic Resources, none of the recorded sites

is considered eligible for these registers, and concurrence from the State Historic Preservation Officer on this determination is expected.

Continued operation of the West Central Landfill is likely to obliterate some of the historical surface features identified within the impact area. Because none of these historical sites is considered eligible for the federal or state registers, loss of these sites would not constitute a substantial adverse change under CEQA. Therefore, the potential effects of continued operation of West Central Landfill on cultural resources is judged to be less-than-significant.

There is some possibility that project-related activities could result in the discovery of previously unknown cultural resource materials, including sites below the ground surface. The EIR, therefore, identifies a mitigation measure to reduce any potential adverse effect to such yet-undiscovered resources.

S.6 Other CEQA Considerations

S.6.1 Areas of Environmental Controversy

Subsection 15123(b)(2) of the CEQA Guidelines requires that the summary of an EIR include a listing of known or expected areas of environmental controversy for the project covered by the EIR. The County is unaware of any major areas of environmental controversy related to operation and development of the West Central Landfill.

S.6.2 Effects Found Not to Be Environmentally Significant

Section 15128 of the CEQA Guidelines requires that an EIR contain a statement briefly indicating why various possible effects were found "not to be significant and were therefore not discussed in detail in the EIR." The environmental subject areas that the County found to be not significant in terms of continued operation of the landfill, and which, therefore, were not addressed in detail in this EIR, were effects related to:

- Airport noise or safety hazards. The project is not related in any evident way to air traffic or airport land use planning.
- Agricultural resources. The landfill is not located in a major agricultural area, and continued operation has no evident connection to agriculture resources.
- Mineral resources. The project is not related to the extraction, conservation, use, or restriction of mineral resources in any evident way.
- Public services. The continued operation of the landfill cannot reasonably be linked directly or indirectly to any physical effects associated with new schools, parks, or other public facilities, nor is it likely in itself to be associated with an increased demand for fire or police services.

S.6.3 Summary of Effects Reduced to a Level of Insignificance

The assessments in Chapters 5.0, 6.0, and 7.0 of this EIR considered the potential effects of the proposed project and, where appropriate, identified mitigation measures that will reduce the Preferred Alternative's effects to levels that are consistent with findings that the mitigated effects are less-than-significant. The EIR has identified the following environmental concerns as being reduced to levels of insignificance:

- Potential effects on water quality, including groundwater resources.
- Potential effects on sensitive species of plants or animals.
- Loss or conversion of oak woodland and possible riparian habitat.
- Traffic on local roads associated with the landfill and the corresponding increased potential for accidents and intersection congestion.
- Potential effects on public health and safety.
- Conversion of undeveloped rural land to landfill.
- Effects on archaeological and other cultural resources.

S.6.4 Significant Effects that Cannot Be Avoided

Section 15126.2(b) of the CEQA Guidelines requires that this EIR identify any effects that are both significant and unavoidable, including effects that can be mitigated, but not to a level that is less-than-significant.

Almost all of the potential effects of the project identified in this EIR have been found to be less-than-significant, including those that would be reduced to a level of insignificance by identified mitigation measures. In one area, however, the EIR has identified an unavoidable significant effect. As part of a cumulative impact, the landfill will have an unavoidable significant effect on air quality through its contributions to the region's non-compliance with air quality standards.

S.6.5 Irreversible Changes

Section 15126.2(c) of the CEQA Guidelines requires that an EIR identify any significant irreversible changes in the environment that would occur from implementation of the proposed project. Irreversible commitments of resources include both direct and indirect effects that would be associated with the proposal and which would commit future County decision-makers to courses of action based on the current proposal. This EIR has identified the following irreversible changes:

- Commitment of undeveloped rural land to a solid waste disposal area.
- Viewshed changes resulting from major topographic changes.
- Some reduction in biological productivity in areas developed for landfill units.
- Long-term limits on future land uses for closed landfill units.

S.6.6 Growth Inducement

Section 15126.2(d) of the CEQA Guidelines requires that an EIR evaluate potential growth-inducing aspects of the proposed project. These are identified as aspects fostering economic or population growth, either directly or indirectly, by removing obstacles to population growth, or by encouraging and facilitating other activities that could have adverse environmental effects.

The planning context of the West Central Landfill includes considerations under the County General Plan and solid waste management program, as addressed in this EIR. As noted in the first CEQA document to address a landfill operation at the West Central location in 1980, solid waste disposal facilities do accommodate planned growth; however, use of the site as a sanitary landfill is not directly growth-inducing.

S.6.7 Summary of Cumulative Effects

Section 15130 of the Guidelines requires that an EIR identify cumulative impacts. The assessment of cumulative effects requires, for each category of effect, an analytical mechanism which allows the impacts of the project and other past, present, and reasonably foreseeable future projects to be jointly assessed. In chapters 5.0, 6.0, and 7.0, cumulative effects were included in the assessments of each topic considered in this EIR.

Several effects considered in this EIR appear to indicate that ongoing operations and future development of the West Central Landfill may have a potential for participating in environmentally significant cumulative effects, specifically as related to air quality and traffic. As discussed above, mitigation measures have been identified for traffic impacts. For air quality, although measures have been identified that will reduce the effects of the project, operation and development of West Central Landfill will continue to contribute to regional air quality non-compliance for particulates and ozone.

S.6.8 Environmentally Superior Alternative

Section 15126.6(e)(2) of the Guidelines includes the following text: “If the environmentally superior alternative is the ‘no project’ alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.” Inferentially, the EIR is thus required to identify an “environmentally superior alternative” from among the proposed action alternatives, if one of those is environmentally superior.

The County believes that the proposed project – the continued operation of the West Central Landfill as permitted and approved – is the environmentally superior alternative. In fulfilling its mandate to provide and implement an integrated solid waste management program, the County’s underlying objective for this “project” is to provide a cost-effective facility for disposal of nonhazardous solid waste in a manner that protects public health

and safety and the environment, in accordance with state and federal laws and regulations. In Shasta County, as elsewhere in California and throughout this country, people and businesses depend on local government to provide solid waste disposal capacity.

In developing and operating the West Central Landfill, the County provides a regional solid waste disposal facility where County residents and commercial entities can meet their ongoing and future needs for the sanitary disposal of nonhazardous municipal wastes. The increasing practice of "reduction, re-use, and recycling" helps extend the life of landfills; however, there continues to be on ongoing and projected need for solid waste disposal. West Central Landfill has been, and will continue to be, designed and operated in accordance with environmental protection regulations.

1.0 Introduction

1.0 Introduction

The West Central Landfill is a regional solid waste management facility in Shasta County, California, for the disposal of nonhazardous, municipal solid waste; it serves much of the County, including the Cities of Redding, Anderson, and Shasta Lake, and western unincorporated areas. The landfill is located approximately 12 miles southwest of Redding on property owned by the County of Shasta; it is operated jointly by Shasta County and the City of Redding. West Central Landfill receives about 120,000 tons of solid waste annually.

The County of Shasta has elected to prepare this Environmental Impact Report (EIR) to address the ongoing operation and further development, as planned and approved, of the West Central Landfill. This EIR updates previous environmental documentation, as explained below, section 1.2. The first phase of disposal occurred in the early 1980s; when this phase reached capacity it was closed in accordance with regulations current at that time. Subsequently, other disposal units have been developed sequentially and, in some cases, filled. By current projections, the currently permitted landfill disposal area will reach capacity **in about 2019**.

1.1 The EIR Process Under CEQA

Siting, construction, operation, expansion, major changes in operation and maintenance, and closure of any landfill, including the West Central Landfill, are discretionary activities that may cause a direct physical change in the environment; therefore, such activities constitute "projects" subject to review under the California Environmental Quality Act (CEQA). [1] CEQA and the related CEQA Guidelines 2 establish procedures to be followed by California public agencies in analyzing and disclosing the environmental consequences of projects they propose to carry out or approve. Under CEQA, agencies must comply with both procedural and substantive requirements; generally, the process is meant to ensure that environmental information is compiled for the public record and considered in decision-making. For projects that may have a significant effect upon the environment, CEQA requires public agencies to prepare Environmental Impact Reports (EIRs). An EIR must be prepared in accordance with CEQA and the CEQA Guidelines.

This EIR is intended to provide the lead agency (i.e., the County of Shasta), other responsible and trustee agencies, and the general public with an objective assessment of the potential environmental effects of proposed actions involving the West Central Landfill. The purpose of this EIR is to provide information so that the County and other participating agencies can make factual findings to support decisions regarding the project.

1 Public Resources Code, Division 13, Sections 21000–21177.

2 California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000–15387 and Appendices A through K. These are administrative rules for implementing CEQA, which have been judged by state courts to have the force of law. The CEQA Guidelines may be reviewed on the Internet at http://www.ceres.ca.gov/ceqa/.

The substance of the report is intended to identify potential adverse environmental effects and ways in which these effects may be avoided or reduced by implementing feasible alternatives or mitigation measures (consistent with other legal requirements). Involvement of other public agencies and public participation are essential components of the CEQA process.

As discussed in the next section, this EIR incorporates previous CEQA documents prepared for landfill siting and operation. Additionally, this document may be used in the future for "tiering" of subsequent, related assessments. Tiering is a multi-level approach to document preparation where general matters are covered in a broader, first tier EIR, and subsequent tiers focus on specific activities of narrower focus. This approach is intended to help streamline the CEQA process and eliminate repetitive discussions (e.g., by incorporating by reference the general discussions in the broader document).

1.2 History of CEQA Compliance at West Central Landfill

Since early stages of planning for a "new" sanitary landfill to serve the region in 1979 and 1980, the County of Shasta, as the lead agency and as represented by the County Department of Public Works, has conducted several environmental reviews of the West Central Landfill. This section briefly describes the project's CEQA history; for a more complete description of current landfill components and phases of development, see the Project Description in Chapter 3.0.

1.2.1 1980 EIR

A landfill at the West Central location was initially addressed under CEQA as one of several alternatives in the *Environmental Impact Report for a Proposed Sanitary Landfill Site* (SCH Number 79021259), which addressed acquisition and development a new regional sanitary landfill site in 1979 and 1980. That EIR, certified in 1980, considered West Central Landfill site and several other alternative landfill locations – including the Anderson Sites and Oak Creek Site – based on earlier siting studies and investigations. This EIR addressed issues on a regional basis and provided information to decision-makers and the public informing the decision to select a site at the West Central location.

As described in the 1980 EIR, the "West Central Site" would have a storage volume of 17 million cubic yards and a storage area of 165 acres; it would be developed in three phases over a period of 40 years (Shasta County, 1980). While this description was sufficiently accurate for decision-making purposes at that time, it does vary somewhat with the landfill project as it has actually been developed, as discussed further in Chapter 3.0.

1.1.1 1992 EIR Addendum

In 1991, during the closure of the Phase I area (and preparation of the *Final Closure and Postclosure Maintenance Plan* for this phase), the County prepared an EIR Addendum to

update the 1980 EIR and provide supplemental information. Among the issues addressed at that time were those associated with implementation of the California Integrated Waste Management Act of 1989. Other operation and maintenance documents, monitoring data, and regulatory reporting were also addressed. The *Final West Central Landfill EIR Addendum* (SCH Number 91123013) received approval in 1992 (Shasta County 1992a).

1.2.3 1999 EIR Addendum

A second EIR Addendum was prepared and approved in 1999 for the continued operation of Phase II at the West Central Landfill. At the time, the County was preparing a construction contract for ongoing development of Phase II; the work included grading, placement of cell lining, and installation of a leachate collection system (Shasta County 1999). (Excerpts from this document are included in this EIR as Appendices A, B and C.)

1.2.4 This EIR on Continuing Operations

This 2003 EIR incorporates relevant and historic information and findings from previous environmental and technical documents as appropriate, and incorporates the previous CEQA EIR and Addenda by reference. In addition, this EIR updates information and assessments where appropriate. The scope and uses of this document are discussed below.

1.3 Scope and Uses of This EIR

This section briefly discusses the scope of the EIR and its intended uses. "Scope" refers to the general substantive content, following a process of appropriately focusing the document on actions, alternatives, and relevant issues. The Notice of Preparation is part of this process because agency responses help shape the issues to be addressed in the EIR; under CEQA, this early consultation may be called "scoping" (CEQA Guidelines 15083).

EIRs may be used for various purposes under applicable laws, regulations, and policies; the overall intent is for an EIR to inform decision-making by providing information on potential environmental effects of a proposed project. As indicated below, there are several possible occasions for using this EIR in decision-making; other uses are also noted.

1.3.1 Scope

An EIR necessarily involves some level of forecasting, while avoiding speculation. This EIR is focused on identifying potential significant effects on the environment attributable to ongoing and future operations at the West Central Landfill. Because more technical detail is available for recent, current, and immediately upcoming phases of landfill operation and development, the level of specificity in the EIR is greater for activities in those time periods.

Eventual final closure of the entire site is reasonably foreseeable, although not in complete detail at this time; consequently, final closure is addressed only generally in this EIR.

Similarly, future expansion of the West Central Landfill beyond the waste volumes and areas currently approved is also reasonably foreseeable; it is conceivable that other suitable portions of the County-owned property at West Central may be developed for solid waste disposal in the future. Such expansion, which would require detailed design and permitting, is undefined and not proposed at this time, however; therefore, it is not addressed in this EIR. The environmental effects of future expansions, if any, and final closure of the landfill are actions that would be subject to CEQA reviews at the appropriate time (see Section 1.1 above regarding "tiering").

The EIR also addresses issues of concern to the County and issues known to be of concern to the public and regulatory agencies. It considers not only ongoing operations, but also, with respect to cumulative impacts, past and reasonably foreseeable actions. Information from previous CEQA documents, particularly with respect to previously identified environmental impacts and mitigation measures, is incorporated – and where appropriate, updated – throughout this EIR.

1.3.2 Uses

This EIR is intended to provide the lead agency (i.e., the County of Shasta), other responsible and trustee agencies, and the general public with an objective assessment of the environmental effects of continued operation of the West Central Landfill. This EIR also updates and consolidates past CEQA documentation related to the landfill, and thus serves as an environmental reference document. Through compliance with CEQA, this EIR provides an occasion:

- To consider environmental effects of continued operations at the landfill in light of changes in regulations;
- To update potential effects based on accumulated monitoring data and other recent information;
- To review previously identified environmental effects and examine the effectiveness of previously prescribed mitigation measures;
- To invite public and agency involvement and review; and
- To consider and document new issues or information not addressed in previous assessments.

The EIR will be used by the County and other public agencies as appropriate when considering permit renewals or other reviews and approvals for the project. Among these possible discretionary actions and reviews are the following:

- Periodic reviews by the Regional Water Quality Control Board of ongoing compliance with established Waste Discharge Requirements.
- Periodic reviews of the Solid Waste Facility Permit by Shasta County Department of Resource Management's Division of Environmental Health (the Local Enforcement

Agency; see Section 3.3) and the California Integrated Waste Management Board, as required by Title 27, California Code of Regulations, Section 21675(a). This permit review is required every five years over the life of the landfill.

- Compliance with federal, state, and regional air quality laws and regulations as administered by the Shasta County Air Quality Management District (AQMD). In addition to acting as a responsible agency under CEQA in reviewing air quality impacts of projects, the District also has authority for issuing air quality permits for the landfill under the federal Clean Air Act Amendments. Among these requirements is compliance with Title V of the Clean Air Act Amendments, under which landfill operations are subject to a "Title V permit" issued by the Shasta County AQMD (see Section 5.4.2).
- Approvals by the County Public Works Department and County Board of Supervisors of construction contracts for future waste management units within the permitted disposal area.
- Any required 1600-Streambed Alteration Permit issued by the California Department of Fish and Game.

1.4 Preparation of 2003 Draft and Final EIR

1.4.1 Notice of Preparation and Responses

The County of Shasta issued a Notice of Preparation for this EIR on 31 October 2001 (see Appendix D), inviting comments from state and federal agencies on the scope and content of the document applicable to their areas of jurisdiction. The County also held "scoping" meetings with public agencies and with interested individuals. Written comments were received from the California Integrated Waste Management Board (IWMB), the State Department of Fish and Game, Region 1; California Department of Transportation, District 2 (Caltrans); the City of Redding, Development Services Department; and the County of Shasta, Department of Resource Management, Environmental Health Division (serving as the Local Enforcement Agency; see Section 3.3). Issues raised in these scoping letters are addressed in this EIR, including the following:

- **Compliance with the Solid Waste Facility Permit.** The County Environmental Health Division (the LEA) commented that the Solid Waste Facility Permit will not need to be revised for ongoing operations within permitted boundaries; however, an application would be required if expansion outside boundaries is contemplated.
- **Traffic Volumes.** Caltrans expressed concern regarding traffic volumes and congestion at intersections serving landfill truck traffic. According to Caltrans, the Clear Creek Road / State Route 273 intersection and the Oxyoke Road / State Route 273 intersection both meet at least some of their warrants for signalization.
- **Road Conditions and Maintenance.** The City of Redding's comments identified two traffic-related issues: (1) According to the City, Clear Creek Road was not

constructed for the amount of heavy truck traffic now using the road to access the landfill. The City indicated that the EIR should contain some analysis of the condition of the road and maintenance needs. (2) The City also indicated that the EIR should address the need for a traffic signal at the Clear Creek Road / State Route 273 intersection.

- **Alteration of Surface Water Features.** DFG commented on the possible need for a (Section 1601) streambed alteration agreement with respect to any surface water features.

An EIR must include a description of the physical environment within the local and regional vicinity of the project. This description is used as a baseline to determine whether an impact is significant. The environmental setting is usually described as it exists at the time the notice of preparation is issued; however, the CEQA Guidelines allow a lead agency to use different baselines in some circumstances.

In this EIR, the environmental baseline is defined as the environmental conditions in existence at the time the Notice of Preparation was issued – i.e., October 2001. Given that one of the purposes of this EIR is to update previous environmental documents, it is relevant in some discussions to consider the history of the landfill as reflected in those documents. It is not, however, within the scope of this EIR to revisit the original landfill siting decision. Environmental impact assessments in this EIR are focused on the continued operations of West Central Landfill, as permitted and approved.

1.4.2 Preparation of DEIR

The County of Shasta developed a Draft EIR (DEIR) and circulated the document for public and agency review on March 6, 2003. The comment period closed on April 28, 2003 and written and any oral comments on environmental issues received during this review period and prior to preparation of this Final Environmental Impact Report are addressed in this document. The DEIR was available for review at the following locations:

- **Shasta County Department of Public Works;**
- **Shasta County Library, Redding Branch;**
- **Shasta County Library, Anderson Branch;**
- **Eastern Shasta County Regional Library.**

The DEIR was also available at www.co.shasta.ca.us/Departments/PublicWorks.

The DIER was also distributed to numerous interested individuals; the Notice of Availability and distribution list is shown in Appendix H.

In addition, the County held a public meeting at the Igo-Ono School on May 29, 2003 to hear public concerns about the proposed project. A notice for the public meeting was

sent to interested individuals and adjacent residents; three interested citizens attended the meeting. A copy of the notice, distribution list and names of persons attending the meeting are shown in Appendix I.

CEQA requires that a Final EIR be prepared, certified, and considered by public decision-makers prior to taking action on a project. The Final EIR provides the Lead Agency (County of Shasta, Department of Public Works) an opportunity to respond to comments received on the DEIR and to incorporate any additions or revisions to the DEIR necessary to clarify or supplement information contained therein.

1.4.3 DEIR Comments

Nine (9) written comments were received by the County in response to the circulation of the DEIR. Issues raised in the comment letters ranged from requesting to close the landfill to suggestions for additional information to be developed. DIER comments, and the County's response to comments are included in Section 2.0. The Final EIR has been revised to incorporate relevant comments and additional information to clarify the previously distributed DEIR.

1.4.4 Preparation of FEIR

The Final EIR (FEIR) was prepared in accordance with the CEQA guidelines to address public and agency comments to the DEIR. The FEIR has been prepared as a single document, incorporating the previous DEIR sections updated with comments, along with comment letters and responses to comments. The FEIR also has a Mitigation Monitoring and Reporting Program developed to outline specific monitoring requirements for this project.

In addition, this FEIR may serve in the future as a tiering document for future CEQA reviews and documentation (see Section 1.1).

1.5 Document Organization

This FEIR has been prepared following CEQA and the CEQA Guidelines, and it reflects the required contents accordingly. Shasta County does not have a standard format for EIRs.

The Summary provides a concise summary of the report, including the major issues and conclusions in the FEIR and the specific discussions required under CEQA. The Summary discusses the report's main conclusions, including the identified significant effects and proposed mitigation measures.

Chapter 1.0, this chapter, addresses the basic CEQA framework and the scope of this FEIR, including a discussion of the history of CEQA compliance at the West Central Landfill. Following this introduction, **Chapter 2.0 outlines the public review process and provides a list of the agencies and public who commented on the DEIR. This chapter also**

provides copies of actual comment letters and responses to those letters by the County. Chapter 3.0 defines the project subject to analysis in this document, including the project objectives, regulatory context, design components, and past, ongoing, and future activities. Chapter 4.0 provides a discussion of alternatives and describes the alternatives considered by the County for the proposed project.

Chapters 5.0, 6.0, and 7.0 provide the main topical analyses for the West Central Landfill environment; the chapters are organized by groups of related topics, resources, and issues. For each group, the discussion includes the existing setting, the environmental issues and thresholds for determining significance, the potential environmental effects, including cumulative effects, and appropriate mitigation measures, including those identified in the previous CEQA documents. The physical environment is covered in Chapter 5.0, including geology and soils, water quality, and air quality. Chapter 6.0 addresses the biological environment. Chapter 7.0 addresses the human environment, including land use, public health and safety, traffic and circulation, utilities and services, visual quality, noise, and cultural resources.

Additional CEQA-required topics are addressed in Chapter 8.0, including summaries of effects found not to be significant, unavoidable and irreversible effects, growth-inducing effects, cumulative effects, and the "environmentally superior alternative."

Chapter 9.0 is the required listing of persons involved in preparation of the FEIR, including their organizational or agency affiliation. Chapter 10.0 is the required identification of documents and other sources used in FEIR preparation. These documents are available for public review upon request through the County Department of Public Works.

Section 11.0 presents the Mitigation Monitoring and Reporting Program for the implementation of the FEIR.

The FEIR also includes several appendices, which supplement the information in the body of the document. Appendix A discusses the landfill design and operation, Appendix B outlines the waste quantities and types, and Appendix C identifies the load screening program for the landfill; these appendices are taken from the 1999 EIR Addendum, prepared by the County of Shasta. Appendix D consists of the Notice of Preparation for this EIR and copies of letters received in response to that notice. Appendix E is a report of a biological reconnaissance study, and Appendix F is a copy of the main body of an archaeological reconnaissance study. Both Appendix E and Appendix F reflect studies conducted in support of this EIR and address the entire landfill property. **Additionally, information about the approval of the use of Alternative Daily Cover at the landfill is shown in Appendix G. Appendix H has the DEIR notice of availability and distribution list and Appendix I has the notice of public meeting and distribution list.**

2.0 Public and Agency Review

2.0 Public and Agency Review

The CEQA guidelines require public disclosure in an EIR of all project related environmental effects and encourages public participation throughout the EIR process. CEQA also requires that a public review period of no less than 45 days is required for the DEIR. Shasta County provided the West Central DEIR for public review from March 6, to April 28, 2003 (53 days), and provided an additional opportunity for the public to comment at a separate public meeting on May 29, 2003; there were no public comments requiring responses at the May 29th meeting.

2.1 Comments to DEIR

This section presents written comments received from the public and reviewing agencies in response to the preparation and circulation of the DEIR. For ease of review, comment letters are immediately followed by the County response to relevant points in the comment letters. Table 2-1 shows a listing of individuals and agencies that responded with comments to the DEIR. Following that listing, copies of actual comment letters are provided, with responses to the letters from the County following. Each comment letter is numbered for identification and tracking purposes, and responses to comments follow the same numbering process.

Table 2-1
West Central Landfill
DEIR Comments

Comment #	Commenter Name	Date Received	Contact Name and Phone Number
WCL –1	Holmes	4/28/03	Ronald and Joan Holmes (530) 396-2748
WCL – 2	CIWMB	4/17/03	Diana Post (916) 341-6000
WCL – 3	RWQCB	4/10/03	Katie Bowman (530) 224-4845
WCL – 4	Caltrans	4/07/03	Marcelino Gonzalez (530) 225-3369
WCL – 5	Waste Management	4/15/03	Richard King (530) 347-5236
WCL – 6	Shasta County Planning Division	3/24/03	Jim Cook (530) 225-5532
WCL – 7	Erickson	4/28/03	Arnold Erickson (530) 396-2220
WCL – 8	Droisher	4/28/03	Celeste Droisher (no contact information provided)
WCL -9	Shasta County Environmental Health	4/24/03	Carla Serio (530) 225-5787

Comment Letter WCL-1

RECEIVED

APR 28 2003

DEPT. OF PUBLIC WORKS

We have several comments in reference to the Draft EIR for the West Central Landfill.

First, the Shasta County Dept. of Public Works in their Notice of Preparation for Draft Environmental Impact Report states on page 5 that "Ongoing monitoring activities demonstrate compliance with State and Federal Standards". NO, the County is not in compliance. On page 34 of Draft EIR it states that on December 23, 2002 the "under drain system had detected positive for the presence of volatile organic compounds" and that it was "visually estimated that the under drain was discharging approximately 0.5 gallons per minute to the ground surface". On page 35 it states that "There is no evidence that the VOC release has entered groundwater". That is a contradiction. The under drain system is the groundwater and contamination has been occurring for an unspecified period before this test up until the County responded to the Notice of Violation issued by the RWQCB on January 21, 2003 for the release of VOC in the under drain system. Why did the County not take action immediately after discovering the contamination, instead of waiting a month for the RWQCB to issue a Notice of Violation? That certainly does not inspire one's confidence in the regulatory system. **1-1**

On page 37 of Draft EIR it states that "Groundwater monitoring results in January 1999, however detected VOC's at low concentrations in three wells, and the RWQCB issued a Notice of Violation"

On page 34 of Draft EIR the "County is confident" that they can limit impacts to the surface and groundwater". Well, the evidence is too the contrary and we find this attitude as arrogant. We think that one would be humbled by the situation—on both leaks the cause is speculative, not known and not CORRECTED.

The second issue is discussed in the Biological Reconnaissance West Central Landfill contained in the Draft EIR. Page 12 of this document states that "The stream courses, floodplains, any associated wetlands, and the riparian forests within the streams in the WCL site constitute an environmentally sensitive habitat complex. Future activities at the WCL site would cross a threshold of significance under CEQA if those activities resulted in losses of wetland areas or functions, loss of riparian forests, the placement of fill or the deposition of sediment or debris in the stream channels or on the floodplains of the site's stream courses, or potential effects of operations such as effects from diverting additional water flows into existing stream courses." It is also noted that the sediment control ponds within active stream channels is contrary to the requirements of Section 1600 of the Fish & Game Code. In addition, no permit could be found for the original stream alteration. A substantial plan of corrective action is outlined in this document.

One can see from the Draft EIR that a lot of work needs to be done to correct environmental problems in the streambed and that future expansion of the dump site will be impracticable. The County notes on page 25 of the Draft EIR that Alternative Waste Technology Alternatives which reduce landfill waste volumes "would require a considerable advance planning, financing, and design work". Further, "alternative waste technology alternatives do not meet the basic objectives for this project, and, for **1-2**

economic and environmental reasons, they are at this time considered not feasible". We think that because such alternatives do take considerable time, effort and financing, NOW is the time to start considering such alternatives. At the present, recycling efforts could be greatly increased. Why at the present time is recycling for business in Redding not mandatory?

1-2 Continued

1-3

Third issue is the effect of the dump on the surrounding community. On page 6 of Shasta County Dept. of Public Works in their Notice of Preparation for Draft Environmental Impact Report is stated that "Surrounding land use patterns have not changed significantly." We do not share this opinion.

1-4

First is the New Veteran's Cemetery. The mound covering a completed portion of Phase II unit is clearly visible and not attractive.

Second, this area is booming with residential construction. To consider increasing the fill height of the dump would increase this problem.

Third, the ground water flows east away from the dump toward residential housing, the Clear Creek restoration project and the Sacramento River.

Fourth issue is the effect of the dump on air quality, most notably ozone and particulate matter. The Draft EIR states on page 42 "...especially in regard to PM10, the added increment of dust emissions resulting from the project is considered a significant effect." Shasta County already does not achieve mandated air quality standards. No mention is made in the Draft EIR if fiberglass waste is being accepted at the dump and the impact that has on air quality. No plan is proposed to further reduce this impact.

1-7

On February 16, 2003 myself and two others conducted a personal inspection of the dump. We took photographs. We found six situations that deserve comment.

1. Lots of plastic bags caught in the trees on the southwest boundary of dump.
2. The lowest sedimentation pond was badly eroded at the overflow. This would not survive a significant rain event.
3. The top of the hill on the northwest side of the dump has been cleared of brush. No action was taken to cover the bare earth resulting in severe erosion and degrading the surface water quality.
4. The north and south streams were turbid.
5. The leachate pond was not fenced to the extent that children could not easily get inside. The plastic surface of the pond is slippery and this could create a dangerous situation.
6. The leachate pipe had valves that would flush leachate onto ground surface with no protection from vandals.

1-5

In conclusion, we understand that waste management and landfills are necessary in a consumer society. It is necessary to accomplish this with a minimum degradation to the environment and the surrounding. It is unfortunate that the original sitting for the dump was located in an area that presents serious environmental degradation—high ground water and wetlands. We suggest:

2

1) Mitigate and repair the effect of the leachate on the ground water.
2) Repair damage to stream beds and riparian areas to preserve water quality.
3) Implement a air quality monitoring program. Comply to Clean Air Act Amendments of 1990.
4) Implement alternative waste management and plan for early closure of the landfill. We suggest you make a transfer station at this location or close it altogether due to increased residential usage.
5) Start an intensive, strict recycling program for residential and businesses in Shasta County. Reducing amount of waste entering the landfill is the most effective way to reduce environmental effects and extends the limited life of this dump.

1-6

Sincerely,

Ronald A. Holmes and Joan E. Holmes
P.O. Box 128
14515 Small Farms Road,
Igo, Ca 96047
(530) 396-2748
4/28/2003

3

Commenter 1, Ronald A. and Joan E. Holmes (WCL-1)

Comment 1-1. Comment 1-1 discusses the release of VOC in the underdrain system of the landfill and expresses concern regarding the County's ability to limit possible adverse effects to the groundwater, especially when the sources of the detected contamination are unknown. The commenter states:

> *"On page 34 of the Draft EIR it states that on December 23, 2002 the 'under drain system had detected positive for the presence of volatile organic compounds' and that it was 'visually estimated that the under drain was discharging approximately 0.5 gallons per minute to the ground surface'. On page 35 it states that '[t]here is no evidence that the VOC release has entered groundwater'. That is a contradiction."*

Response 1-1. The two items discussed in this comment are not contradictions of each other. In the first part of this comment, the issue surrounds the determination that a VOC release had occurred at a surface drain. The County conducted routine sampling on December 23, 2002, and was notified that VOC was found in the samples on January 9, 2003. Regional Water Quality Control Board (RWQCB) staff were immediately notified and "follow-up inspections by the RWQCB were conducted at the site on January 10, 13 and 24 and verified the release." Verification by both the County and the RWQCB showed that water was discharging to the ground surface and was not being deposited into any channel. The low volume of discharge made it unlikely that any of this material was entering the groundwater. However, to verify that VOC was not entering groundwater, samples were taken from the monitoring wells at the site.

The second part of the comment relates to the monitoring wells and the statement in the DEIR about no VOC being found in these wells. The full statement from the DEIR reads, "There is no evidence that the VOC release has entered groundwater on or offsite. The nearest downgradient well is located less than 100 feet from the underdrain outlet; this well, and all other downgradient wells, have tested negative for VOC." If VOC had been entering the groundwater, previous to the determination of the release and after the release, groundwater monitoring wells in the immediate vicinity of the underdrain systems would have detected positive for VOC. This has not happened.

The potential effects on groundwater from landfill operation have been identified in the EIR as potentially significant. As discussed in Section 4.3.1.3 of the EIR, landfill liners do not provide a 100-percent barrier, and seepage of contaminants occasionally may occur. This section also acknowledges that the exact source of contamination is not known. The County concludes, however, that implementation of an approved Corrective Action Plan and construction of future liner and groundwater monitoring systems in accordance with RWQCB requirements and specifications will reduce potential effects to a less-than-significant level.

Comment 1-2. Comment 1-2 discusses alternative waste technology to reduce landfill waste volumes. Specifically, the commenter says:

> *"The County notes on page 25 of the Draft EIR that Alternative Waste Technology Alternatives which reduce landfill waste volumes 'would require considerable advance planning, financing, and design work'. Further, 'alternative waste technology alternatives do not meet the basic objectives for this project, and, for economic and environmental reasons, they are at this time considered not feasible'. We think that because such alternatives do take considerable time, effort and financing, NOW is the time to start considering such alternatives."*

Response 1-2. As stated in the Section 1.0 of the EIR, the County "has elected to prepare this EIR to address the ongoing and future development, as planned and approved, of the West Central Landfill." Thus, the focus of the EIR is on the existing landfill as a permitted facility, approved under previous CEQA documents for its current location, with planned operations up to 200 acres under the existing Solid Waste Facility Permit (SWFP) issued by the California Integrated Waste Management Board (CIWMB). This EIR, however, does not preclude the evaluation of other alternatives in the future, including alternatives of the types indicated in the comment and discussed in Section 3.2 of the EIR.

The review of alternative waste technologies have been considered in the Shasta County Integrated Waste Management Plan and further consideration would be an appropriate subject for a future EIR that will likely be required when the current 200-acre permitted facility is nearing capacity. At that time, the County will undertake a new round of environmental reviews to determine if the landfill should be expanded on County-owned property at the existing site, or if another site is more appropriate. Additionally, alternative technologies for waste disposal may also be developed at that time as well as options for transporting waste types accepted at this facility to other currently operating facilities. Shasta County does recognize that it does take a significant amount of time and money to evaluate these environmental alternatives, and will prepare a new EIR in sufficient time to allow adequate site evaluations.

The Summary section of the Final EIR has been clarified to reinforce the purpose of the EIR, which is to evaluate ongoing and future operations within the currently permitted landfill area.

Comment 1-3. This comment concerns recycling efforts, the commenter states:

> *"At the present, recycling efforts could be greatly increased. Why at the present time is recycling for business in Redding not mandatory?"*

Response 1-3. The County agrees that recycling efforts do play a part in diverting solid waste from the West Central Landfill. To this end, the County, City of Redding, City of

Shasta Lake and City of Anderson developed a Source Reduction and Recycling Element to address this issue and be in compliance with state mandated recycling targets.

Additionally, the City of Redding has developed a waste transfer station in Redding, where waste is sorted and recycled prior to being transferred to the West Central Landfill. The County currently exceeds the State of California's 50% waste diversion mandate; the current approved diversion rate is 64%.

Mandatory recycling has not been implemented for any person, or business, in Shasta County, including Redding. Shasta County has no regulatory authority for recycling efforts in the City of Redding. Several recycling programs for businesses are available and are listed and monitored as part of the Annual Report process for the Shasta County Integrated Waste Management Plan (IWMP). Detailed information about these programs can be found in the IWMP, which is available for review at the Shasta County Department of Public Works, during normal business hours. Information is also maintained by the California Integrated Waste Management Board online at www.ciwmb.ca.gov/Profiles/.

Comment 1-4. This comment concerns land use patterns in the vicinity of the West Central Landfill property, specifically mentioning the new Northern California Veterans Cemetery, residential construction, and groundwater flow in the direction of residential housing and surface waters. The commenter states:

> *"On page 6 of Shasta County Dept. of Public Works in their Notice of Preparation for Draft Environmental Impact Report is stated that 'Surrounding land use patterns have not changed significantly.' We do not share this opinion."*

Response 1-4. Land use patterns around the West Central Landfill have not significantly changed in the sense that the predominant land uses in the area remain rural residential and public facility, with significant land owned by Shasta County. As noted in the DEIR, at page 56, Section 6.1.3.2, "Continuing operations of the West Central Landfill is consistent with, and further implements, County land use planning. The County General Plan specifically addresses and accommodates the landfill in its current location."

The new Veterans Cemetery and additional residential development in the vicinity of the West Central Landfill property are appropriate considerations for this "update EIR." The EIR specifically discusses relationships between the landfill and the Veterans Cemetery in a number of sections, including Section 6.1.3.2 (Land Use), 6.5.3.2 (Visual Quality), and 6.6.3.2 (Noise). Regarding visual effects in particular, the EIR acknowledges that views of increasingly visible landfill areas could be perceived by visitors to the cemetery as a significant, adverse effect; however, the landfill was an existing and active feature of the environmental setting at the time the environmental review for the cemetery was conducted. For assessments of potential effects to the Cemetery, the County refers to that project's environmental review, which did not find the visual quality effects significant, primarily because the cemetery design included vegetative screening.

To further clarify issues regarding adjacent uses, the County has mapped adjacent residences within a mile of the landfill. No building development is closer than 2890 feet from the center of the landfill, consistent with statements made in the DEIR. A 2003 aerial photo has been provided in the FEIR to show the landfill and development on surrounding parcels.

Comment 1-5. The commenter identifies several items as observed deficiencies of the landfill facilities, based on personal inspections by the commenter. These items were listed as:

"1. Lots of plastic bags caught in the trees on the southwest boundary of dump.
2. The lowest sedimentation pond was badly eroded at the overflow. This would not survive a significant rain event.
3. The top of the hill on the northwest side of the dump has been cleared of brush. No action was taken to cover the bare earth resulting in severe erosion and degrading the surface water quality.
4. The north and south streams were turbid.
5. The leachate pond was not fenced to the extent that children could not easily get inside. The plastic surface of the pond is slippery and this could create a dangerous situation.
6. The leachate pipe had valves that would flush leachate onto ground surface with no protection from vandals."

Response 1-5. The following responses are provided by referenced item.

1. The County recognizes that trash can blow away from the active waste pile and takes appropriate measures to minimize trash from blowing off the landfill site; these include covering the waste pile with compacted soil and the use of a tarp system (also known as an Alternative Daily Cover-ADC). In addition, the County provides routine cleanup of trash that has been blown off the active waste pile.

2. The County does not agree with the commenter's assertion that the lower sediment pond would not survive a "significant" rain event; the County and City of Redding provide maintenance of the site and maintain these sediment control structures. This structure survived significant rainfall this spring. The sediment pond spillway in question was installed in 1994 by landfill personnel and the outlet is designed to pass storm water flows generated by a 100-year storm event. It has performed well during two federally declared storm disasters since its construction. Vegetation removal for landfill expansions and borrow areas contribute to increased flow to the pond and were accounted for in the original outlet design. Minor amounts of recent erosion around the pond outlet was discovered and will be repaired before the next rainy season. An engineering analysis to evaluate the outlet's sufficiency will be performed in the summer of 2003. Based on this analysis, modifications to the outlet, if necessary, would be undertaken as a maintenance project by landfill staff.

Mitigation measures identified in the EIR include a commitment (Mitigation Measure Bio-2/MM-2e) by the County to revise existing sediment and erosion control plans to increase the likely retention of sediment onsite, and to enact additional Best Management Practices (see EIR Sections 5.3 and 5.4).

3. Clearing operations were conducted within the existing permitted landfill area. Stormwater runoff is controlled at the site through existing surface water diversions and collection systems. The area photographed was subject to a controlled burn by the California Department of Forestry and Fire Protection. While some amount of erosion was anticipated from these activities, the County and RWQCB has noted no significant surface erosion and degradation of surface waters.

4. The Biological Reconnaissance contained within the EIR describes the condition of two streams on the landfill property with respect to sediment and turbidity (Appendix E, Section 3.4). The sediment and turbidity observed during this study led to the identification of Effect Bio-3 and the corresponding mitigation measure committing the County to revise existing sediment and erosion control plans to increase likely retention of sediment on the landfill site, and to enact additional Best Management Practices. Water quality effects, including potential sedimentation of surface water features, are addressed in Sections 4.3.3 and 4.3.4 with respect to water quality and in Sections 5.3.2 and 5.4 with respect to biological resources.

5. The leachate pond does not require fencing immediately around the pond; however, the County has fenced the area around the pond to deter animals from entering the area. The landfill property is partially fenced to prevent accidental entry to the site. There is no reason for children or other persons (other than landfill staff and regulatory personnel) to be in the area of the leachate pond. For safety purposes, unauthorized persons in these areas are considered to trespassing and subject to enforcement actions.

6. All leachate piping and valves are located in areas that cannot direct leachate onto the ground surface. The observed piping was installed on an emergency basis upon detection of the VOC release. The purpose of the piping is to capture all VOC release and route it to the lined leachate pond for containment. No spills or overflows have occurred. With the summer dry weather pattern, there is currently no flow of VOC. Further release is not anticipated until the first heavy rains of the season (typically in November or December) that create infiltration. Permanent piping is being installed as part of Unit 3 construction scheduled for completion in early fall 2003.

Comment 1-6. The commenter lists five items that are recommended for the County to take action on, those are:

1. *"Mitigate and repair the effect of leachate on the ground water.*
2. *Repair damage to stream beds and riparian areas to preserve water quality.*
3. *Implement a air quality monitoring program. Comply to Clean Air Act Amendments of 1990.*
4. *Implement alternative waste management and plan for early closure of the landfill. We suggest you make a transfer station at this location or close it altogether due to increased residential usage.*
5. *Start an intensive, strict recycling program for residential and businesses in Shasta County. Reducing amount of waste entering the landfill is the most effective way to reduce environmental effects and extends the limited life of this dump."*

Response 1-6. The following responses respond to the five suggestions listed by the commenter:

1. The effect of leachate on groundwater is part of the ongoing operations and permit conditions for the operation of the West Central Landfill. The County is committed to maintaining water quality at the landfill and is currently working with the Regional Water Quality Control Board (RWQCB) to use enhanced underdrain and leachate collection systems, runoff diversion trenches, and pipe, and will continue monitoring. Additionally, the RWQCB has recently approved the County's request to install a liner in proposed waste Unit 3 within the exiting permitted landfill area, and has issued Waste Discharge Requirements. Also, the RWQCB has approved the County's Revised Water Quality Protection Standards Report and Evaluation Monitoring Program, in response to the discharge of VOC from the landfill.

2. Stream channel restoration recommendations are discussed in Section 5.4 and are included as part of the Biological Reconnaissance report in Appendix E.

3. The operations of the West Central Landfill are in compliance with the provisions of the Clean Air Act, as monitored by the Shasta County Air Quality Management District under their Title V permit. Additionally, the County continues to implement best management practices and other mitigation measures such as watering roads and other open areas as needed to prevent fugitive dust from leaving the site. Air quality mitigation activities are identified for continued implementation in Section 4.4.5 of the EIR.

4. The purpose of the DEIR is to review ongoing operations of the permitted facility, not to review options for closure of the landfill, re-siting to another location, or disposal of the waste at other permitted facilities. The landfill closure alternative, however, is essentially the No Action Alternative as assessed in the EIR. The EIR does not preclude the County from pursuing an alternative waste management

program (e.g., the Other Alternatives discussed in Section 3.2 of the EIR); nor does it preclude planning for early closure of the landfill. At this time, however, the County's position (as discussed in Section 3.1 of the EIR) is that the landfill represents a considerable, public financial investment and early closure would not take full advantage of the remaining capacity in the landfill.

5. The County has implemented several successful recycling programs and is in compliance with the California Integrated Waste Management Act, including requirements to reduce solid waste by at least 50%. Detailed information is available be reviewing the County Integrated Waste Management Plan (IWMP) and all subsequent Annual Reports. The IWMP can be reviewed at the Shasta County Department of Public Works during normal business hours. Information is also maintained by the California Integrated Waste Management Board which can be reviewed online at www.ciwmb.ca.gov/Profiles/.

Comment 1-7. Commenter quotes from the Biological Reconnaissance report contained in the EIR and states that:

"One can see from the Draft EIR that a lot of work needs to be done to correct environmental problems in the streambed and that future expansion of the dump site will be impracticable. "

Response 1-7. One major purpose of this (or any other) EIR is to disclose "environmental problems" to decision-makers and the public and to identify ways to avoid or reduce such potential adverse effects. While this EIR was specifically focused on ongoing, permitted operations at the landfill, it nevertheless provided an occasion to consider more broadly how those ongoing activities may be carried out in the future with reduced levels of impact. Section 5.4 identifies a number of measures that can be expected to reduce ongoing and future potential impacts to biological resources on the West Central Landfill property. Additional CEQA review would be required for future activities at the landfill that are not addressed in this EIR.

Comment 1-8. Commenter makes a statement regarding air quality:

"The Draft EIR states on page 42 '…especially in regard to PM10, the added increment of dust emissions resulting from the project is considered a significant effect.' Shasta County already does not achieve mandated air quality standards. No mention is made in the Draft EIR if fiberglass waste is being accepted at the dump and the impact that has on air quality. No plan is proposed to further reduce this impact."

Response 1-8. Section 4.4 Air Quality and Section 4.4.4.2 Continuing Operations discuss within the DEIR the potential impacts to air quality. In regard to PM10 the DEIR does discuss on page 42 that "increased 'dustfall' and locally elevated levels of particulate matter (including PM10) are expected" for construction work and traffic on unpaved roads

within the landfill. Because the increased levels of emissions are considered significant, several mitigation measures are identified in the DEIR.

Mitigation and monitoring is described in the DEIR for air quality at section 4.4.5, also located on page 42 and 43.

Regarding the issue of fiberglass waste, the West Central Landfill does not accept fiberglass waste and there are no plans for accepting fiberglass waste at the facility.

Comment Letter WCL-2

California Integrated Waste Management Board

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April 18, 2003

Daniel Little
Shasta County Department of Public Works
1855 Placer Street
~~Shasta~~ REDDING, CA 96001

Subject: SCH No. 2001112020 Draft Environmental Impact Report for ongoing operations and permit renewal and Revision for the West Central Landfill, Solid Waste Facility Permit No. 45-AA-0043, Shasta County.

Dear Mr. Little:

The California Integrated Waste Management Board (CIWMB or Board) Environmental Review (ER) staff has reviewed the Draft Environmental Impact Report (DEIR), cited above. In order to assist the Lead Agency in preparation of a Final Environmental Impact Report (FEIR) that will be adequate for the proposed project(s), ER staff has prepared the following analysis and comments. This letter contains the CIWMB role in the California Environmental Quality Act (CEQA) process, the project description for the proposed project, and ER staff analysis and recommendations for the proposed project based on ER staff's understanding of the project, as described in the above document(s).

CIWMB CEQA REVIEW

The CIWMB is a responsible agency for the environmental review of this proposed project, and for concurrence in a Solid Waste Facility Permit (SWFP). The CIWMB operates in cooperation with local government to assure protection of public health, safety, and the environment from the potentially detrimental effects of improper solid waste management. The CIWMB concurs in the issuance, or revision, of SWFPs issued by local enforcement agencies (LEAs) to assure that a solid waste facility operates in a manner consistent with all applicable laws and regulations.

ER staff reviews, and comments on environmental documents, to assist Lead Agencies in developing environmental documents that will be complete for use in the CEQA process by the Lead Agency, and all responsible agencies. ER staff comments are to assist decision-makers in identifying potential impacts from proposed projects; determine whether any such impacts are significant; and ascertain

whether significant impacts can be mitigated to a level of insignificance in compliance with the CEQA statutes and regulations.

When performing the initial review of an environmental document during the circulation process, ER staff must analyze and evaluate whether the proposed environmental document clearly describes all phases of the project, and assess all potential primary and secondary impacts to public health, safety, and the environment that could occur by the implementation of the project. In order for ER staff to properly evaluate, and recommend, whether an environmental document is adequate for use in the permitting process, the proposed project must be described in sufficient detail for the ER staff to understand and evaluate the proposed project, the potential environmental impacts, proposed mitigation measures, and findings as presented by the Lead Agency.

When the proposed SWFP, along with the citation of evidence of CEQA compliance by the LEA, is received by the CIWMB, a second analysis performed by ER staff is done to evaluate whether the CEQA evaluation in the cited environmental document, **supports the requested specifications and conditions of the SWFP**. The environmental document must clearly describe and assess all potential impacts that can be associated with the proposed project. The SWFP concurrence process is greatly facilitated when this type of information is included, and thoroughly addressed in the environmental document.

After comparison and analysis of the cited CEQA document, with the proposed SWFP, ER staff makes a recommendation to the CIWMB regarding the adequacy of the CEQA document for SWFP concurrence purposes. The Board members make the final determination of the adequacy of the CEQA document for SWFP concurrence, as well as whether or not to concur in issuance of the SWFP.

DEIR PROJECT DESCRIPTION

CIWMB ER staff have reviewed the DEIR for the West Central Landfill (WCL) Solid Waste Facility Permit (SWFP) revision and renewal, and based on this document, submits the following project description. If this project description varies substantially from the project as understood by the Lead Agency, ER staff request that the Lead Agency include or correct any significant differences in the FEIR, and notify ER staff prior to certification of the FEIR by the Lead Agency.

Shasta County Department of Public Works (SCDPW), acting as Lead Agency, has prepared and circulated a DEIR in order to comply with CEQA, and to provide information to, and solicit consultation with responsible agencies in the approval of the proposed project.

SCDPW and the City of Redding, operate a Class III sanitary landfill located at 14095 Clear Creek Road, approximately 12 miles southwest of Redding on County-owned property, and near the communities of Igo and Ono, Shasta County. The property consists of 1,058 acres with a total of 100 acres already developed for waste disposal and related activities. Future development is planned to encompass as least another 100 acres. The WCL site has been in operation and accepting waste since 1982 and was developed in two phases.

Waste Units

Phase I

Phase I was operated from 1982 through 1991, and covers approximately 20 acres. Phase II began receiving waste in the summer of 1991.

Phase II

Phase II is being developed in sub-phases over a period of 20 to 25 years. Unlike Phase I, Phase II of the WCL is being developed in smaller increments of 4 to 12 acres, and cover material for an active unit is taken from the next proposed cell. As excavations are made, an impervious geo-synthetic liner is installed, and the leachate collection system is extended through these incremental units. The refuse is then covered with soil excavated from the next increment.

Units of Phase II Landfill Expansion

Unit	Acres	Capacity (cubic yards)	Construction Date	Date Filled	Closure Date
1A	8	Not Specified	1991	1997	2008
1B	7	"	1992	1997	2008
1C	6	"	1994	1997	2008
1D	9	991,143	Summer 2000	January 2005	Summer 2008
2	Not Specified	Not Specified	1996	2001	2008
3	Not Specified	1,455,852	Summer 2004	June 2009	Summer 2013
4	Not Specified	1,987,565	Summer 2008	December 2014	Summer 2016
5	Not Specified	932,407	Summer 2013	March 2017	Summer 2019

The development of the Phase II remaining waste management units will require relocation of three observation wells and a segment of power and telephone lines. Two existing contact water ponds will need to be enlarged, and two sediment ponds south of Units 1A, B, and C will need to be relocated.

Waste Types and Tonnage

The WCL is a Class III facility and receives non-hazardous solid and inert wastes as defined by California Code of Regulations (CCR) Tile 27 §§20220 and 20230. The WCL receives approximately 120,000 tons of solid waste per year. The City of Redding waste accounts for approx. 66 percent of the tonnage that goes to the landfill. The average tonnage per day is 380 tons with a peak of 580 tons per day. The landfill also accepts approximately 2000 tons of dewatered sewage sludge per year.

Current and Projected Waste Flow

Year	Annual Tonnage (tons)	Annual Volume (cubic yards)	Cumulative Volume (cubic yards)	Waste Unit Capacity
2000	120,950	268,778	1,055,444	
2001	123,974	275,498	1,330,942	2 Full
2002	127,073	282,381	1,613,326	
2003	130,250	289,444	1,902,770	
2004	133,506	296,680	2,199,450	
2005	136,844	304,097	2,503,547	1D Full
2006	140,265	311,700	2,815,247	
2007	143,772	319,493	3,134,740	
2008	147,366	327,480	3,426,220	
2009	151,050	335,666	3,797,886	3 Full

Current and Projected Waste Flow				
Year	Annual Tonnage (tons)	Annual Volume (cubic yards)	Cumulative Volume (cubic yards)	Waste Unit Capacity
2010	154,826	344,057	4,141,943	
2011	157,697	352,660	4,494,603	
2012	162,664	361,475	4,856,078	
2013	166,731	370,513	5,226,591	
2014	170,899	379,775	5,606,366	4 Full
2015	175,172	389,271	5,995,637	
2016	179,551	399,002	6,394,639	
2017	184,040	408,977	6,803,616	5 Full

Existing SWFP

The WCL is currently permitted for solid waste disposal per October 31, 1997 SWFP under the following limitations and specifications:

- Types of waste permitted for receipt: Agricultural, Construction & Demolition, Dead Animals, Industrial, Mixed Municipal, Sewage Sludge and Tires
- Maximum daily tonnage permitted for receipt: 700 peak tons per day
- Days & Hours of operation: Open to public Monday through Saturday from 9 am to 5 pm
- Peak number of vehicles permitted per day: Not Specified
- Maximum height of landfill: Not Specified
- Permitted footprint area: 200 acres
- Estimated closure date: 2025
- Total design capacity: 6,605,722 yards^3

The general public using the landfill hauling their own refuse, are required to dispose of solid waste materials in transfer boxes located near the entrance gate. Commercial customers are directed to the active fill areas for discharge of waste from trucks.

Alternative daily cover (ADC) is currently being used at the landfill. The City of Redding has purchased a tarp machine that is used to cover the working face daily with reusable tarps.

CIWMB STAFF COMMENTS

As a Responsible Agency for SWFP concurrence, Board staff will conduct an environmental analysis for this project, using the DEIR developed by the Lead Agency, in accordance with Title 14, CCR §15096. To assist in our review of the DEIR for SWFP concurrence purposes, ER staff request that the following comments and questions be considered and addressed in the Final Environmental Impact Report (FEIR). Some of the requested information may already be included in the DEIR; however, ER staff will address many issues germane to this type of facility in this comment letter in order to make a complete record of CIWMB information requirements.

Adequacy of CEQA Document

It is ER staff's opinion that the DEIR as prepared, does not contain enough information and analysis for ER staff to understand the scope and content of the project. ER staff suggests the Lead Agency prepare an FEIR for this project that will include additional detailed information and analysis in order to make the FEIR adequate for CIWMB concurrence, and other Responsible Agency purposes. The Lead Agency may consult with the solid waste LEA, CIWMB Permitting and Enforcement Branch staff, and CIWMB Closure and Remediation Branch staff for assistance in determining the necessary scope and level of analysis in preparing a FEIR that would be adequate for Responsible Agency analysis for this proposed project. **2-1**

In the comment letter dated December 21, 2001, ER staff provided a link to CEQA compliance information germane to landfill facility design and operations for those seeking a SWFP from the CIWMB. This information was developed by Board staff as a guide to lead agencies in the preparation of CEQA documentation, and to responsible agencies for their review of documentation for the construction and/or operation of a solid waste facility requiring a full solid waste facility permit (SWFP). This is located at our website: http://www.ciwmb.ca.gov/PermitToolbox/CheckItems/CEQA/default.htm#Guidelines.

CEQA and Solid Waste Facility Permits

Please note that the FEIR must support all requested specifications and conditions of the SWFP for concurrence by the CIWMB. This includes (*but is not limited to*) details and support for all requested SWFP limits such as:

- Name and address of facility, operator and owner,
- Hours and days of operation for receipt of waste, and for ancillary operations and facility operating hours,
- Peak daily tonnage in tons per day,
- Peak traffic volume in vehicles per day,
- Total acreage of the facility, and of the disposal footprint,
- Permitted area in acres,
- Design capacity,
- Maximum elevation,
- Maximum depth,
- Types of wastes accepted, and
- Closure date, etc.

In addition, the LEA must make the following written finding prior to submittal of a new or revised proposed permit: "The proposed permit is consistent with, and supported by, existing CEQA analysis" (Title 27, CCR §21650). The permit should also include the date the CEQA document was certified and filed with the State Clearinghouse, as well as the date that the Notice of Determination was filed with the State Clearinghouse.

Operating Days and Hours

The proposed operating days and hours (days/week, hours/day, start stop times) are not listed in the DEIR. Please describe in the FEIR the operating cycle of the facility including hours for receipt of waste, ancillary operations and facility operating hours. **2-2**

Sensitive Receptors

The FEIR should identify the surrounding land use of the facility area with a description of the density of the occupancy for commercial and residential units in the area. The FEIR should also be specific regarding the current number of homes in the vicinity, their locations (on maps drawn to scale) and their distances from the landfill boundaries. **2-3**

Maps

The DEIR does not contain sufficient maps, photographs, and diagrams supportive of the land use data for the proposed project. The FEIR circulated for public review should contain the following: **2-4**

- Detailed maps to scale, photographs and/or diagrams with legends of any and all access roads, intersections, signs, traffic signals and any new or modified roads utilized by the facility on or off-site.
- Detailed maps to scale showing nearest sensitive receptors including all recently constructed residential homes, businesses, and schools.

Traffic and Related Transportation System Impacts

Traffic volumes, proposed average, and peak daily vehicle count, should be projected over the first few years of the project at peak tonnages of the proposed project. The DEIR does not contain a traffic study and other information necessary to determine the level of impact the vehicles traveling to and from the facility will have on streets, roads and intersections, as well as possible impacts to nearby sensitive receptors such as schools and homes. The FEIR should include a traffic study (or copies of or reference to adequate reports or studies supporting proposed traffic totals for the proposed project), and address the following traffic related issues: **2-5**

- Number and type of vehicles
- Access routes and roads (ingress/egress)
- Loading and Unloading areas
- On-site roads
- Public and commercial routing
- Number and types of vehicles entering and leaving the site per day
- Modifications required during inclement weather
- Emissions
- Detailed maps to scale, photographs and/or diagrams of all intersections, signs, traffic signals, etc, to and from the facility, any new or modified roads utilized by the facility on or off-site and
- Mitigation measures for all significant traffic related impacts.

Alternative Daily Cover (ADC)

The DEIR states that an ADC program is currently being used at the landfill. Has this program and the use of tarps as ADC been approved by the enforcement agency (with concurrence by the CIWMB) as required by Title 27 CCR §20690? If so, please provide a copy of the approval by enforcement agency in the FEIR. **2-6**

Considering the windy conditions of the area, is the proposed use of tarps as ADC practical for this site? Has the owner or operator demonstrated that the ADC as used controls vectors, fires, odors, blowing litter, and scavenging without presenting a threat to human health and the environment? How will the tarps be kept in place over exposed waste especially during windy conditions? What will be the alternative provisions in place in the event of equipment failure of the tarp machine? Will any compacted earthen cover material be used, and at which frequency?

2-6 Cont.

Please note that should the application of ADC become impracticable or contribute to conditions hazardous to public health and safety and the environment, the owner or operator must terminate such use and revert to the use of compacted earthen cover material in accordance with Title 27 CCR §20680. Impracticable conditions are those which makes placement of alternative daily cover difficult due to adverse climatic or other conditions such that the performance requirements cannot be met.

At the end of any operating day preceding a period of time greater than 24 hours when the facility is closed, unless procedures as required by the enforcement agency are in place to ensure that the requirements of CCR Title 27 §20690(a)(2-3) are met, the owner or operator must place compacted earthen material over the entire working face. In addition, a stockpile of earthen cover material and required equipment shall be available to ensure a corrective response to violation of 27 CCR §20690(a)(2-3). For further information, please see Title 27 CCR §§20670 to 20705 and LEA Advisory No. 48 which can be located on our website: http://www.ciwmb.ca.gov/

Alternate Daily Cover Regulations

Please be aware that the CIWMB is in the process of revising the regulations that control the use of alternative daily cover (ADC) materials at solid waste landfills and the reporting of that use. Affected Code Sections will be Title 27, CCR, §§20680 - 27000; and Title 14, CCR §§Sections 18808-18810, 18812, and 18813.

CIWMB staff is currently preparing the regulation package for noticing. The revised regulations should become effective this year and will affect this facility if ADC is to be utilized. ER staff recommends that the Lead Agency review the draft proposed regulations, and track their progress as this project is developed. The proposed regulations are located on our website at: http://www.ciwmb.ca.gov/Rulemaking/ADC/

Phase II Relocations and Changes

Please describe in the FEIR where the three observation wells, power and telephone lines, and two sediment ponds will be relocated. The enforcement agency shall review and approve proposed post closure land uses if the project involves structures within 1,000 feet of the disposal area, structures on top of waste, modification of the low permeability layer, or irrigation over waste. Please refer to Title 27 CCR §21190 Post-Closure Land Use.

2-7

Please provide details in the FEIR regarding the location of all proposed relocated structures, especially in relation to covered waste/fill areas. If possible, provide maps showing details of the proposed projects and where each will be relocated.

Odors and Air Quality

The FEIR should include a map of the area showing all possible sensitive receptors to wind conditions from the landfill including the Igo-Ono School nearby.

As the Redding area is in a non-attainment area, it is ER staff's understanding that a Statement of Overriding Considerations (SOC) will be adopted for the cumulative degradation of air quality. In order to assist the Board during a SWFP process, please provide ER staff with a copy of any SOC's for environmental impacts that cannot be mitigated below a level of significance in the FEIR. If a SOC is not being adopted, please explain why, and describe how the significant impact of the degradation of air quality will be mitigated to a level of insignificance. **2-8**

Water and Gas Monitoring

The DEIR does not contain sufficient information regarding what types of gas and leachate monitoring will be done on the site. The FEIR should describe any changes to the existing gas and leachate collection and monitoring systems of the landfill, and indicate who will be doing the monitoring, qualifications of the monitoring personnel or agency, frequency of monitoring and availability of the results. Describe the gas and water collection and monitoring systems and impacts from the installation and operations. **2-9**

Climate, Rainfall and Leachate Production

It should be indicated in the FEIR how the facility has coped, and plans to cope with leachate production in very high rainfall events, as well as very high rainfall years. Please describe the back-up provisions in place in the event of excessive leachate caused by high rainfall events/years. **2-10**

Litter

The area where the facility is located can be very windy. There have been problems with litter at this site; therefore, the FEIR should indicate or describe measures that will be taken to prevent this issue from becoming a significant problem. **2-11**

Equipment

The FEIR should provide a listing of all equipment at the site, current or proposed, and any mitigation measures necessary to lessen the impacts from this equipment on (but not limited to) noise, air quality, provisions in place in case of failure, and maintenance. **2-12**

Adequacy of Mitigations

When the Board considers the proposed revised SWFP, all mitigation measures will be reviewed and must be implemented, and in place, before the Board can concur with the proposed permit.

Construction and Demolition (C&D)/ Inert Debris Regulations

Please be advised that C&D regulations for facilities that accept construction and demolition debris/materials are currently in the final stages of the rule-making process, and will directly affect the proposed project. The regulations will set permitting requirements, tier requirements, and minimum

operating standards for operations and facilities that receive, store, handle, transfer, or process construction and demolition (C&D) debris and inert debris. C&D debris and inert debris are specific types of solid waste that present a different potential threat to public health and safety, and the environment than typical municipal solid waste, thus, should be handled with different regulatory oversight. The regulations will place operations and facilities that handle C&D debris and inert debris into the Board's tiers to provide appropriate regulatory oversight to protect public health and safety and the environment. The LEA will need to make a determination regarding the level of regulatory authority required for the project as proposed in the environmental document.

For a complete text and status of the regulations please see the Proposed Regulations page of the Board's web site: http://www.ciwmb.ca.gov/Rulemaking/CDMater/

Land Use Compatibility

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 (PRC §50000) and is identified in the most recent County Integrated/Solid Waste Management Plan (PRC, §50001). **2-13**

Cumulative Impacts

Title 14 CCR §15130 states that the "EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable, as defined in §15065(c)". Therefore, the FEIR should identify potentially significant cumulative impacts resulting from the proposed project, and any combined projects within the project vicinity as well as those incremental impacts resulting from the proposed project's implementation. **2-14**

Mitigation Reporting or Monitoring Program (MRMP)

As required by PRC §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 §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 as a condition of project approval. Changes to this §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." **2-15**

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.

SUMMARY

ER staff thanks the Lead Agency for the opportunity to review and comment on the DEIR, and hopes that this comment letter will be useful to the Lead Agency in carrying out their responsibilities in the

CEQA process. It is ER staff opinion that the changes to the FEIR by the addition of requested information is significant, and that the Lead Agency re-circulate the FEIR before certification as required in 14 CCR §15088.5.

ER staff requests copies of any subsequent environmental documents including, the FEIR, the Report of Facility Information/Report of Disposal Site Information, any Statements of Overriding Considerations, copies of public notices, and any Notices of Determination for this project. ER staff also requests that the Lead Agency provide a copy of its responses to the Board's comments at least ten days before certifying the FEIR. If the document is certified during a public hearing, please provide ER staff two weeks advance notice of this hearing. Furthermore, if the document is certified without a public hearing, ER staff requests two weeks advance notification of the date of the certification and project approval by the decision-making body. [PRC §21092.5(a)]

If you have any questions regarding these comments, please contact me at (916) 341-6727, or email at dpost@ciwmb.ca.gov. Additional information regarding Environmental Impact Reports for landfills can be found on the Board's website at www.ciwmb.ca.gov/LEACentral/CEQA/disposal.htm.

Sincerely,

Diana Post

Diana Post, Integrated Waste Management Specialist
Environmental Review Staff
Permitting and Inspection Branch
Permitting and Enforcement Division
California Integrated Waste Management Board

Pc: Russell Mull, Director
County of Shasta Department of Resource Management
Division of Environmental Health
1855 Placer St
Redding, CA 96001

Reinhard Hohlwein
Permitting and Inspections Branch
Permitting and Enforcement Division
California Integrated Waste Management Board

Mary Madison-Johnson, Supervisor
Permitting and Inspections Branch
Permitting and Enforcement Division
California Integrated Waste Management Board

Commenter 2, California Integrated Waste Management Board (WCL-2)

The County acknowledges the general comments from the CIWMB regarding the agency's role with respect to the CEQA process and the Board's concurrence function for the Solid Waste Facility Permit. For comments specifically applilcable to the West Central Landfill EIR, responses are presented below. The CIWMB generally wants permit-level detail in the project description of this EIR, whereas a broader approach has been taken since the EIR will likely be applicable beyond the next permit review period. Based on the IWMB comments, however, additional detail has been added with the understanding that details can change as permits are amended and renewed. Such changes may still be within the broad scope of this EIR. The County believes that is important for reviewers to distinguish between the continued development of the permitted area of the landfill (focus of this DEIR) and an increase in the size of the landfill (not part of this project). Some comments from CIWMB may be more pertinent to future and expanded operations of the landfill, which would trigger a new Solid Waste Facility Permit (SWFP) and related CEQA documentation for that expanded use.

Comment 2-1. This comment concerns information on the scope and intent of the project; the commenter states:

> *"It is ER staff's opinion that the DEIR as prepared, does not contain enough information and analysis for ER staff to understand the scope and content of the project."*

Response 2-1. The County has expanded the scope and intent of this EIR, as well as expanded information regarding the description of SWFP, landfill areas, volumes, and other characteristics of ongoing operations at the West Central Landfill, under the existing permit conditions issued by the various regulatory agencies and as identified in the Solid Waste Facility Permit (SWFP) of October 31, 1997.

Comment 2-2. The commenter states:

> *"The proposed operating days and hours (days/week, hours/day, start stop times) is not listed in the DEIR."*

Response 2-2. These changes have been made to the FEIR.

Comment 2-3. Regarding land use, the commenter states:

> *"The FEIR should identify the surrounding land use of the facility areas with a description of the density of the occupancy for commercial and residential units in the area. The FEIR should also be specific regarding the <u>current</u> number of homes in the vicinity, their locations (on maps drawn to scale) and their distances from the landfill boundaries."*

Response 2-3. The County has verified land use patterns in the FEIR regarding land use, current homes and other land uses and occupancy in the vicinity of the landfill. Additionally, the County has identified potentially sensitive receptors and their distances. A 2003 aerial photo has been provided in the FEIR to show the landfill and development on surrounding parcels.

Comment 2-4. This comment is regarding additional maps, photographs and drawings for the landfill operations. The commenter states:

> *"The DEIR does not contain sufficient maps, photographs, and diagrams supportive of the land use data for the proposed project. The FEIR circulated for public review should contain the following:*
>
> - *Detailed maps to scale, photographs, and/or diagrams with legend of any and all access roads, intersections, signs, traffic signals and any new or modified roads utilized by the facility on or off-site.*
> - *Detailed maps to scale showing nearest sensitive receptors including all recently constructed residential homes, businesses, and schools".*

Response 2-4. The FEIR contains an additional aerial photo with base mapping that show land use and sensitive receptors around the landfill site (see response to comment 2-3).

The County does not feel that additional maps, photographs and diagrams are required or needed for the access roads to the landfill. Access roads / points of entry to the landfill have been shown on existing maps and aerial photos in the FEIR and adequately display access to the site. Onsite access roads for landfill operations change routinely as the landfill is developed. No new access roads or points of entry are being developed under this EIR.

Comment 2-5. Traffic and related traffic studies.

"Traffic volumes, proposed average, and peak daily vehicle count, should be projected over the first few years of the project at peak tonnages of the proposed project. The DEIR does not contain a traffic study and other information necessary to determine the level of impact the vehicles traveling to and from the facility will have on streets, roads and intersections, as well as possible impacts to nearby sensitive receptors such as schools and homes. The FEIR should include a traffic study (or copies of or references to adequate reports or studies supporting proposed traffic totals for the proposed project), and address the following traffic related issues:

- *Number and type of vehicles*
- *Access routes and roads (ingress/egress)*
- *Loading and Unloading areas*
- *On-site roads*
- *Public and commercial routing*
- *Number and types of vehicles entering and leaving the site per day*

- *Modifications required during inclement weather*
- *Emissions*
- *Detailed maps to scale, showing and/or diagrams of all intersections, signs, traffic signals, etc, to and from the facility, any new or modified roads utilized by the facility on or off-site and*
- *Mitigation measures for all significant traffic related impacts."*

Response 2-5. The Scope of Work for this EIR did not specifically include a traffic study; information in the EIR is summarized previous assessments, a recent study for the Veterans Cemetery, and results of consultations with the City of Redding and Caltrans. The County recognizes that traffic to and from West Central Landfill contributes to a cumulative traffic impact, specifically the traffic congestion problem at State 273/Clear Creek Road intersection, as discussed in the EIR (Section 6.3.3.2.2). Further, the County is aware that, according to Caltrans, this intersection meets warrants for signalization. Accordingly, Mitigation Measure Hum-1/MM-1 in the EIR commits the Landfill Joint Powers Authority to contributing to the installation of a new traffic signal at that location.

The County concludes that, for the purposes of this EIR, there is no further information to be gained by conducting a separate traffic study for an existing use, where impacts have already been identified through existing traffic counts and signal warrant evaluations, and where the mitigation has been resolved among the responsible agencies.

Comment 2-6. Alternative Daily Cover (ADC); the commenter asks:

> *"Has this program and the use of tarps as ADC been approved by the enforcement agency (with the concurrence by the CIWMB) as required by Title 27 CCR §20690? If so, please provide a copy of the approval by enforcement agency in the FEIR."*
>
> *"Considering the windy conditions of the area, is the proposed use of tarps as ADC practical for this site? Has the owner or operator demonstrated that the ADC as used controls vectors, fires, odors, blowing litter, and scavenging without presenting a threat to human health and the environment? How will the tarps be kept in place over exposed waste especially during windy conditions? What will be the alternative provisions in place in the event of equipment failure of the tarp machine? Will any compacted earthen cover material be use, and at what frequency?"*

Response 2-6. The use of tarps as ADC has been approved by the local enforcement agency-LEA (Shasta County Department of Resource Management, Environmental Health Division) with the concurrence of the CIWMB. A copy of the approval has been included in the FEIR.

The use of ADC at the West Central Landfill has been shown to be a practical and workable solution for daily earthen cover. While the area is windy, there have been no problems noted with holding the ADC in place; tarps are held in over the waste pile during windy conditions by a thick, weighted tarp. The tarp is patented technology specifically designed

to handle various weather conditions at landfills. The tarps have also been effective at controlling vectors, odors, blowing litter and scavengers. Fires have not been an issue at the landfill and the ADC has had a neutral effect on this issue. Should a mechanical failure make the ADC unavailable for use, the operator will cover the waste pile with earthen material that is readily available at the site. Additionally, stockpiles of earthen material will be used to cover the waste pile one (1) time each week.

Comment 2-7. Relocation of utilities; commenter asks:

> *"Please describe in the FEIR where the three observation wells, power and telephone lines, and two sediment ponds will be relocated."*
>
> *"Please provide details in the FEIR regarding the location of all proposed relocated structures, especially in relation to covered waste/fill areas."*

Response 2-7. Approximate location of observation wells, power and telephone lines and two sediment ponds that are planned to be moved during the continued operations of the landfill are shown on Figure 3-3. Actual relocation sites for these wells will be determined prior to their removal for continued landfill operations. No structures are planned to be relocated or constructed

Comment 2-8. Comments regarding Odors and Air Quality:

> *"The FEIR should include a map of the area showing all possible sensitive receptors to wind conditions from the landfill including the Igo-Ono School nearby".*
>
> *"In order to assist the Board during a SWFP process, please provide ER staff with a copy of any SOC's for environmental impacts that cannot be mitigated below a level of significance in the FEIR."*

Response 2-8. A 2003 aerial photo has been provided in the FEIR showing the sensitive receptors has been developed and is shown as Figure 7-1. To further clarify issues regarding adjacent uses, the County has mapped adjacent residences within 4,500 feet of the center of the current landfill.

Statement of Overriding Considerations. As the comment indicates, the EIR does conclude that the landfill would contribute to a significant, cumulative problem in the region with respect to air quality degradation. Accordingly the County expects to adopt a Statement of Overriding Consideration, as noted in the comment. A copy of this statement will be provided to the CIWMB.

Comment 2-9. Comments regarding water and gas monitoring; commenter states:

> *"The DEIR does not contain sufficient information regarding what types of gas and leachate monitoring will be done on the site. The FEIR should describe any changes to the existing gas and leachate collection and monitoring systems of the landfill, and indicate who will be doing the monitoring, qualifications of the monitoring personnel or agency, frequency of monitoring and availability of the results. Describe the gas and water collection and monitoring systems and impacts from the installation and operations."*

Response 2-9. Information about landfill gas and leachate monitoring is found in Sections 2.6 and 2.7 of the DEIR, with additional discussions about landfill gas described in Section 4.4.4.2 and groundwater in Section 4.3 of the DEIR. These sections describe the current leachate collection system and monitoring. The monitoring program for leachate was approved by the RWQCB pursuant to CCR Title 27 Regulations, with reports submitted to the LEA. The DEIR displays the monitoring requirements for Nonhazardous Solid Waste, Leachate, Groundwater, and Surface Water in Appendix A. These monitoring requirements remain unchanged for this EIR. City of Redding and Shasta County staff qualified to undertake monitoring activities conducts monitoring.

The County is subject to tier 2 Testing, as identified in the Code of Federal Regulations (CFR) 40, Part 60, subparts www and dcc. The latest testing, done in 2002, does not show any need for a gas collection system. No new gas monitoring systems are planned to be installed. A new leachate collection and removal system (LRCS) and underdrain system has been approved by the RWQCB for Unit 3. A copy of the liner evaluation and approvals by permitting agencies is on file at Shasta County Public Works.

Comment 2-10. Regarding climate and rainfall, the commenter states:

> *"It should be indicated in the FEIR how the facility has coped, and plans to cope with leachate production in very high rainfall events, as well as very high rainfall years. Please describe the back-up provisions in place in the event of excessive leachate caused by high rainfall events/years."*

Response 2-10. The West Central Landfill Phase II leachate system has been designed with the aid of the Environmental Protection Agency (EPA) Hydrologic Evaluation of Landfill Performance (HELP) model. The HELP model simulates rainfall on the landfill over a 20-year period. The model then uses site-specific rain, wind, temperature, humidity, and other factors to evaluate leachate production. The liner evaluation of Unit 3, prepared by CH2MHill, includes a HELP run. Past and current HELP models do not indicate a problem with leachate handling even in extremely wet years. A copy of the latest HELP runs are available for public review at the Shasta County Department of Public Works.

The original Class II leachate impoundment was designed to be uncovered. With approximately 45 inches per year average precipitation at the site, an enormous amount of

storage in the leachate pond was devoted to rain falling directly on the pond. In 1994, the leachate pond was covered with an industrial roof. Now, no rainwater is getting directly into the pond. The roof has open sides that allows wind circulation over the pond. The wind circulation evaporates the water in the leachate. The pond is routinely well below 40% of capacity during peak leachate production periods and is nearly empty by the end of each summer. Essentially, this pond has twice the capacity necessary for extremely wet years. The current system has been subject to one very wet El Nino year (over 80 inches of rainfall) and other significant storms without failure since the roof installation.

In case of a catastrophic failure of the system, where rain may enter the leachate system directly, the clay lined contact water ponds could be used as backup storage. This is not a likely scenario given the existing system's performance and extra capacity.

Comment 2-11. Regarding litter, the commenter states:

> *"The area where the facility is located can be very windy. There have been problems with litter at this site; therefore, the FEIR should indicate or describe measures that will be taken to prevent this issue from becoming a significant problem"*

Response 2-11. The County is aware that the area of the landfill is prone to windy conditions that can blow litter away from the active landfill area. The County continues to take steps in preventing litter from leaving the active work area of the landfill through the timely covering of waste with soil and through the use of ADC. Additionally, the County and the City of Redding continue to provide for cleanup of litter that does escape from the landfill. An employee and specialized equipment are dedicated to picking up wind-blown trash. While a continuing maintenance issue that the County and City continue to work on, we do not feel that the issue will become a significant problem.

Comment 2-12. Regarding equipment at the site, the commenter states:

> *"The FEIR should provide a listing of all equipment at the site, current or proposed, and any mitigation measures necessary to lessen the impacts from this equipment on (but not limited to) noise, air quality, provisions in place in case of failure, and maintenance."*

Response 2-12. West Central Landfill is regulated by the Shasta County Air Resources Board and is subject to Federal Title V permitting requirements. The Title V permit application lists all equipment at the site and mandates mitigation measures to be followed. The permit also mandates dust mitigation measures such as increased watering of dirt haul roads. Permanent haul roads are paved which alleviates any dust generation. The Title V permit application and permit are available for review at the Department of Public Works.

The landfill's remote location, at least 1000 feet from any dwellings, and hours of operation mitigate any potential noise impacts from equipment.

The landfill site has an enclosed repair shop and all repairs are done in a manner such that all vehicle fluids are captured and disposed of properly. The shop assures that vehicle fluids are not transferred by rain to other waterways. Above ground storage tanks located at the site are permitted by the Shasta County Environmental Health Division. As part of the permitting process a Spill Prevention and Response Plan has been prepared and is on file at the Shasta County Department of Public Works. This plan mandates fuel handling protocols along with an action plan in case of a spill.

Comment 2-13. This comment regards land use compatibility; the commenter states:

> *"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 (PRC §50000) and is identified in the most recent County Integrated/Solid Waste Management Plan (PRC, §50001)."*

Response 2-13. The County has fully complied with this comment during the development of the DEIR. The West Central Landfill is an existing facility that has been previously determined to be consistent with the Shasta County General Plan. The DEIR discusses land use and the General Plan determination on consistency in Section 6.1.1.1. Additionally, the West Central Landfill is identified in the current County Integrated / Solid Waste Management Plan and has a Solid Waste Facility Permit issued for the continued operations at the site.

Comment 2-14. Regarding cumulative impacts, the commenter states:

> *"Title 14 CCR §15130 states that the 'EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable, as defined in §15065(c)'. Therefore, the FEIR should identify potentially significant cumulative impacts resulting from the proposed project, and any combined projects within the project vicinity as well as those incremental impacts resulting from the proposed project's implementation."*

Response 2-14. Cumulative impacts from the on-going operations of the West Central Landfill are discussed in the DEIR in Section 7.6.

Comment 2-15. Commenter states that a Mitigation Reporting or Monitoring Program (MRMP) with related information should be prepared:

> *"As required by PRC §21081.6, the Lead Agency should submit a MRMP at the time of local certification of the EIR."*

Response 2-15. The County concurs with the CIWMB on this comment, and has provided a Mitigation Monitoring and Reporting Program when the FEIR.

Comment WCL-3

California Regional Water Quality Control Board
Central Valley Region
Robert Schneider, Chair

Redding Branch Office
Internet Address: http://www.swrcb.ca.gov/rwqcb5
415 Knollcrest Drive, Suite 100, Redding, California 96002
Phone (530) 224-4845 • FAX (530) 224-4857

Gray Davis
Governor

on H. Hickox
Secretary for
Environmental
Protection

10 April 2003

Mr. Dan Little, Senior Planner
Shasta County Department of Public Works
1855 Placer Street
Redding, CA 96001

REVIEW OF DRAFT ENVIRONMENTAL IMPACT REPORT, OPERATION OF THE RICHARD W. CURRY WEST CENTRAL LANDFILL, SHASTA COUNTY

We have reviewed the February 2003 *Draft Environmental Impact Report* (DEIR) *SCH # 2001112020*, prepared by SHN Consulting Engineers & Geologists, Inc. and Roberts, Kemp and Associates LLC, for the operation of the Richard W. Curry West Central Landfill in Shasta County. Shasta County's purpose for preparing the DEIR is to "address current operations and future developments at the West Central Landfill". Since public release of the DEIR and the date of this letter, Regional Board staff has received additional water quality information that should be considered in the DEIR. Our comments are as follows:

Section 4.3.1.1.1 Groundwater Protection Measures

The DEIR accurately describes that the operation of the West Central Landfill has the potential to impact groundwater and surface water. Groundwater may be impacted from leachate, contact water, and landfill gas. To prevent the interaction of these substances with groundwater the DEIR indicates that future unit liners will be constructed according to specifications approved by the Central Valley Regional Water Quality Control Board (Regional Board); in addition, Shasta County will continue to use and enhance the underdrain and leachate collection system, runoff diversion trenches and pipe, and continue monitoring for landfill gas. Construction of a landfill gas extraction system may be necessary in the future. Efforts to prevent impacts to surface waters from leachate and contact water include, revising the existing sediment and erosion control plans and implementing best management practices for reducing sediment loading.

The last paragraph of section 4.3.1.1.1 in the DEIR should be revised to disclose that Regional Board staff have reviewed and approved a Liner Performance Demonstration for the proposed Unit 3 Liner design. Regional Board staff determined that Shasta County adequately demonstrated that the proposed single composite liner will meet the performance requirement in Title 27. Regional Board staff has prepared Tentative Waste Discharge Requirements that were available for public review on 7 March 2003. These Tentative Waste Discharge Requirements, scheduled for the Regional Board's 25 April 2003 meeting, include findings discussing the Liner Performance Demonstration.

3-1

Section 4.3.1.3 VOC Release from Landfill

Recent monitoring events have confirmed a release of volatile organic compounds (VOCs) from the West Central Landfill to the groundwater under drain system. To mitigate the immediate threat and discharge, Shasta County connected this under drain system to their leachate collection system.

The last paragraph of section 4.3.1.3 in the DEIR should be revised to disclose that Shasta County has submitted a revised Water Quality Protection Standards Report and an Evaluation Monitoring Program (EMP), which were approved by Regional Board staff on 28 February 2003 and 21 March 2003, respectively. Tentative Waste Discharge Requirements, scheduled for the Regional Board's 25 April 2003 meeting, include findings discussing the confirmed release of VOCs and Shasta County's EMP. Following the completion of the EMP, Shasta County will submit a corrective action plan to the Regional Board. The corrective action plan will propose measures to mitigate the VOC release. Additional environmental review, in accordance with the California Environmental Quality Act, may be necessary prior to implementing corrective action.

3-2

Section 4.3.3.2 Continuing Operations

VOCs have been detected in groundwater monitoring wells at low concentrations. As described in the existing Waste Discharge Requirements, these VOCs may be attributed to landfill gas migration. It is stated in Section 4.3.3.2 of the DEIR that these effects are considered less-than-significant. The Regional Board considers these effects significant. On 8 April 2003, Regional Board staff issued Shasta County a Notice of Violation (NOV) for the VOC release to groundwater. Shasta County responded to the NOV with proposed mitigation measures that were not implemented. Currently, in conjunction with the VOC release discussed in Section 4.3.1.3, Shasta County is re-evaluating the release of VOCs to groundwater through an Evaluation Monitoring Program (EMP) approved by Regional Board staff on 21 March 2003.

3-3

Thank you for the opportunity to comment on the DEIR. If you have any questions, please contact me at (530) 226-3458 or the letterhead address.

Katie Bowman

KATIE BOWMAN
Water Resource Control Engineer
Tanks / SLIC / Waste Containment Unit

KB: sae

cc: Mr. Mark Chaney, SHN, Redding
Mr. Bruce Kemp, Roberts, Kemp & Associates, Davis
Ms. Carla Serio, Shasta County Division of Environmental Health, Redding
Mr. John Loane, CIWMB, Sacramento

Commenter 3, California Regional Water Quality Control Board (WCL-3)

Comment 3-1. The commenter provides the following comment:

> *"The last paragraph of section 4.3.1.1.1 in the DEIR should be revised to disclose that Regional Board staff have reviewed and approved a Liner Performance Demonstration for the proposed Unit 3 Liner design. Regional Board staff determined that Shasta County adequately demonstrated that the proposed single composite liner will meet the performance requirement in Title 27."*

Response 3-1. The DEIR has been changed to reflect this comment.

Comment 3-2. The commenter provides the following comment

> *"The last paragraph of section 4.3.1.3 in the DEIR should be revised to disclose that Shasta County has submitted a revised Water Quality Protection Standards Report and an Evaluation Monitoring Program (EMP), which were approved by the Regional Board Staff on 28 February 2003 and 21 March 2003, respectively."…."Following completion of the EMP, Shasta County will submit a corrective action plan to the Regional Board. The corrective action plan will propose measures to mitigate the VOC release."*

Response 3-2. The DEIR has been changed to reflect this comment. Additionally, the County is working with the RWQCB to prepare a corrective action plan to address the VOC detection (please refer to Comment and Response 3-3, below).

Comment 3-3. The commenter provides the following comment:

> *"VOCs have been detected in groundwater monitoring wells at low concentrations. As described in the existing Waste Discharge Requirements, these VOCs may be attributed to landfill gas migration. It is stated in Section 4.3.3.2 of the DEIR that these effects are considered less-than-significant. The Regional Board considers these effects significant. On 8 April 2003, regional Board staff issued Shasta County a Notice of Violation (NOV) for the VOC release to groundwater. Shasta County responded to the NOV with proposed mitigation measures that were not implemented."*

Response 3-3. While VOCs have been detected in low concentrations in monitoring wells in 1999, no detection in monitoring wells has been detected prior to or since the surface VOC release in 2003. The reference to the 8 April 2003 NOV is incorrect; the RWQCB issued a NOV on 8 April 1999 and the County responded with a proposed testing program to evaluate methods and data collection. No mitigation measures were ever proposed by the County, and none were required by the RWQCB. After the County developed proposed testing measures the RWQCB took no further action on the matter.

After further discussions about this comment, the County and the RWQCB both agree that this issue is now moot since the County is preparing detailed measures in the Corrective Action Plan (CAP),which will be approved by the RWQCB, and will reduce this impact to less than significant levels.

The CAP process is one in which the County, in close coordination with the RWQCB, will develop a comprehensive plan to address the VOC release and associated environmental issues. The CAP includes historic information about the site from past landfill activities, a summary of the current problems with VOC release at the landfill, the potential for additional releases with the current system in place, on-going work the County is involved with to ascertain why the VOC release occurred, alternatives for solution to the current problem, and a selection of the County's preferred alternative for correction. Associated with the CAP will be an implementation and monitoring plan, approved by the RWQCB.

While the NOV was an unfortunate incident, it highlights that monitoring and inspection processes at the landfill are working, and will ultimately remedy the problem. Additionally, there has been considerable consultation with RWQCB to date for the development of this EIR, and includes:

- An early scoping meeting,
- Meetings for discussion and review of Administrative DEIR,
- Consultation and development of solutions for the NOV,
- Comments and follow-up discussions for DEIR,
- Participation of Public Meeting for Review and Comment of DEIR

Comment Letter WCL-4

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY GRAY DAVIS, Governor

DEPARTMENT OF TRANSPORTATION
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Flex your power!
Be energy efficient

IGR/CEQA Review
Sha-273-11.83
West Central Landfill
Draft EIR
SCH# 2001112020

April 7, 2003

Daniel Little
Shasta County Dept. of Public Works
1855 Placer Street
Redding, CA 96001

Dear Mr. Little:

Caltrans District 2 has reviewed the Draft Environmental Impact Report (DEIR) assessing ongoing landfill activities, located at 14095 Clear Creek Road near the community of Igo.

As stated in the project information, the prior EIR identified that mitigation to prevent traffic congestion be provided. The DEIR recognizes that a traffic impact fee program should be formed for the Clear Creek/State Route 273 intersection as a way to collect fair share contributions for transportation improvements. In order to mitigate the ongoing traffic impacts from the long-term operation of the landfill, we encourage the County to participate in efforts to provide fair share contributions for traffic improvements in this area. The County should elect to either form a zone of benefit or calculate and fund its fair share contribution for the signalization project as a means of implementing the mitigation proposed in the prior EIR. Caltrans and the City of Redding are currently moving forward to signalize the highway intersection.

Thank you for providing us the opportunity to review this project. If you have any questions, or if the scope of this project changes, please call me at 225-3369.

Sincerely,

MARCELINO GONZALEZ
Local Development Review
District 2

"Caltrans improves mobility across California"

Commenter 4, California Department of Transportation (WCL-4)

4-1

Comment 4-1. The commenter provides the following comment:

> *"In order to mitigate the ongoing traffic impacts from the long-term operation of the landfill, we encourage the County to participate in efforts to provide fair share contributions for traffic improvements in this area. The County should elect to either form a zone of benefit or calculate and fund its fair share contribution for the signalization project as a means of implementing the mitigation proposed in the prior EIR."*

Response 4-1. The Landfill Joint Powers Authority's commitment to participate in providing fair-share contributions to traffic improvements in the area is indicated in the mitigation measure identified in Section 6.3.4 of the EIR (Mitigation Measure Hum-1/MM-1). This mitigation measure states that the West Central Landfill will contribute its fair share to the cost of the new signal and to other maintenance costs for Clear Creek Road.

Comment Letter WCL-5

ANDERSON LANDFILL
A WASTE MANAGEMENT COMPANY

18703 Cambridge Rd.
Anderson, CA 96007
(530) 347-5236
(530) 347-7056 Fax

April 15, 2003

Mr. Dan Little
Shasta County Public Works Dept.
1855 Placer Street
Redding, CA 96001

Re: **Draft EIR Comments – West Central Landfill**

Dear Mr. Little:

Thank you for the opportunity to meet with you last week to discuss possible solid waste disposal alternatives available to Shasta County. As you know, Waste Management owns and operates the Anderson Landfill (ALF) in Shasta County. ALF is a fully permitted Class III landfill with over 40-years of permitted capacity. We are also permitted to accept substantially more daily volume than we currently receive. And since ALF utilizes state-of-the-art liner containment systems on top of the excellent natural geology and large separation from ground water, we can offer an environmentally sound alternative for any current or future disposal needs the County may have.

5-1

Again, I appreciate the opportunity to meet with you last week and continue to offer the disposal services available at Anderson Landfill to Shasta County and its residents.

Please feel free to contact me anytime regarding solid waste services available from Waste Management.

Sincerely,

Richard E. King
District Manager

Commenter 5, Waste Management (WCL-5)

Comment 5-1. *The commenter promotes the ability of the Anderson Landfill (ALF) to accept higher volumes of solid waste; waste disposal at Anderson Landfill is presented as a disposal alternative.*

Response 5-1. This EIR focuses on on-going operations at the West Central Landfill; alternatives that divert solid waste from the permitted site to another permitted facility are generally addressed in Section 3.2 of the EIR as among a number of currently infeasible alternatives to use of the West Central Landfill as permitted and approved. Future environmental documentation for expansion of the West Central Landfill may find it appropriate to evaluate the use of the Anderson Landfill as a feasible alternative.

Comment Letter WCL-6

MEMORANDUM

SHASTA COUNTY DEPARTMENT OF RESOURCE MANAGEMENT
1855 Placer Street, Redding, CA 96001

Environmental Health	Administration	Air Quality Management
Suite 201	Suite 200	Suite 101
225-5787	225-5789	225-5674
Planning Division	**Community Education Section**	**Building Division**
Suite 103	Suite 200	Suite 102
225-5532	225-5789	225-5761

TO: Daniel J. Kovacich, Deputy Director, Department of Public Works

FROM: Jim Cook, A.I.C.P., Assistant Director

DATE: March 24, 2003

SUBJECT: WEST CENTRAL LANDFILL EIR

We appreciate receiving a copy of the draft EIR. Please be advised that the Planning Division of the Department of Resource Management has no comment.

Please let me know if you need additional information.

Commenter 6, Shasta County Department of Resource Management, Planning Division (WCL-6)

Comment 6-1. The Planning Department had no comments for this project.

Response 6-1. No response was required.

Comment Letter WCL-7

COPY

April 28, 2003

RECEIVED
APR 28 2003
DEPT. OF PUBLIC WORKS

Dan Little, Senior Planner
Shasta County Department of Public Works
1855 Placer St.
Redding, CA 96001

Re: The February 2003 Draft EIR for the West Central Landfill (WCL)

Dear Mr. Little:

The Draft EIR contradicts other WCL documents. On page 4 of the 2001 Monitoring Data Summary Report, the total tonnage waste intake for 2001 was 130,504 tons. In the Draft EIR Appendix B-Waste Quantities and Types, page 3-1, the total tonnage cited in Table 3-1 for 2001 is 123, 974. This equates to a difference of 6,530 tons or about 5% underreported in the Draft EIR. The EIR also underreports the year 2000, by about 5,000 tons. **7-1**

I hope that these numbers were not indicative of the fuzzy math used to satisfy compliance with AB939 under Shasta County's Source Reduction and Recycling Element (SRRE), but since they were cited in the Draft EIR, I will assume they were.

Interestingly, the 5,000 tones underreported in 2000 approximates the amount that the City of Anderson contributes to the WCL. Since, in the final target year of 2000, AB939 required the reduction of Shasta County's waste by 50%, a joint powers agreement (JPA) was negotiated among Shasta County, Anderson, Shasta Lake and Redding. Unable to comply with a 50% reduction, Anderson threatened to pull its waste out of WCL and withdraw from the JPA negotiation. According to a Shasta County interdepartmental memorandum dated March 19, 2001, Anderson's waste withdrawal from WCL would be a "serious threat" to the financial maintenance of the dump's bond structure, and an increased burden to the remaining JPA members. Since Shasta Lake was having "difficulty" meeting its obligation to AB939, and Redding at this time was 15% short of reaching its 50% reduction mandate, the pressure for regulators to get creative with the waste tonnage numbers and avoid California State Integrated Waste Management Board (IWMB)-induced penalties was substantial.

What's wrong with this picture? If those in charge of the WCL's bond structure were terrified of Anderson's 5% reduction in revenue, then AB939 was a nonstarter at 50% reduction.

Not only are the annual tonnage numbers 5% too low, as falsely reported in the Draft EIR (which in effect amounted to an automatic and illegal 2.5% reduction under AB939), but the Draft EIR also conflicts with the WCL's 1998 Solid Waste Facility Permit (SWFP) and what constitutes a cubic yard by weight. The Draft EIR says that a cubic yard = 900 lbs. The SWFP says that a cubic yard = 1,000 lbs. **7-2**

Since compliance with AB939 is ultimately equated to tonnage, this conflict between the WCL's 1998 permit and the 1999 addendum would amount to a 10% reduction of waste. Curiously, this change in the description of a cubic yard to equal 900 lbs. occurred right when it was needed most—coincidence or not? On paper, this 10% reduction and the false 2.5% reduction cited earlier amounts to a 12.5% reduction with no actual corresponding reduction of wastes going to our landfills.

Changing on paper the weight-to-cubic-yard ratio could have also changed the WCL site life expectancy, since that life expectancy is determined by volume, not weight.

If, in fact, a compressed cubic yard entering the gate weighs 1,000 lbs., but operators falsely equate 900 lbs. to the cubic yard, then this volume is being underreported and the site life expectancy will go down. This seems to be the case with Unit 1D, for instance. On page 13, Table 2-1 of the Draft EIR, the projected date until Unit 1D is full is January 2005. Based on the 2001 Monitoring Data Summary Report dated March 2002 a more accurate estimate is for Unit 1D to reach capacity in mid-2003. **7-3**

This represents a substantial disparity in the Draft EIR. If this disparity is systemic in the reporting process, the mandate from the IWMB that Shasta County have sufficient waste storage capacity for 15 years is in jeopardy.

7-3 Cont.

Simple logic would dictate that Shasta County has not met its 50% waste reduction burden under AB939. It has been admitted that nearly 80% of Shasta County's wastes go to the WCL. yet not even the Draft EIR's inaccurate annual tonnages, as cited, reflect the contribution necessary to meet the 50% waste diversion goal.

Much of Shasta County's alleged compliance with AB939 was left to Wheelabrator's diversion of ash from Anderson Solid Waste to its own private landfill in Shasta County, and some of it was used as an approved agricultural soil amendment. This should all be documented in the Draft EIR to show how the WCL's compliance with AB939 and its SRRE fit into Shasta County's overall scheme to meet its mandate from the IWMB to reduce its waste by 50%.

Because the WCL, in my opinion, has not met the burden of AB939, one of the consequences are that additional and substantial amounts of hazardous waste are entering the Waste Management Units (WMU)s at the WCL.

Though it is understood that most of the ground-water pollution problems now plaguing the WCL are from Phase I and some units of Phase II, these additional AB939-noncompliant wastes are contributory to the problem, and will have an accumulative effect as time passes.

To all intents and purposes, the Waste Discharge Requirements (WDR) under Order Number R5-2002-0037 cited throughout this Draft EIR have been rescinded by the Regional Water Quality Control Board (RWQCB), aka the Board. The Board is currently revising new WDRs for the WCL.

7-4

The Draft EIR and the new WDRs are full of contradictions of themselves and each other.

For instance, the Draft EIR on page 35, says that "all down gradient wells, have tested negative for Volatile Organic Compounds (VOC). Then on page 37 of the Draft EIR, it says "Ground water monitoring results in 1999, however, detected VOCs at low concentrations in three wells." Two of the three monitoring wells (OB-6A and OB-6B) are downgradient wells.

7-5

On page 6 of the new WDRs, it says that "VOCs in four of the monitoring wells" have been detected. Then it cites only three wells (OB-5 an upgradient well and OB-6A and OB-6B downgradient wells) that are contaminated by VOCs.

The significant finding in the new WDRs is that the WCL has been found to be in violation of contaminating ground water by the RWQCB. Toxic waste has moved outside the WMUs. In other words, mitigations at the WCL have failed, and it's only going to get worse: The genie is out of the bottle.

7-12

If the defeat of the liners, leachate collection and cover practices at the WCL represents the second line of defense, the first line—which also failed—was the load screening program. Since "hazardous waste is seldom found," the present practice of "random load checking" is not working, since VOCs are entering the ground water. It should become a policy of mandatory load checking of residential *and* commercial loads. Also perhaps some of these exotic VOCs could be traced back to their source.

7-6

The Draft EIR indicated that the area's hydrology allowed ground water to migrate upward and return to the canyon floor. Numerous references were made to artesian wells and shallow water tables where future WMUs will be located. It seems it will be impossible to keep five feet of separation between the underdrain and the bottom of WMU's liner. I suspect that this is happening now, and that's why the ground water is being contaminated.

7-7

This will only get worse as construction of the waste units moves down the valley, increasing hydrolic head beneath them, allowing water to infiltrate the WMUs.

As it is now understood that siting criteria would not allow a new landfill to be located where the WCL is now, all development at this site should stop. A new Class I or II landfill should be located where surface water does not flow. **7-8**

On page 31 under Section 4.2.4, Mitigation & Monitoring, erosion control measures are described in this Draft EIR as an "essential component of [this] landfill design and operation." After having walked most of the site, it is clear to me that the operators are unaware of this "essential component." And, unless every regulator connected with the WCL who has walked the property is blind, you can't help but see the extensive disturbance of the soil. Bare soil is not only evident on the WMUs themselves, but on much of the rest of the property, as well. **7-9**

Moving eastward from the unprotected WMUs, soil stockpile areas and access roads, there is extensive damage to ridge tops that extends virtually throughout the length of the property. In this area, more dirt roads and tractor-dozer damage adjacent to these roads is extreme. There are almost no attempts anywhere on the property to protect disturbed or bare earth from erosion.

The runoff from this exposed soil is evident in the extreme turbidity in the Dry Creek drainage even after the water goes through several settlement ponds. (Clearly, someone got carried away with the bulldozer.) even to the extent that they took it right down the Dry Creek drainage. What would Department of Fish and Game (DFG) say about this?

Since the WCL is a significant contributor to the degradation of air quality in Shasta County, steps to increase mitigations and monitor for particulates should be addressed in this Draft EIR. **7-10**

There should be a source reduction element in this Draft EIR, even if it's modest. It's time to take the private sector bull by the horns and implement true waste reduction. **7-11**

The new WDR's state: The fact that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with this order shall not be regarded as a defense for the discharger's violation of the order.

The longer you let this facility operate, the worse it's going to get in every way. For the civic health, this situation must remedied.

Sincerely, Arnold J. Erickson

Arnold Erickson
P.O. Box 311
Igo, CA 96047
530-396-2220

cc: RWQCB
IWMB
Department of Fish and Game

Commenter 7, Arnold Erickson (WCL-7)

Comment 7-1. The commenter provides the following comment:

> *"On page 4 of the 2001 Monitoring Data Summary Report, the total tonnage waste intake for 2001 was 130,504 tons. In the Draft EIR Appendix B-Waste Quantities and Types, page 3-1, the total tonnage cited in Table 3-1 for 2001 is 123,974. This equates to a difference of 6,530 tons or about 5% underreported in the Draft EIR. The EIR also underreports the year 2000, by about 5,000 tons."*

Response 7-1. Data displayed in Appendix B of the DEIR is reference material, prepared in 1999. Figures for the years 2000 and 2001 in the 1999 Waste Quantities and Types were estimated based on past waste delivery at West Central Landfill and anticipated future use. No underreporting has occurred in the DEIR. The final approved waste disposal amounts are annually documented in California Integrated Waste Management Plan Annual Reports.

Comment 7-2. Regarding waste quantities, the commenter states:

> *"Not only are the annual tonnage number 5% too low, as falsely reported in the Draft EIR (which in effect amounted to an automatic and illegal 2.5% reduction under AB939), but the Draft EIR also conflicts with the WCL's 1998 Solid Waste Facility Permit (SWFP) and what constitutes a cubic yard by weight. The Draft EIR says that a cubic yard=900 lbs. The SWFP says that a cubic yard =1,000 lbs."*

Response 7-2. The County's explanation of apparent discrepancies in annual tonnage numbers was previously discussed in Response 7-1.

The statement regarding 900 pounds in the DEIR versus 1,000 pounds in the SWFP for a measure of weight by cubic yard refers to two separate and different matters. The EIR context pertains to waste compaction. Section 2.5.3, Landfill Operation, (page 14 of the DEIR) states "Waste piles are spread out by dozer, scraper, or landfill compactor in layers about two feet thick. These layers are compacted with the dozer or compactor several times to achieve a target density of approximately 900 pounds of waste per cubic yard."

By contrast, the SWFP indicates that waste delivered to the site in vehicles will have a measured value of one cubic yard =1,000 pounds. This 1,000-pound value is used by the County in calculating and estimating tonnage delivered to the site and future available volume of space remaining at the landfill. Comparing the two values is not meaningful because they are used in completely different contexts.

Comment 7-3. The commenter states:

> *"On page 13, Table 2-1 of the Draft EIR, the projected date until Unit 1D is full is January 2005. Based on the 2001 Monitoring Data Summary Report dated March 2002 a more accurate estimate is for Unit 1D to reach capacity in mid-2003. This represents a substantial disparity in the Draft EIR. If this disparity is systemic in the reporting process, the mandate form the IWMB that Shasta County have sufficient waste storage capacity for 15 years is in jeopardy."*

Response 7-3. The Capacity Calculation done by the County is "at the end of 2001." As of January 2002 there was approximately 116 weeks of capacity left at the landfill; this is almost two and half years. Adding 2.5 years to 2002 we have capacity to the middle of 2004, not mid-2003 as the commentator states. More recent calculations/surveys show that there is nearly a year's worth of space left as of July 2003. The County's estimates of time-to-capacity and the need for new cells are tracking within six months of the original studies done in 1995.

The IWMB requires documentation of 15 years landfill capacity as part of the County Siting Element. The current siting element was adopted in 1996 and demonstrates 15 years capacity. An update of the Siting Element is scheduled in 2003/04.

Comment 7-4. Regarding Waste Discharge Requirements and the DEIR, the commenter states:

> *"To all intents and purposes, the Waste Discharge Requirements (WDR) under Order Number R5-2002-0037 citied throughout this Draft EIR have been rescinded by the Regional Water Quality Control Board (RWQCB), aka the Board. The Board is currently revising new WDRs for the WCL."*

Response 7-4. The statement that the WDR for the West Central Landfill have been rescinded is incorrect. WDR under Order R5-2002-0037 are still in effect and apply to the current and future operations of the landfill. The RWQCB has developed new WDR for Unit 3, which will be in addition to, and complimentary with the existing WDR.

Comment 7-5. The commenter indicates that the DEIR and new WDR have several contradictions, and states:

> *"For instance, the Draft EIR on page 35, says that 'all down gradient wells, have tested negative for Volatile Organic Compounds (VOC). Then on page 37 of the Draft EIR, it says "Ground water monitoring results in 1999, however, detected VOCs at low concentrations in three wells.' Two of the three monitoring wells (OB-6A and OB-6B) are downgradient wells."*

Response 7-5. The County does not believe that there are any contradictions in the DEIR relating to VOC releases at the West Central Landfill. The comments regarding

VOC releases and contradictions may have been taken out of context in this comment. The reference cited on page 35 of the DEIR, at Section 4.3.1.3 VOC Release From Landfill, relates to the December 2002 sampling event where a VOC release was discovered. The release was confined to a surface discharge and monitoring wells downgradient of the release point did not detect any VOC contamination. The County took corrective action and on-going efforts by the County and RWQCB are underway to ensure that future VOC releases are controlled.

The comment from page 37 of the DEIR, found at Section 4.3.3.2 Continuing Operations, relates to groundwater monitoring in 1999 where low levels of VOCs were detected in monitoring wells. These releases were one-time events, and are thought to be attributed to a combination of saturated soils from significant winter storms and low barometric pressures allowing landfill gasses to move off-site and down to the monitoring wells.

In the 1999 case, downgradient monitoring wells had low levels of VOCs detected; in 2002 event the downgradient wells did not have VOCs detected, despite a surface discharge of VOC.

The 1999 Monitoring Data Summary Report indicated VOC detections in wells 5, 6A, 16, and 9. Wells 6A and 9 are downgradient from both Phase I and II. Well 5 is one of the oldest wells and was installed as an upgradient well for Phase I. Well 16 is downgradient from Phase II. All the detections, except in well 5, were barely above the EPA test method reporting limit. All VOC detections had fuel constituents (Tolulene and Xylenes). Well 5 had additional constituents of Trochloroethane and Vinyl Chloride. Well 5 was replaced in 2002 with well 18 immediately adjacent to the old Well 5 location. Well 18 has had no VOC detections to date. The VOC's in 1999 could be attributed to gas migration from phase I of the landfill. A more likely scenario for the fuel constituents may be sample contamination from portable electrical generation equipment exhaust (this equipment is used to power the monitoring wells to obtain the samples).

The County had CH2MHill prepare an Evaluation Monitoring Program in 2003. As part of the program preparation, CH2MHill audited County procedures and provided guidelines to minimize airborne contamination from engine exhaust. Monitoring and sampling done in accordance with the new and more stringent guidelines in the 2003 Quarterly Monitoring Report and Five Year Constituents of Concern indicate that groundwater monitoring wells are not impacted. Given the above discussion, the 1999 VOC detections are most likely due to sample contamination from other sources than the landfill.

Comment 7-6. Regarding hazardous waste and load checking, the commenter states:

> *"If the defeat of the liners, leachate collection and cover practices at the WCL represents the second line of defense, the first line-which also failed- was the load screening program. Since 'hazardous waste is seldom found,' the present practice of 'random load checking' is not working, since VOCs are entering the ground water. It should become a policy of mandatory load checking of residential and commercial loads. Also perhaps some of these exotic VOCs could be tracked back to their source."*

Response 7-6. In practice, personnel checking loads seldom find hazardous waste. This load screening program is in combination with County and City of Redding efforts to educate the public on hazardous materials, what can be disposed of at the landfill, and what items are not allowed into the landfill. Additional sorting and recycling efforts within the City of Redding have also reduced the amounts of hazardous materials coming to the landfill. Household hazardous waste collection facilities are made available to the public, including mobile collection facilities in outlying areas of the County. While the practice is effective, the County also realizes that some hazardous waste will make it through the screening program and into the landfill. Load checks are not mandatory but checks are made randomly. Mandatory load checking for all loads would not guarantee that all hazardous materials would be eliminated from the landfill, and the County feels that the increased effort is not warranted at this time.

Regarding the comment that the presence of VOCs is a direct result of the random load checking policy, the County does not agree. While many hazardous materials can produce VOCs, there is no direct cause and effect between their presences and the load screening program. VOCs can be produced from many substances, many of which are part of the normal permitted waste stream. The County is currently developing a plan to investigate and track the VOCs to their source location.

Comment 7-7. The commenter states:

> *"The Draft EIR indicated that the area's hydrology allowed ground water to migrate upward and return to the canyon floor. Numerous references were made to artesian wells and shallow water tables where future WMUs will be located. It seems it will be impossible to keep five feet of separation between the underdrain and the bottom of the WMU's liner. I suspect that this is happening now, and that's why the ground water is being contaminated."*

Response 7-7. Commenter is correct that the groundwater in the West Central canyon is relatively shallow, as stated in the EIR (Section 4.3.1.1). Landfill liners and underdrain systems, however, are designed under many criteria, with one being to meet groundwater separation guidelines. These designs take into consideration an area's surface hydrology as well as groundwater characteristics, such as artesian wells. Liner and underdrain systems at the West Central Landfill are no exception. Past landfill liner and underdrain systems were designed with current technology at the

time of their design, and each new liner and underdrain system continued to be improved as past liner performance was evaluated. The statement that the underdrain system cannot meet the minimum groundwater separation is not consistent with current studies of the area for the new liner and underdrain for Unit 3. This information has been added to the Final EIR.

Additionally, the RWQCB has recently approved the liner evaluation for Unit 3, and has stated that the County has adequately demonstrated that the proposed liner will meet the performance requirement in Title 27.

Comment 7-8. The commenter makes the following statement regarding siting of a new landfill:

> *"As it is now understood that siting criteria would not allow a new landfill to be located where the WCL is now, all development at this site should stop. A new Class I or II landfill should be located where surface water does not flow."*

Response 7-8. Nothing in the record indicates that the current WCL site is unsuitable or inconsistent with new siting criteria. The purpose of the West Central Landfill EIR is to evaluate potential effects of ongoing and future operations at the landfill within the currently permitted area. The "No Action" Alternative included in the EIR represents an analysis of the option to cease operations and development at the landfill; under this scenario, the County would stop receiving waste at West Central Landfill. As the EIR describes in more detail, the No Action Alternative would result in lower levels of environmental impact in most area. The No Action Alternative is rejected, however, because it would not meet the County's objectives, as described in Section 2.1 of the EIR; it would also mean that similar waste disposal capacity would need to be developed elsewhere, with unknown environmental effects.

The current landfill and operations are a permitted facility and the County intends to continue operations at the site to provide a waste disposal location for County residents. The issue of siting a new or expanded landfill (at the current site or another site) is outside the scope of this document, but may be addressed in subsequent environmental reviews related to the County's waste management activities. The County will use the information gathered in the development of this EIR to evaluate future expansion of the landfill, if any, and that information will be used when the County begins developing plans for a new or expanded landfill.

Comment 7-9. The commenter discusses his opinion on the state of the landfill operations as related to soil erosion and erosion control. Comments regarding erosion control focus on significant areas of bare soil. Specifically addressing the DEIR the commenter states:

> *"On page 31 under Section 4.2.4, Mitigation & Monitoring, erosions control measures are described in this Draft EIR as an 'essential component of [this] landfill design and operation.' After having walked most of the site, it is clear to me that the operators are unaware of this 'essential component.' And, unless every regulator connected with the WCL who has walked the property is blind, you can't help but see the extensive disturbance of the soil. Bare soil is not only evident on the WMUs themselves, but on much of the rest of the property, as well."*

Response 7-9. The County agrees that the landfill operations involve considerable soil disturbance. Erosion control measures, including settling basins, are among the many important design considerations for the landfill. To this end, the County and City of Redding have installed numerous erosion control settling basins to contain sediment and prevent the majority of the sediment from leaving the landfill site; use of settling basins will continue in future operations. Numerous areas necessary for the operation of the landfill (active waste areas, roads, work sites, stock piles, waste area development sites, fire breaks) require that vegetation be removed, resulting in bare areas. The EIR recognizes that some suspended material does migrate downslope in water courses with adverse effects to water quality and biological resources (EIR Sections 2.6, 5.4, and Appendix E). Section 5.4 includes a commitment by the County (Mitigation Measure Bio 2/MM-2e) to revise existing sediment and erosion control plans to increase the likely retention onsite of sediment arising from ongoing operations, and to enact additional Best Management Practices.

Comment 7-10. Regarding air quality, the commenter states:

> *"Since the WCL is a significant contributor to the degradation of air quality in Shasta County, steps to increase mitigations and monitor for particulates should be addressed in this Draft EIR."*

Response 7-10. As stated in the EIR (Section 4.4.4), the West Central Landfill is a contributor to cumulative air quality problems in the region with regard to particulate matter and ozone. Landfill operations are continually monitored by the LEA (Shasta County Department of Resource Management, Environmental Health Division) and there have been no verifications of the claim that the landfill violates air quality standards. In fact, a letter of comment from the LEA on the DEIR noted that adequate dust control were in place during monthly inspections by environmental health staff. The EIR (Section 4.4.5) prescribes mitigation and monitoring to ensure that impacts to air quality from operation of the landfill is kept to a minimum. The County is also responsible for meeting the requirements of the Title V permit program under the Clean

Air Amendments of 1990. The commenter may wish to contact the Shasta County Air Quality Management District for more information.

Comment 7-11. The commenter states:

> *"There should be a source reduction element in this Draft EIR, even if it's modest."*

Response 7-11. The waste management planning discussion in Section 2.2 of the EIR provides information about the County's Integrated Waste Management Plan. The County source reduction element is found in the Source Reduction and Recycling Element, a countywide document developed in 1992. This document was a combined document that incorporated Source Reduction and Recycling Elements and Household Hazardous Waste Elements for Shasta County, and the cities of Anderson and Redding.

As the EIR mentions, a variety of source reduction programs have been instituted in Shasta County to help divert waste from landfills. The Source Reduction and Recycling Element was subject to its own public review process and is extremely detailed in its characterization of waste and adoption of recycling programs. The Source Reduction and Recycling Element and all elements of the County Integrated Waste Management Plan are incorporated into the EIR by reference.

Comment 7-12. Regarding toxic waste and contamination to groundwater, the commenter states:

> *"The significant finding in the new WDRs is that the WCL has been found to be in violation of contaminating ground water by the RWQCB. Toxic waste has moved outside the WMUs. In other words, mitigations at the WCL have failed, and its only going to get worse."*

Response 7-12. The statement that the West Central Landfill was found to be in violation of contaminating groundwater is not accurate. While County staff discovered a surface discharge of VOC, and this release resulted in a Notice of Violation by the RWQCB, there was no indication that groundwater contamination occurred.

Additionally, the statement that since the RWQCB issued a Notice of Violation for release of VOC, that toxic waste has therefore moved outside of the waste management areas is not accurate. Waste, once placed in the disposal areas, are compacted and stabilized to remain at the same location. Monitoring (groundwater and surface water) is undertaken to determine if any leachate is moving out of the landfill, and if so in what amounts and from where. At that time, corrective action is taken to ensure that leachate is collected and treated to protect water quality. These mitigations are in place at West Central Landfill and are working properly.

Comment WCL-8

PHONE NO. : 5304721355 Apr. 28 2003 04:21PM P1

1 of 6

April 28, 2003

Re: Igo/West Central Landfill EIR

Russ Mull~Director/Advisor
Shasta County Public Works
Division~Landfill Enforcement

Dear Mr Mull & appropriate agents;

First, I would like to thank the many individuals who have worked hard on the waste issues as given in this latest E.I.R. (Environmental Impact Report) by Shasta County, as well as other State agencies. Obviously, thought has been clearly given in order to better ensure a much safer operation in Igo, than has been the case in the past. I am very grateful that Igo will not now be accepting hazardous or toxic waste. Whether it be from Knauf Fiber Glass or from glowing Canteran fish.

FROM : PHONE NO. : 5304721355 Apr. 28 2003 04:22PM P2

2 of 6

Second, I would like to address the waste water plume and the many issues related to how the Igo plume will affect the groundwater in Shasta County and potentially beyond (Sacramento Ecosystem) If Igo/Shasta county wishes to continue to accept non-inert substances with any regularity, what will the ultimate liability be for Shasta County Citizens and taxpayers? Without proper disclosure, what will be the ultimate result in terms of economics? Has the cost Ratio of the Nevada trucking option been realistically looked at in terms of Igo landfill liability? P, G, & E could have saved much heartache with a bit of forward thought

8-1

Third, I will bring forth my main concern Regarding this Igo E.I.R. Mitigation is indeed strange in terms of politics, don't you think?

FROM : PHONE NO. : 5304721355 Apr. 28 2003 04:22PM P3

3 of 6

My main concern with "mitigation" as laid forth in the E.I.R. Revolves on ENFORCEMENT. I am deeply attatched to Shasta County and the beauty of this area. The E.I.R. does address enforcement and speaks quite a bit on the importance of following the law, which I would like, if I may to congratulate.

However, I do have some questions Regarding Shasta County's ability to protect Residents in the Igo Area when I look into the track Record of Anderson Solid Waste Inc. Under your agency watch, from 1987 - 1990, or maybe longer, Radioactive wastes were dumped in the Anderson Landfill. Anderson floods in the winter. Anderson is not allowed to accept Radioactive waste by law and basic common sense. These Radioactive wastes were denied at the Kettleman Hills Class I facility because they activated the facility's Geiger Counters. (Source: 1990 Environmental Impact Report for Anderson Landfill)

FROM : PHONE NO. : 5304721355 Apr. 28 2003 04:23PM P4

4 of 6

Anderson landfill, further has a history of violating permit after permit and regulation after regulation to the ultimate detriment of REAL PEOPLE who live in Shasta County, people who pay for the salary of every State employee.

Why is Anderson - Cottonwood Solid Waste the dumping ground for so many toxic, hazardous and Radioactive wastes?

How assured can I go citizens & citizens of Shasta County honestly be when this is taken into account?

When will enforcement of the law be realized?

Last of all, I wish to enter into the public record my distrust of any process that denies meaningful public input via a public hearing on such a vital and important health & environmental issue.

8-2

FROM : PHONE NO. : 5304721355 Apr. 28 2003 04:24PM P5

5 of 6

I formally protest this EIR process as being unfair to the Shasta County community and completely without merit - due to the overwhelming Reality that once again an Environmental Justice Community (IGO) is being oppressed by a system that only seeks to exploit.

Why are citizens being Refused a public hearing? What does Shasta County / Igo Landfill have to hide?

8-2 Cont.

Concerns that minority and/or low-income populations bear a disproportionate amount of adverse health and environmental effects led to Executive Order #12898 in 1994, forcing attention to this issue.

Further, the landmark case, In re: Knauf Fiber Glass, GmbH, PSD Appeal Nos. 98-3 through 98-20, p. 70 (EAB, Nov. 30, 1998) stated that

FROM : PHONE NO. : 5304721355 Apr. 28 2003 04:24PM P6

6 of 6

Environmental Justice must be considered by both State and federal agencies when determining the validity of the permitting process.

Environmental Justice is the fair treatment and meaningful involvement of all people Regardless of Race, Color, national origin, OR income with Respect to the development, implementation, and enforcement of environmental laws, Regulations, and policies.

Please do the Right thing in this situation.

Please grant Public Review for the Igo and Shasta County Community. 8-2 Cont.

Sincerely,

Celeste I Daisher

Commenter 8, Celeste Droisher (WCL-8)

This letter addressed operations at the West Central Landfill (identified as the Igo Landfill in the letter) and the Anderson Landfill. Only those comments pertinent to the DEIR for the West Central Landfill are discussed below.

Comment 8-1. The commenter provides the following comment regarding the issue of economics and options for disposing the waste off-site at a location in Nevada:

> *"If Igo/Shasta County wishes to continue to accept non-inert substances with any regularity, what will the ultimate liability be for Shasta County Citizens and taxpayers? Without proper disclosure, what will be the ultimate result in terms of economics? Has the cost ratio of the Nevada trucking option been realistically looked at in terms of Igo landfill liability?"*

Response 8-1. Economic considerations, while important to decision-making, are generally outside the scope of a CEQA document. For discussion of the disclosure issue, please see the response to the next comment.

Regarding shipment of waste to an off-site location in Nevada, the County has determined that this alternative is not currently feasible. Since the West Central Landfill has been developed and in operation for over 22 years, and with additional capacity left at the landfill, a change of site does not meet the basic objectives of this project and is outside the scope of the document. The EIR, however, does not preclude the County from considering waste transport alternatives in the future.

Comment 8-2. The commenter makes several comments asserting that there was a lack of meaningful public participation and hearings for this project, particularly stating that the process has been conducted in such a way as to be unfair to an environmental justice community:

> *"Environmental Justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or <u>income</u> with respect to the development, implementation, and <u>enforcement</u> of environmental laws, regulations, and policies."*
>
> *"Please grant Public Review for the Igo and Shasta County community."*

Response 8-2. Environmental Justice, which examines disproportionate impacts to minority or low-income populations, is not required as part of CEQA analysis. This may be addressed at the County's discretion; however, a review by the County of current census information indicated no disparities for minority or low-income populations in the areas surrounding the landfill.

The West Central Landfill was initially approved following analysis of a range of alternative locations and full public disclosure under the California Environmental

Quality Act (CEQA) process. The initial EIR and subsequent documents, including this current EIR for ongoing operations, have also been developed within the CEQA framework and with public disclosure. The intent of the County is to keep the citizens of the Shasta County informed about issues surrounding the landfill and the steps the County is taking to ensure protection of the environment.

The County believes that the public has been provided with meaningful opportunities for review and comment on the West Central Landfill EIR, as exemplified by these responses to comment. Additionally, the public has been notified of the CEQA process for this project and the County has held a public meeting to hear concerns about this project from interested individuals on May 27, 2003. Notification for this public meeting was sent to 18 private citizens and public agencies who expressed interest in the DEIR. Notice was also published in the local newspaper. Public interest in the EIR is low; three members of the public attended the meeting (a list of those sent the notice, along with a copy of the notice follows).

Comment Letter WCL-9

SHASTA COUNTY

DEPARTMENT OF RESOURCE MANAGEMENT
1855 Placer Street, Redding, CA 96001

Russ Mull, R.E.H.S., A.I.C.P.
Director

James W. Cook, A.I.C.P.
Assistant Director

April 24, 2003

COPY
orig to Pat

Dan Little, Senior Planner
Shasta County Department of Public Works
1855 Placer Street
Redding, CA 96001

WEST CENTRAL LANDFILL DRAFT ENVIRONMENTAL IMPACT REPORT (DEIR) REVIEW

The Shasta County Environmental Health Division (SCEHD) has reviewed the February 2003 DEIR, SCH#2001112020, for the operation of the Richard W. Curry West Central Landfill in Shasta County.

Section 2.5.1 - Landfill Design states that "the 200-acre disposal area "footprint" at the West Central Landfill consists primarily of closed, active, and planned disposal areas and units." SCEHD has reviewed the facility file and notes here that this acreage also describes planned areas which are not part of this DEIR; any expansion above the 107 permitted acres would involve additional design, CEQA review, Solid Waste Facility Permit (SWFP) revision, as well as applicable local and state review. The facility has been permitted for 107 acres since October 1992.

Revisions of the SWFP will not be needed for ongoing operations within the permitted boundaries and current operations. Should expansion outside permitted boundaries or significant changes take place, then an application for a SWFP must be submitted to SCEHD in compliance with applicable laws and regulations.

9-1

Regarding adequate controls at this facility, SCEHD has observed during routine monthly inspections that adequate dust control (Section 7.3) and animal control (Section 5.1.4) measures have been maintained on-site. "Bear-proofing" the 50-yard bins has improved public safety at the site by reducing bear activity at the public drop-off area. Although, bear management controls may require more attention in the future.

9-2

Thank you for your consideration. Please contact me should you have any questions or concerns.

Sincerely,

Carla Serio

Carla Serio, R.E.H.S.
Waste Management Specialist

CS/pw
DLAP24-03/WPD

☐ Suite 101
AIR QUALITY MANAGEMENT DISTRICT
(530) 225-5674
FAX: (530) 225-5237

☐ Suite 102
BUILDING DIVISION
(530) 225-5761
FAX: (530) 245-6468

☐ Suite 103
PLANNING DIVISION
(530) 225-5532
FAX: (530) 245-6468

☒ Suite 201
ENVIRONMENTAL HEALTH DIVISION
(530) 225-5787
FAX: (530) 225-5413

☐ Suite 200
ADMINISTRATION & COMMUNITY EDUCATION
(530) 225-5789
FAX: (530)-225-5807

Toll Free Access Within Shasta County 1-800-528-2850

Commenter 9, Shasta County Department of Resource Management, Environmental Health Division (WCL-9)

Comment 9-1. The commenter provides the following comment regarding landfill facility size:

> *"Section 2.5.1-Landfill Design states that 'the 200-acre disposal area 'footprint' at the West Central Landfill consists primarily of closed, active, and planned disposal areas and units.' SCEHD has reviewed the facility file and notes here that this acreage also describes planned areas which are not part of this DEIR; any expansion above the 107 permitted acres would involve additional design, CEQA review, Solid Waste Facility Permit (SWFP) revision, as well as applicable local and state review. The facility has been permitted for 107 acres since October 1992."*

Response 9-1. The reference made in Section 2.5.1 to the 200-acre disposal area references both Phase I and Phase II areas, both totaling approximately 200 acres. Continued operations of the West Central Landfill under this EIR reference only those areas in Phase II within the 107-acre permitted area. According to the CIWMB, West Central Landfill is currently permitted for disposal per the October 31, 1997 SWFP (see letter 2 in this Final EIR); specifications under that permit include a "permitted footprint area" of 200 acres. County Public Works is aware that expansion outside of the currently permitted areas would require additional permitting and development of a new CEQA document addressing expansion; that is not the situation at this time.

Comment 9-2: Regarding other controls at the landfill, the commenter states:

> *"Regarding adequate controls at this facility, SCEHD has observed during routine monthly inspections that adequate dust control (Section 7.3) and animal control (Section 5.1.4) measures have been maintained on-site. 'Bear-proofing' the 50-yard bins has improved public safety at the site by reducing bear activity at the public drop-off area. Although, bear management controls may require more attention in the future."*

Response 9-2: County Public Works appreciates the positive response to our continued operations to control dust and animal problems at the landfill. Operators at the landfill will continue to monitor the success of the "bear-proof" bins and are aware that this issue will need to be continually reviewed.

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3.0 Project Description

3.0 Project Description

3.1 Project Objectives

Through proper development and operation of the West Central Landfill, the County of Shasta provides a regional solid waste disposal facility where County residents, businesses, and commercial entities can meet their ongoing and future needs for the sanitary disposal of nonhazardous municipal wastes. The County's underlying objective is to provide a cost-effective facility for disposal of nonhazardous solid waste in a manner that protects public health and safety and the environment, in accordance with state and federal laws and regulations. The County seeks to provide a state-of-the-art waste disposal facility with sufficient capacity to handle current and projected volumes of nonhazardous solid waste for the reasonably foreseeable future. As discussed in more detail in Section 3.10, the current volume is about 120,000 tons of solid waste annually; as the County population increases over the planning horizon of the next fifteen to twenty years, this rate is projected to increase gradually, even allowing for increases in diversion (e.g., reduction, reuse, and recycling) rates.

3.2 Waste Management Planning

A number of state laws require that various land use actions by local governments be consistent with the jurisdiction's General Plan; this consistency requirement applies to certain solid waste management actions. These consistency requirements are discussed in the Shasta County General Plan (Shasta County 1998b).

The California Integrated Waste Management Act of 1989 required local jurisdictions to meet "diversion" goals – i.e., to reduce the amount of solid waste going to landfills by 25 percent by the year 1995 and by 50 percent by the year 2000. The reductions were to be accomplished primarily through source reduction, recycling, and composting. Further, the law required local jurisdictions to identify fifteen years of adequate disposal capacity for wastes that could not be diverted.

The Act also required cities and counties to maintain an Integrated Waste Management Plan, and to prepare and submit a Source Reduction and Recycling Element for approval by the California Integrated Waste Management Board (IWMB). Shasta County's Integrated Waste Management Plan consists of several elements, as follows. In 1992, the County, in conjunction with the Cities of Anderson and Redding, produced a *Source Reduction and Recycling Element* (CH2M HILL 1992). This element, approved by the IWMB in 1995, covers base year waste generation, recycling, and proposed recycling programs. A similar but separate element was prepared in 1997 for the City of Shasta Lake following incorporation of that city in 1993 (CH2M HILL 1997). The *Siting Element* documents the County's plan for providing landfill capacity for at least 15 years. The *Household Hazardous Waste Element* covers the generation of hazardous waste and establishes programs to

prevent household hazardous waste from entering the landfill. The *Non-Disposal Facilities Element* documents all transfer stations in the County. Finally, the *Summary Plan* provides an overview of all elements.

Alone, source reduction and recycling cannot eliminate the need for landfills; however, such programs are a key component to waste management in Shasta County. Since the California Integrated Waste Management Act of 1989, jurisdictions within Shasta County have made substantial investments in programs to reduce the amount of solid waste entering the landfill. Major programs include curbside recycling, household hazardous waste collection, composting programs, the Redding Transfer and Recycling Facility, burning of wood waste and tires for energy, agronomic use of ash, and community education and outreach. According to Integrated Waste Management Board Annual Reports, 50 percent of the County-wide waste stream is currently diverted from Shasta County landfills.

3.3 Regulatory Context

West Central Landfill is located on property owned by the County of Shasta; the County is the designated legal "owner." The Landfill is operated jointly by Shasta County and the City of Redding; by contract, daily operation is conducted by the City of Redding.

The landfill operates under a Solid Waste Facility Permit issued and periodically reviewed by the County Environmental Health Division, acting in its capacity as the designated Local Enforcement Agency (LEA). [3] In this capacity, the County Environmental Health Division has primary responsibility for routine inspections of the landfill, ensuring proper operation of the facility, and for guaranteeing the proper storage and transportation of solid wastes.

State-level regulatory and enforcement authority for landfill operations resides with several agencies. The IWMB sets minimum standards for the operation of all disposal sites in the state (California Code of Regulations, Titles 14 and 27); the IWMB must concur with the LEA issuance of the Solid Waste Facilities Permit, including supporting documents.

The Regional Water Quality Control Board (RWQCB) has authority to approve sites suitable for disposal of solid wastes so as to protect surface water and groundwater quality. The RWCQB may prescribe specific water quality protection features that govern site

3 Public Resources Code Sections 43200 et seq. allows local governing bodies to designate a local agency to carry out solid waste permitting, inspection, and enforcement duties within their jurisdictions. All such designated "Local Enforcement Agencies" must be approved and certified by the IWMB. LEA performance standards as developed by the IWMB are codified in Title 14 of the California Code of Regulations, Division 7, Chapter 5, Article 2.2. For Shasta County, the LEA is the County Department of Resource Management, Environmental Health Division. Among other enforcement activities, the LEA and IWMB jointly conduct periodic inspections of landfills and, if necessary, issue notices of non-compliance or violation. For additional information, see the California Integrated Waste Management Board website at http://www.ciwmb.ca.gov/.

operation and design for each disposal site; landfill owners must make application to the appropriate Regional Board to receive waste discharge requirements. The West Central Landfill operates under Order Number R5-2002-0037, Waste Discharge Requirements, issued by the RWQCB, Central Valley Region, in March 2002. (Order Number R5-2002-0037 replaces previous Order Number 90-190, issued in June 1990 and amended in 1993.) Shasta County is the RWQCB-designated "Discharger."

The Shasta County Air Quality Management District (AQMD), under authority of the Air Resources Board, regulates landfill air emissions, including dust, vehicle emissions, and landfill gases under federal, state, and district regulations. Among these requirements is compliance with Title V of the Clean Air Act Amendments (see Section 5.4), under which landfill operations are subject to a "Title V permit" issued by the Shasta County AQMD.

The California Department of Fish and Game, a trustee agency under CEQA, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat resources; protection of state-listed endangered species; and issuance of streambed alteration agreements (Fish and Game Code, Section 1600 et seq.).

3.4 Location

The West Central Landfill is located in a rural area of Shasta County, approximately 12 miles southwest of central Redding, near the communities of Igo and Ono, in Sections 2, 3, and 4 of T30N, R6W, MDB&M. (Land use is described in Section 7-1.) Access to the landfill is via Clear Creek Road, a paved, two-lane road (which begins in the City of Redding before becoming a County road), then via one-half mile of paved and gravel access roads. The address is 14095 Clear Creek Road. The project location is shown in Figure 3-1 and Figure 3-2.

3.5 Landfill Design, Development, and Operation

The disposal method at the West Central Landfill is a canyon fill operation (Shasta County 1998a); by design, operation of the landfill will, over the life of the landfill, fill up the upper portions of a tributary canyon to Dry Creek.

Landfill design and operation are tailored to the physical characteristics of the site and consider such factors as local topography and slope; climate, such as wind direction and speed, and the volume, intensity, and timing of precipitation; soils; surface drainage; and groundwater. For example, in addition to the required daily covering of refuse, cover material is stockpiled at the landfill during the dry, summer season so that it will be available for cover during inclement weather periods. The disposal area is graded to minimize ponding and percolation of surface waters into waste. Unit expansions are constructed during the dry season when clayey soils can be successfully handled and compacted (Shasta County 1998a). Some typical photographs of the landfill are shown in Photos 1-9.

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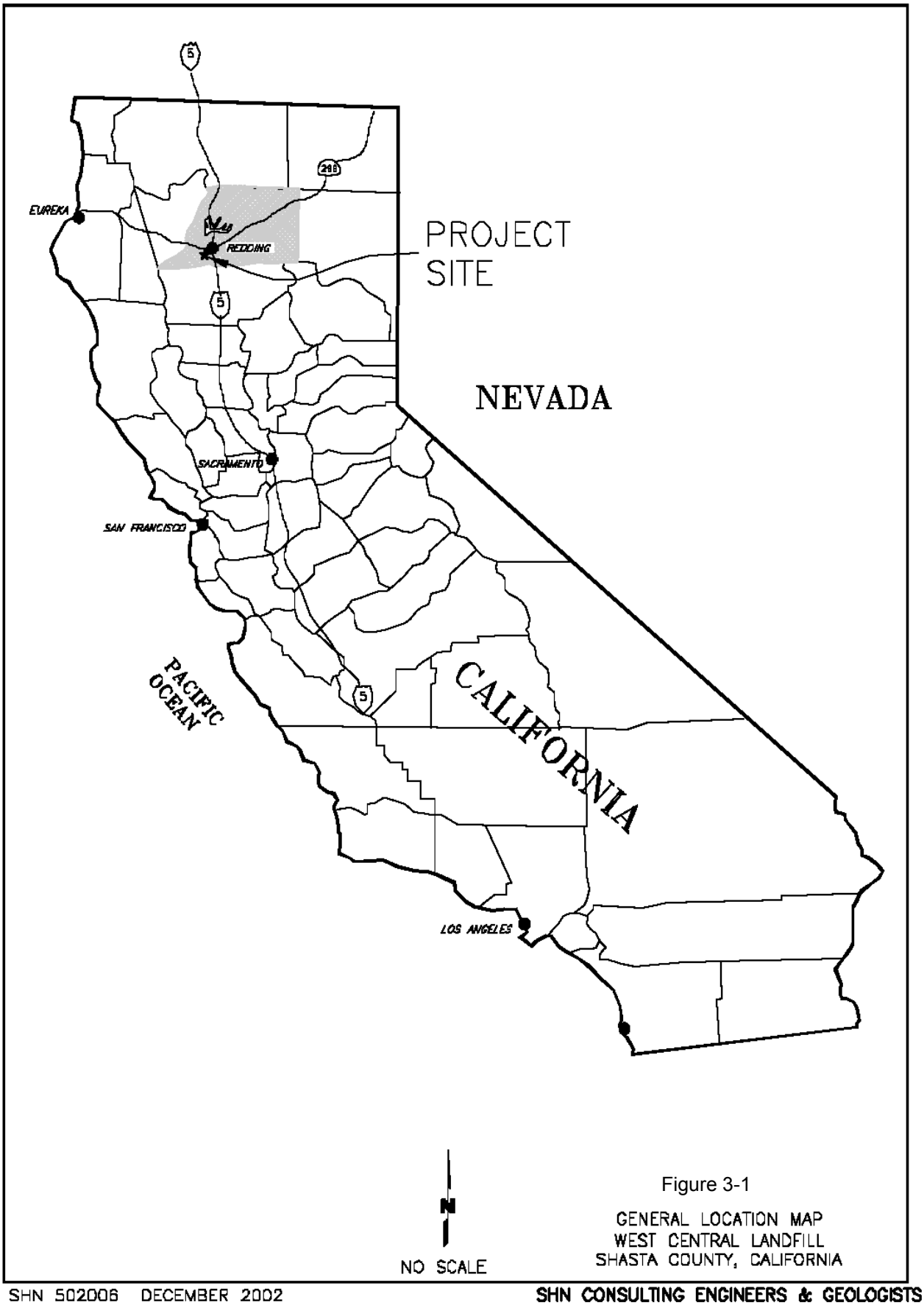

Figure 3-1

GENERAL LOCATION MAP
WEST CENTRAL LANDFILL
SHASTA COUNTY, CALIFORNIA

SHN 502006 DECEMBER 2002

SHN CONSULTING ENGINEERS & GEOLOGISTS

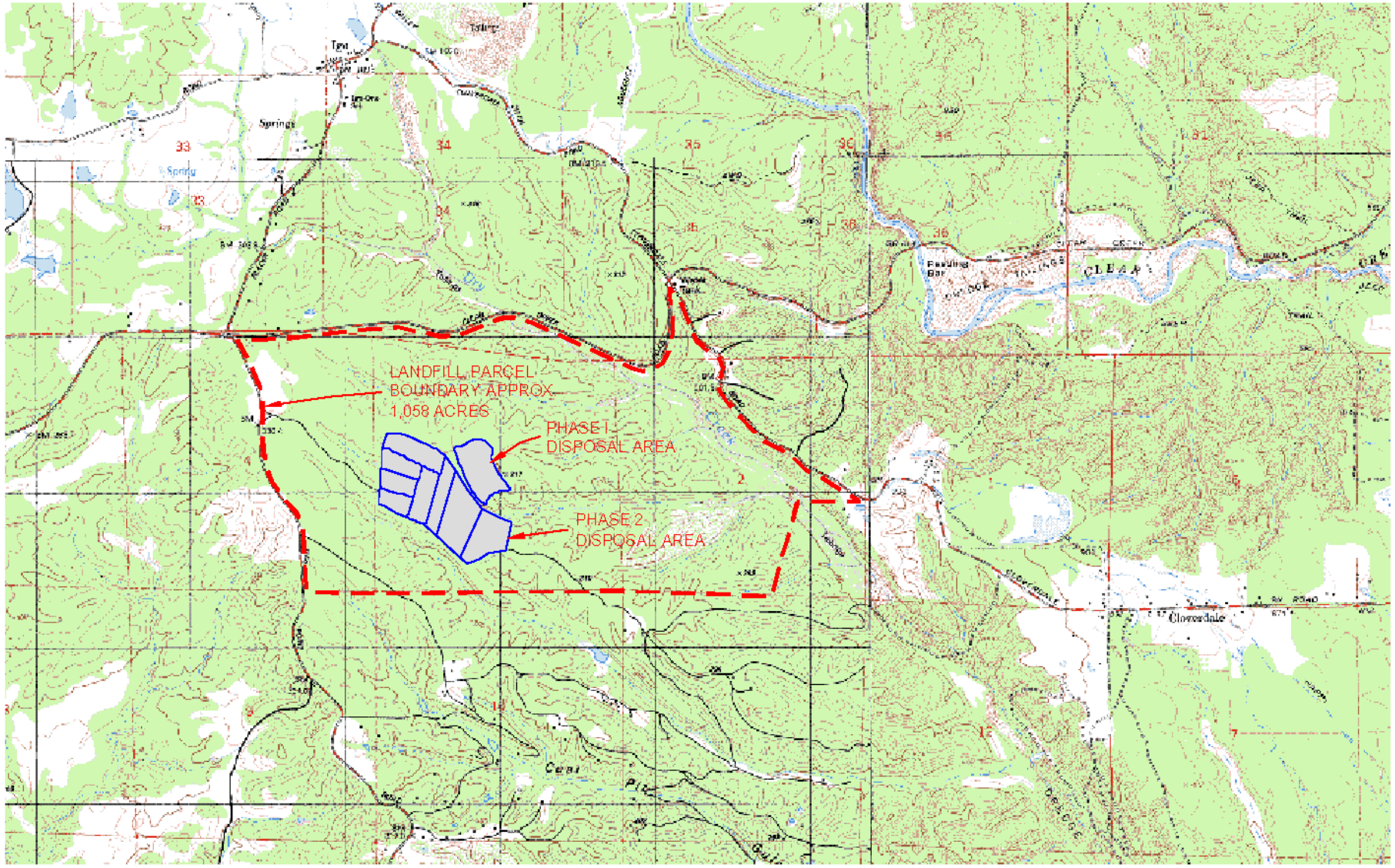

Figure 3-2

SITE LOCATION MAP
WEST CENTRAL LANDFILL
& SURROUNDING AREA
SHASTA COUNTY, CALIFORNIA

SOURCE: USGS QUAD

SCALE: 1"=3000'

SHN 502006 DECEMBER 2002

SHN CONSULTING ENGINEERS & GEOLOGISTS

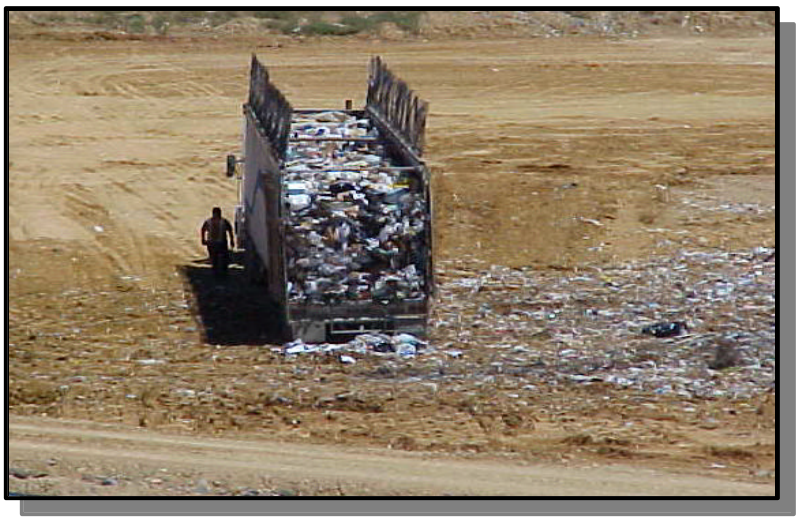

Photo 1 – Compacted waste being delivered to the West Central Landfill.

Photo 2 - Compacted waste being emptied from truck onto the working face of an active unit of the landfill.

Photo 3 - Waste being distributed across the working face of the landfill and compacted at the site.

Photo 4 - Alternative Daily Cover (ADC) tarping machine used to cover the working face waste at the landfill at the end of each day.

Photo 5 – Daily watering of roadways at the landfill.

Photo 6 - Covered Leachate Collection Pond with fenced perimeter.

Photo 7 - Covered Leachate Collection Pond showing wire fence and interior electric fence to deter wildlife from entering pond.

Photo 8 - Sedimentation basin retaining surface stormwater and sediment from entering local waterways.

Photo 9 - Equipment shop and office at West Central Landfill.

3.5.1 Landfill Design

The landfill property in its entirety consists of 1,058 acres. About 100 acres of the total have been developed for waste disposal, roads, and related activities; future development is planned for at least another 100 acres (CH2M HILL 1990a). The remaining area is retained as an undeveloped buffer in County ownership. A current site plan is shown in Figure 3-3.

As shown in Figure 3-3, the 200-acre disposal area "footprint" at the West Central Landfill consists primarily of closed, active, and planned disposal areas and units. Additional areas have been dedicated for stockpiles of soil and crushed rock, several engineered ponds or basins (described further below), a closed tire disposal cell, and access roads. These ancillary features occupy about 80 acres. Structures at the landfill consist of the shop building and scale-house. There is a public-use transfer facility near the gate entrance, where waste may be disposed of into 50 cubic yard boxes; these boxes are transferred to the working face by the operator. An eight-foot chain link security fence has been installed along Clear Creek Road. The County has developed onsite water and two onsite sewage disposal systems; water is provided by the Clear Creek Community Services District. Restrooms, shower, and locker room facilities have been constructed for landfill workers. Light towers provide lighting for limited nighttime activities, such as equipment operation immediately before dawn and immediately after sunset in the winter (Shasta County 1998a).

3.5.2 Landfill Development

As designed and developed, and as addressed in project planning, permitting, and environmental documents over the years (including previous CEQA documents), development of the landfill is defined by phases.

3.5.2.1 Phase I

The Phase I area was operated as a fill landfill between 1982 and 1991 using a cut and cover method, whereby a prepared base and clay liner were completely covered with waste over the nine-year period (Shasta County 1998a; Shasta County 1999). This waste management unit, now closed, covers approximately 20 acres and has a final in-place volume of approximately 800,000 cubic yards (Shasta County 1999). A Final Closure and Postclosure Maintenance Plan for Phase I was prepared in 1990. The final cap for Phase I was completed in 1992; the area was revegetated according to CIWMB requirements, which allow for dense ground cover but prohibit deeply rooted vegetation such as trees (Shasta County 1999). The use of treated septage pond sludge (from the City of Redding Septage Ponds East Complex) as soil amendment for Phase I area cover material was approved by the RWQCB (Shasta County Health 2002).

3.5.2.2 Phase II

The Phase II area covers approximately 100 acres and is being developed in subphases over a period of 20 to 30 years (Shasta County 1995a). Unlike Phase I, Phase II of the West Central Landfill is being developed in smaller increments of 4 to 12 acres, and cover material for an active unit is taken from the next proposed cell. Excavations are made and an impervious, geosynthetic liner is installed, and the leachate collection system is extended in these incremental units. The refuse is then covered with soil excavated from the next increment. Seeding, with soil amendments, is also done on the intermediate cover areas in inactive portions of Phase II; the mixture used is a "shasta range mix" (Shasta County 1999).

The initial subphase, Unit 1A, consists of approximately 8 acres and began receiving waste in 1991. Unit 1B consists of approximately 7 acres and began receiving waste in 1992. Unit 1C, which encompasses 6 acres, started receiving waste in 1994. All three of these units reached capacity in 1997. Unit 2 was constructed in 1996 and reached capacity in 2001. Final closure for these four units is scheduled for 2008 (Shasta County 1995a). As of summer 2002, the active portion of Phase II is Unit 1D, which occupies approximately 9 acres, and is expected to provide disposal capacity through 2005. The next units scheduled for development are Units 3, 4, and 5, in that order. Remaining units, capacities, and scheduled construction dates are shown in Table 3-1 (also see Section 3.10).

Development of the remaining waste management units will require relocation of three observation wells and a segment of power and telephone lines. The proposed relocation of these features are shown on Figure 3-3. In addition, two of the existing contact water ponds will need to be enlarged, and two sediment ponds south of Units 1A, B, and C will need to be relocated. The Class II leachate pond is expected to be adequate. Erosion control measures, such as hydroseeding (application of seed, mulch, and fertilizer in a slurry), will continue to be used on soil stockpiles and non-active units (Shasta County 1995a).

Table 3-1
Remaining Units, Capacities and Projected Construction Schedule*

Unit	Capacity (cubic yards)	Construction Date	Projected Date Unit Full	Closure Date
1D	991,143	Summer 2000	January 2005	Summer 2008
3	1,498,500	Summer 2003	September 2008	Summer 2013
4	1,987,565	Summer 2008	September 2013	Summer 2016
5	932,407	Summer 2013	September 2015	Summer 2019

*(Source: Shasta County 1995a, **updated 2003**)

PHASE II
UNIT 1D
"ACTIVE"

PHASE II
UNIT 1A
"ACTIVE"

PHASE II
UNIT 1B
"ACTIVE"

PHASE II
UNIT 1C
"ACTIVE"

PHASE II
UNIT 3
"ACTIVE"

PHASE II
UNIT 2
"ACTIVE"

PHASE I
COMPLETED

PHASE II
UNIT 4

PHASE II
UNIT 5

EXISTING SEDIMENT POND

EXISTING STORMWATER POND

EXISTING CONTACT WATER PONDS

EXISTING LEACHATE POND

ROCKS

PROPOSED LOCATION OF OBSERVATION WELL

PROPOSED LOCATION OF SEDIMENT POND

EXIST. CONTACT WATER POND

EXISTING SEDIMENT POND

PROPOSED LOCATION OF OBSERVATION WELL

SCALE:1"=300'±

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY

CONSULTING ENGINEERS & GEOLOGISTS INC.
480 Hemsted Drive
Redding, CA 96002
(530)221-5424
FAX (530)221-0135

NO.	DATE	REVISION	BY

DSGN: MC
DR: KD
CHK: MC
APVD: MC

FIGURE 3-3
CURRENT SITE PLAN
WEST CENTRAL LANDFILL
SHASTA COUNTY, CALIFORNIA

SHEET 1 OF 1
DATE 9-03
PROJ. NO. 502006

3.5.3 Landfill Operation

The landfill is open to the public Monday through Saturday, 9am to 5pm. General public users of the landfill hauling their own refuse are required to dispose of solid waste materials in transfer boxes located near the entrance gate. Commercial customers are directed to the active fill areas for discharging waste directly from trucks. Waste piles are spread out by a dozer, scraper, or landfill compactor in layers about two feet thick. These layers are compacted with the dozer or compactor several times to achieve a target density of approximately 900 pounds of waste per cubic yard. A soil layer, or cover, not less than six inches thick after compaction, is placed over the exposed waste at the close of each day's operation (Shasta County 1999).

An "alternative daily cover" (ADC) program is currently being used at the landfill. ADC materials and methods are used in many municipal landfills. **The use of ADC has been approved by the Shasta County Department of Resource Management, Environmental Health Division who is the local enforcement agency (LEA).** For West Central Landfill, the City of Redding has purchased a tarping machine, which is used to cover the working face daily with reusable tarps; one each week the working face is covered with earthen material. This method takes the place of the daily soil cover and is expected to be equally effective (L. Gibson, personal communication). Use of an ADC method such as this helps extend the life (i.e., the disposal capacity) of the landfill. **Approval for use of the ADC by Shasta County Environmental Health is shown in Appendix G.**

3.6 Environmental Protection Systems

The West Central Landfill has been developed with engineered systems designed to prevent potential water contamination due to leachate and contact water. Leachate is a liquid formed by water that has percolated through waste materials and has extracted or dissolved contaminating substances; it may come from within active or inactive portions of a landfill and make its way to the cell liners. Contact water is water collected from the active face of a landfill during periods of rainfall.

In early construction of the landfill, the bottom of the canyon was lined with 3 feet of clayey soil. A groundwater underdrain system, consisting of perforated PVC pipe surrounded with gravel and filter fabric, was installed beneath the liner. A leachate pipe surrounded with gravel was installed on top of the clay liner (Shasta County 1999).

The Phase II leachate system consists of a one-foot thick layer of leach rock on top of a network of 4-inch diameter perforated pipe on top of the liner. Leachate collection pipes, spaced about 200 feet apart beneath the entire waste pile, lead out of the waste unit to a mainline, which runs down the canyon to a collection well and pump station. The leachate is pumped to a lined Class II pond for treatment by evaporation. This "pond" is an engineered structure equipped with a metal roof to prevent rainwater from entering; it is also equipped with an electrified perimeter fence to discourage entry by larger wildlife,

such as deer and bears. The leachate collection system was designed to confine and control the leachate and prevent groundwater from contacting landfill refuse (Shasta County 1999).

Contact water is collected from the active face of the landfill and routed through a series of ditches and pipes on the landfill face to a sediment pond at the toe of Phase II area, then to a 12-inch diameter pipe to Pond 1 at the base of the Phase I landfill area. From there, it is pumped to Pond No. 2, which is located on a ridge, and the water flows by gravity to Ponds 3 and 4. Contact water evaporates from Ponds No. 1 through 4; a small amount is used for dust control in the active phases (Shasta County 1999).

Sedimentation basins have been constructed onsite that allow settling of stormwater prior to release. The now-closed Phase I landfill area has a small sediment basin below the toe of the landfill, as well as another sediment basin on a separate tributary to Dry Creek in an adjacent canyon north of the Phase I area (Shasta County 1999). To serve the larger Phase II area, an embankment was constructed in the main canyon below the Phase II area. This embankment has a riprap overflow spillway adequate to pass a 100-year storm event. These sediment basins were designed to settle out the majority of sediment in runoff from the landfill; however, some suspended clay is discharged from the basins into an unnamed tributary channel leading to Dry Creek (Shasta County 1992a; Shasta County 1999). At closure, the Phase II area will have a soil "cap" added to retard and slow the infiltration of surface water into the landfill, reducing leachate generated from the landfill. Surface water runoff from the capped landfill will be directed to existing and planned sediment basins.

3.7 Environmental Monitoring

The RWQCB has established Monitoring and Reporting Program No. R5-2002-0037 for the West Central Landfill, pursuant to California Code of Regulations Title 27 regulations, which requires periodic monitoring of landfill conditions, with reports submitted to the RWQCB and copies to the Local Enforcement Agency (LEA). Shasta County monitors nonhazardous waste quantities, groundwater, leachate, and surface water (Shasta County 1999). Landfill gas is also monitored.

All landfill and surface impoundment areas, leachate collection system discharge pipes, and sumps are inspected weekly for leachate generation. Upon detection of leachate in a previously dry pipe, the landfill operator institutes sampling at monthly, quarterly, or semiannual frequencies thereafter, as required in the Waste Discharge Requirements. The leachate system was tested in 1996 to determine that the leachate mainline was working properly. The landfill operators periodically inspect and test the leachate pond liner and collection system; results are reported to the RWQCB. The LEA, Shasta County Department of Environmental Health, also conducts monthly inspections as required by law (Shasta County 1999).

The groundwater monitoring network at the West Central Landfill consists of four "background" monitoring wells and five downgradient monitoring wells. In addition, the

groundwater underdrain system for the Phase II area is monitored; three of the downgradient wells constitute the "points of compliance" with respect to groundwater. Three additional monitoring wells were added in 1992 (Shasta County 1999).

Surface water monitoring stations have been established on Dry Creek above and below the point where runoff from the waste management facility enters the stream channel. The three monitoring stations provide sampling points (1) for discharge from the lower sediment pond in an unnamed tributary of Dry Creek; (2) at a point 200 feet upstream from the point of discharge in Dry Creek; and (3) 500 feet downstream from the point of discharge in Dry Creek, the point of compliance (Shasta County 1999).

State solid waste regulations require the landfill owner to monitor for the presence and movement of landfill gases and to take action to control such gases. Gas monitoring at the West Central Landfill has been conducted quarterly since 1994 at four subsurface locations along the property lines. Quarterly results are reported to the LEA. A permanent gas detector was also installed in the shop building. In addition, testing was also conducted in 1997 for Non-methane Organic Compounds (NMOC) at 17 points within the closed Phase I area. Regulations require the County to conduct these tests every five years (Shasta County 1999).

Shasta County is in compliance with environmental monitoring programs outlined above; relevant monitoring and inspection reports are located in County files and are available for review.

3.8 Allowable Waste Types

The West Central Landfill is a Class III waste management facility, a classification applied by the State Water Resources Control Board (SWRCB) to landfills for nonhazardous solid waste. The landfill receives nonhazardous solid waste and inert waste, as defined by California Code of Regulations (CCR), Title 27, chapter 3, Sections 20220 and 20230 (see box, this page). Dewatered sludge and water treatment sludge may also be discharged at a Class III landfill under specified conditions, one of which is that the landfill be equipped with a leachate collection and removal system. Incinerator ash may also be discharged at a Class III landfill unless determined by regulatory agencies to require management as a hazardous waste.

Nonhazardous solid waste: "All putrescible and nonputrescible solid, semisolid, and liquid wastes, including garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, discarded home and industrial appliances, manure, vegetable or animal solid or semisolid wastes, and other discarded solid or semisolid waste; provided that such wastes do not contain wastes which must be managed as hazardous wastes, or wastes which contain soluble pollutants in concentrations which exceed applicable water quality objectives, or could cause degradation of wasters of the state (i.e., designated waste). [27 CCR 20220]

Inert waste: "Solid waste that does not contain hazardous waste or soluble pollutants at concentrations in excess of applicable water quality objectives, and does not contain significant quantities of decomposable waste." [27 CCR 20230]

3.9 Load-Screening Program

A load-screening program was implemented by the City of Redding for West Central Landfill beginning in 1990 when the City took over as contract operator for the landfill. This program is aimed at preventing the disposal of hazardous waste at the landfill. The load-screening program was greatly improved with the opening of the City of Redding Transfer Station, which provided an additional opportunity for screening on a daily basis (Shasta County 1999).

The load-screening program consists of: signs posted at the landfill; distribution of leaflets identifying hazardous wastes that cannot be disposed of at the landfill; verbal entrance check with drivers of incoming loads; random load checks; visual inspections of waste; inspection of wastes at the City of Redding Transfer Station and Permanent Household Hazardous Waste Collection Facility; and an employee training program.

3.10 Waste Quantities, Landfill Capacity, and Site-Life Projections

The West Central Landfill receives approximately 120,000 tons of solid waste per year. The City of Redding waste accounts for approximately 66 percent of the tonnage that goes to the landfill (Shasta County 1999). The average amount per day is about 380 tons; the peak waste load day typically occurs in August with about 580 tons per day, and the minimum loading day typically occurs during the months of December or February with about 200 tons per day (Shasta County 1999). The landfill also receives approximately 2000 tons of dewatered sewage sludge per year (Shasta County 1998a).

Phase II is expected to provide disposal capacity for approximately the next 15 to 25 years (Shasta County 2001b). Based on past recorded waste generation data and population studies for the City of Redding and Shasta County, and taking into account the current and projected levels of recycling, County Public Works Department estimated that the waste stream would grow at the rate of 2.5 percent per year. The estimated future cubic yards of waste were predicted at this rate as presented in Table 3-2.

A County Department of Public Works planning study in 1995 determined that the projected capacity of Phase II could be greatly increased by lining the existing north and south cut slopes and extending the Phase II area to the north and east over the top of closed Phase I waste management unit. Neither such lining nor such over-covering currently has the approval of the RWQCB; however, proposed slope lining methods have been discussed. In addition to increasing the capacity of Phase II, lining the cut slopes would reduce the need for excavation. Filling over the top of the closed Phase I unit would make the operation (particularly Unit 5) more cost-effective (Shasta County 1995a).

Table 3-2
Projected Waste Flow*
West Central Landfill

Year	Annual Tonnage (tons)	Annual Volume (cubic yards)	Cumulative Volume (cubic yards)	Waste Unit Capacity
2000	120,950	268,778	1,055.444	
2001	123,974	275,498	1,330,942	2 Full
2002	127,073	282,384	1,613,326	
2003	130,250	289,444	1,902,770	
2004	133,506	296,680	2,199,450	
2005	136,844	304,097	2,503,547	1D Full
2006	140,265	311,700	2,815,247	
2007	143,772	319,493	3,134,740	
2008	147,366	327,480	3,462,220	
2009	151,050	335,666	3,797,886	3 Full
2010	154,826	344,057	4,141,943	
2011	158,697	352,660	4,494,603	
2012	162,664	361,475	4,856,078	
2013	166,731	370,513	5,226,591	
2014	170,899	379,775	5,606,366	4 Full
2015	175,172	389,271	5,995,637	
2016	179,551	399,002	6,394,639	
2017	184,040	408,977	6,803,616	5 Full

*Sources: Shasta County 1998a and County of Shasta 1999, extrapolated at a constant growth rate of 2.5 percent per year. Projections include recycling.

3.10.1 Regulatory Specifications

The Solid Waste Facility Permit issued by the County Environmental Health Division (as the LEA) with concurrence from the IWMB gives a total design capacity of 6,605,722 cubic yards (Shasta County 1992b). RWQCB Central Valley Region's Order for West Central Landfill indicates that the total capacity for Phase II is approximately 7,000,000 and that the "life expectancy" of the landfill may increase by 25 to 35 percent if recycling and mulching operations are fully implemented (RWQCB 2002). Landfill specifications approved by the IWMB (CIWMB 2002) are as follows:

Facility:	West Central Landfill
SWIS No.:	45-AA-0043
Types of Waste Permitted:	**Agricultural, Construction & Demolition, Dead Animals, Industrial, Mixed Municipal, Sewage Sludge and Tires**
Maximum Daily Tonnage:	**700 peak tons per day**
Days and Hours of Operation:	**Open to the public Monday through Saturday, 9am to 5pm**
Peak Numbers of Vehicles/day:	**Not specified**
Maximum Height of Landfill:	**Not specified**
Permitted Footprint Area:	**200 acres**
Liquid Wastes Accepted:	No
Hazardous Wastes Accepted:	No
Estimated Closure Date:	**2025**
Total Design Capacity:	**6,605,722 cubic yards**

3.11 Preliminary Closure Plan

A *Preliminary Closure and Postclosure Maintenance Plan* was prepared in 1990 for Phase II disposal area at West Central Landfill (CH2M HILL 1990b), as part of the long-range landfill planning process and as part of the process to provide cost estimates and financial assurance for the proper closure and postclosure maintenance required under state law.

In the preliminary plan, postclosure recreational or residential use was considered unlikely, and livestock grazing was considered permissible, provided that it did not occur in areas where it would interfere with environmental controls or "the landfill cap." The plan provides an initial description of construction and monitoring activities necessary to implement and assure proper closure, including preliminary design of the final cover, drainage and erosion controls, leachate control, surface water and groundwater monitoring, landfill gas monitoring, and provisions to assess possible landfill settlement. The preliminary plan also includes personnel requirements and an emergency response plan.

Actual design specifications for closure of the landfill, or portions of the landfill, including the composition and design of the final cover and the composition of plant species used for revegetation and erosion control, will be in accordance with regulatory and environmental requirements at the time of implementation.

4.0 Project Alternatives

4.0 Project Alternatives

Under CEQA, an EIR must assess the environmental effects of the "proposed project" and the "no project" alternative. If other alternatives exist, the EIR may look at their effects; however, less detail is required than for the proposed project.

In determining the range of alternatives to discuss, there is "no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason" (CEQA Guidelines Section 15126.6(a)). Alternatives must be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project (Guidelines 15126.6(f)).

An alternative that does not assist in avoiding or reducing impacts need not be considered in detail. An EIR does not need to address alternatives that are infeasible (CEQA Guidelines Section 15126.6(a)). "Feasible" is defined as capable of being accomplished in a successful manner within reasonable period of time, taking into consideration economic, environmental, social, and technological factors (Public Resources Code, Section 21061.1). Among the factors that may be used to eliminate alternatives from detailed consideration are failure to meet most of the basic project objectives and inability to avoid significant environmental impacts (CEQA Guidelines Section 15126.6(c)).

4.1 No-Project Alternative

An EIR must evaluate the specific alternative of no project and consider its potential effects (CEQA Guidelines Section 15126.6(e)). Generally, the purpose of evaluating the no-project alternative is to allow comparison between the potential effects of the proposed project and the potential effects of the project not proceeding. The no-project analysis must discuss the existing conditions at the time the Notice of Preparation is published, "as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services" (Guidelines 15126.6(e)(2)).

In this EIR – in which the project being addressed is the ongoing operation and further development, as planned and approved, of the West Central Landfill – for analysis purposes, the County has defined the no-project alternative as cessation of operations and closure of the landfill. Under this scenario, the County would stop receiving waste at West Central Landfill. Required closure activities, including final grading and proper installation of final cover would be conducted as required for active disposal units. Additional units of Phase II would not be developed. Leachate collection and monitoring, surface and groundwater monitoring, and landfill gas monitoring would continue indefinitely. This scenario would not meet the County's basic objectives; it clearly would not be cost-effective because it would not take full advantage of the County's financial investment to date in developing West Central Landfill. It does, however, provide the

necessary comparison to the proposed project for the purpose of analyzing and comparing potential environmental effects.

4.2 Other Alternatives

The following discussion addresses a number of "alternatives" to the project; however, none of these is considered by the County of Shasta to warrant detailed analysis in this EIR, for the stated reasons. Some are considered not technically or economically feasible; other "alternatives" do not meet the basic project objectives or would clearly result in significant effects greater than the proposed project. The fact that these "alternatives" are not considered in detail does not mean that, in the future, the County could not consider implementing any of these "alternatives" as part of the County waste management program, or consider implementing a variation of these alternatives in landfill operations as a measure to reduce identified environmental impacts. (Should the County propose to implement one or more of these projects in the future, additional CEQA review would be required, which could be tiered to this EIR.) However, for the purposes of this EIR, and as explained further below, the County concludes that there is no informational or environmental protection value to be gained in detailed analysis of these options as "alternatives" to the continued operation and further development, as planned and approved, of the West Central Landfill.

4.2.1 Off-Site Alternatives

Among the alternatives generally appropriate to consider in an EIR are alternative locations for siting the proposed project. The key question is whether any of the significant effects would be avoided or substantially lessened by putting the project in another location; only such alternatives need to be considered in an EIR (CEQA Guidelines Section 15126.6(f)(2)).

The location of West Central Landfill was selected in the early 1980s following a substantial, deliberate, technical, and public process, which included environmental review. In one early study, 15 possible locations for a landfill were identified, using environmental and economic factors. This list was reduced to three sites; however, all three were ultimately rejected as being too close to business or population centers. Additional investigations studied some 31 potential sites, which were evaluated and ranked according to selected criteria. Among these sites, the three ranked as most viable – the West Central Site, Anderson Sites, and Oak Creek Site – were carried forward for the environmental review in the 1980 *Environmental Impact Report for a Proposed Sanitary Landfill* (Shasta County 1980). As explained in Chapter 1.0, this EIR tiers to the original siting EIR developed in 1980, which was used as the basis for the selection of the current landfill site.

The permitted and approved area of the West Central Landfill has an estimated 15 to 20 years of capacity remaining. Further, the necessary infrastructure – access roads, support buildings, water and other utilities, a leachate collection system, sediment ponds,

monitoring wells, and other improvements – are already in place. Presumably suitable areas for continued development over several additional decades exist on the surrounding County property.

Development of new, undisturbed locations would involve unknown, but presumably greater, environmental effects than continued operations at an existing, already disturbed site. The County expended considerable time reviewing possible alternative sites during the development of the EIR in 1980 and chose the West Central Landfill site as the preferred alternative. With the development of the landfill for the past 22 years, and with additional capacity still available under the existing Phase II permitted operation, additional site evaluations are not warranted at this time. Other sites could not be developed as economically as continued operations at the existing site. Therefore, the County finds that, offsite alternatives do not meet the basic objectives for this project, and, for economic and environmental reasons, no other offsite alternative landfill disposal site is at this time feasible. Accordingly, this EIR does not address offsite alternatives further.

4.2.2 Waste Transport Alternatives

Also conceivable is the prospect of transporting some or all the volume of solid waste that would go to the West Central Landfill to another landfill outside the County or even outside the State – e.g., implement a waste-by-truck or waste-by-rail program. This approach would use landfill capacity elsewhere and could encourage expansion of landfills in other jurisdictions, instead of making use of the permitted capacity and existing infrastructure at the West Central Landfill. Such a program presumably would involve permitting and approval issues and considerably higher transportation costs and transportation-related impacts. Therefore, the County finds that, under present circumstances, waste transport alternatives do not meet the basic objectives for this project, and, for economic and environmental reasons are not feasible.

4.2.3 Smaller Area Alternative

An apparent "alternative" to the project is the development of only a portion of the permitted area and containment of the landfill within a smaller area than that planned. Instead of developing all units with Phase II, for example, the County could, conceivably, restrict the landfill to only some of the units. This restriction, while technically feasible, would not attain the basic objective to provide disposal capacity for the foreseeable future. It would also not be cost-effective for County government in the long term: capacity for the continuing waste stream would need to be developed elsewhere. Therefore, the County finds that detailed consideration in this EIR of a smaller area alternative is not warranted.

4.2.4 Other Variations in Disposal Area "Footprint"

Variations in the disposal area configuration are possible, while still remaining within the approved Phase II "footprint" and within the permitted waste quantity and area limits.

Such variations could involve higher or lower vertical limits for waste units, larger or smaller horizontal limits, changes in phasing sequence or timing, or changes in landfill design or operation.

None of these variations in themselves constitute alternatives within the sense of CEQA. As long as the waste disposal remains within the permitted quantity and area limits, changing the dimensions of the waste units generally offers limited opportunity to reduce environmental impacts on most resources. The effect of different height waste units may, however, have implications for visual effects, and accordingly, height variations are addressed in this EIR to the extent that they may be related to potential impacts of the proposed project and possible mitigation measures. These disposal area footprint variations, however, are not distinct alternatives to the proposed project. Therefore, with the exception noted for landfill height, disposal variations within the approved footprint are not considered in detail in this EIR.

4.2.5 Alternative Waste Technology Alternatives

A number of communities in California and elsewhere in the country have developed waste recycling and waste-to-energy programs that recycle waste into more useful products and convert waste materials into energy. Recycling programs are used to divert materials such as tires, wood products, waste oil, and hazardous materials from entering landfills and to make use of those materials in recycled products or to properly dispose of them at hazardous waste facilities. With various degrees of processing, for example, municipal waste can be burned in a combustion chamber to produce steam to power a generator. There are some 90 waste-to-energy plants in California with a total installed capacity of 971 megawatts (CA Energy Commission 2002).

Such recycling and waste-to-energy facilities offer a number of benefits, particularly for public agencies required to manage extremely large quantities of solid waste; among these benefits are the reduction of landfill waste volumes, the commensurate extension of landfill life, and the generation of useful electrical power. **The review of alternative waste technologies has been considered in the Shasta County Integrated Waste Management Plan.** Shasta County is currently taking advantage of waste reduction and recycling programs to extend the life of the West Central Landfill and provide alternative uses of waste. The County currently provides for recycling through the efforts of the waste transfer facility operated by the City of Redding, the collection and recycling of automotive tires, and through Wheelabrator Shasta Energy, which utilizes wood products for conversion to electricity.

Construction of new waste processing facilities, however, also present inherent environmental issues, including those related to air quality, disposal of by-products, and consumption of large amounts of water for cooling or other purposes. For Shasta County, such a facility would require considerable advance planning, financing, and design work. It would not meet the County's basic objectives for providing the needed ongoing and

future waste disposal capacity. Therefore, the County finds that, for the purposes of this EIR, alternative waste technology alternatives do not meet the basic objectives for this project, and, for economic and environmental reasons, they are at this time considered not feasible. Accordingly, this EIR does not address such alternatives further.

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5.0 Physical Environment

5.0 Physical Environment

The physical environment is closely related to landfill design and operation. For the purposes of this EIR, the term is used to include the general physiographic setting, topography, and climate; the general geological setting, soils, and seismicity; and related hazard considerations. This discussion of the physical environment also includes surface water and groundwater issues and water quality, and regional air quality, including the air quality regulatory setting.

5.1 General Physiographic Setting and Climate

The West Central Landfill is located in a tributary canyon that drains to Dry Creek, a tributary of Cottonwood Creek, which flows into the upper Sacramento River. The region surrounding the landfill is generally characterized by hilly terrain and dendritic-style drainages, dissected canyons with moderate to steep slopes, and moderately level ridgetops. Ridge elevations range from 1,040 to 1,065 feet MSL; canyon bottom elevations are 55 to 120 below the ridges.

The climate is characterized by wet, cold winters and dry, warm summers. The average annual temperature in the City of Redding is 65 degrees; the low mean temperature is 45 degrees in winter and the high mean temperature is 82 degrees in summer. The facility receives an average of 35 inches of precipitation per year; mean evaporation is approximately 60 inches per year. The (statistical) 1,000-year, 24-hour precipitation event is 9 inches; the 100-year, 24-hour precipitation event is 7 inches (Shasta County 1998a; RWQCB 2002).

Prevailing winds are from the north or northwest and, secondarily, from the south or southwest; winds vary with temperature, season, storm events, and local topography. Wind speeds of 5 miles per hour (MPH) occur 25 percent of the time, 8 MPH or less 50 percent of the time, and 13 MPH or less 90 percent of the time (Shasta County 1998a; RWQCB 2002).

5.2 Geology, Soils, and Seismicity

5.2.1 Environmental Setting

A geotechnical investigation of the West Central Landfill area was conducted in 1979 as part of the original EIR addressing siting of a new regional landfill and development of the alternative sites (Shasta County 1980). Additional geologic information has been developed over the years in subsequent CEQA documents, regulatory agency documents, and technical reports. This section is a summary of the previous environmental documents as updated by more recent information.

Generally, the geologic formations and soils at the site are considered suitable for landfill development and use in terms of stability, soil texture, permeability, and other factors (Shasta County 1980). The West Central Landfill area is located within the Great Valley geologic province near the contact with the Klamath Mountains geologic province. In order of age from most to least recent, the geologic units in the vicinity of the site consist of recent alluvium and dredge tailings, the Pleistocene Red Bluff Formation, the Pliocene Tehama Formation, and the Cretaceous Chico Formation (Shasta County 1980; Fraticelli, et al. 1987; CH2M HILL 1990b; Shasta County 1998a; ENPLAN 2002).

The ridges on both sides of the landfill canyon are composed of Red Bluff Formation, which is a freshwater deposit consisting of tightly packed gravel and cobbles in a brown to red, iron-stained matrix of sand, silt, and clay. A hardpan layer several feet thick may occur on ridge tops in this formation.

The Cretaceous Chico Formation – a marine deposit consisting of mudstone, sandstone, and shale – occurs at the ground surface approximately one-half mile to the west and probably underlies the site at depth. It was not encountered in early test borings at the landfill; however, it appeared to have been encountered in a later monitoring well installation (Shasta County 1980; Shasta County 1998a). Unconformably overlying the Chico Formation is the Tehama Formation, consisting of fluvial deposits of clayey and silty sandstone with lenses of pebble and cobble conglomerates. The Tehama formation comprises the canyon sides and bottoms. In the canyon bottom, surficial gravel and sand deposits derived from the clayey gravel material in the ridges can attain approximately five feet in thickness; pre-development test borings showed that no extensive, highly permeable zones of clean sand or gravel underlie the site (Shasta County 1980).

Soil mapping by the USDA Soil Conservation Service indicates two soil types in the area of the West Central Landfill. Ridgetop soils are mapped as Redding gravelly loam, 3 to 8 percent slopes. The Redding soil is typically underlain by hardpan and generally has a low erosion potential. Soils on the sides and bottoms of drainages are mapped as Newton gravelly loam, 15 to 30 percent slopes, and Newton gravelly loam, 30 to 50 percent slopes, eroded. Newton soils generally have a moderate to high potential for erosion (USDA 1974; Shasta County 1980).

Geologic hazards resulting from seismic events and slope instability have been considered insignificant in previous site planning evaluations (CH2M HILL 1990b). Shasta County in general has a low level of historic seismic activity (Shasta County 1998b). The nearest significant fault is the Battle Creek Fault, a Quaternary east-west-trending normal fault approximately 20 miles to the east. As mapped, it is approximately 14 miles long, with an estimated slip rate of 0.5 mm / year (Jennings 1994). The last known major movement on this fault appears to have been over 400,000 years ago. The maximum credible earthquake

on the Battle Creek Fault has been estimated to be a Richter magnitude [4] of 6.0 to 6.5 (CH2M HILL 1990b; CDMG 1992; RWQCB 2002). A number of Alquist-Priolo Earthquake Special Study Zones have been designated in Shasta County; however, all are located in the eastern part of the County and none in the vicinity of Redding, the Igo-Ono area, or the West Central Landfill (Shasta County 1998b; CDMG 1992).

5.2.2 Potential Issues and Thresholds of Significance

Results of the County's scoping process identified no potentially significant issues regarding soils or geologic hazards. The following thresholds of environmental significance can be identified with respect to geologic conditions, soils, and seismicity; these thresholds include pertinent issues identified in Appendix G of the CEQA Guidelines, as adapted to be meaningful for this assessment. The project would have a significant effect on the environment if it would:

- Result in a situation where mass movement, slope failure, or other ground failure, whether or not caused by seismic events, would affect environmental protection systems at the landfill.
- Expose people or structures to potential substantial adverse geologic hazards such as rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure or liquefaction, or landslides.
- Result in substantial soil erosion or loss of topsoil.
- Be located on a geologic unit or soils that is unstable or that would become unstable as a result of the project.
- Be located on expansive soil creating substantial risk to life or property.

5.2.3 Environmental Effects

Previous environmental documents addressing West Central Landfill identified several types of potential effects related to topography, soils, and geology. The 1980 EIR (Shasta County 1980) concluded that: "a long-term impact resulting from the use of West Central site for a sanitary landfill is the alteration of the existing landforms and topography. The proposed 165-acre storage area will fill the canyon area to an average elevation of approximately 1000 feet."

The 1980 EIR also predicted that use of the site for a landfill would result in (1) the displacement of soils used for landfill cover and (2) the potential for some degree of erosion

4 The Richter magnitude scale is a mathematical system that has been used to compare earthquake size. The magnitude of an earthquake is determined from the logarithm of the amplitude of waves recorded by seismographs; adjustments are included to compensate for variation in distance between the various seismographs and the epicenter of the earthquake. More recently, another scale called the "moment magnitude scale" has been devised for more precise study of large earthquakes.

and siltation due to surface soil disturbance. In this EIR, erosion-related effects and recommended mitigation measures are addressed under Water Quality (Section 5.3).

5.2.3.1 No Project Alternative

Under this alternative scenario, operations would cease, the landfill would close, and the County would stop receiving waste at West Central Landfill; the required closure activities, including final grading and proper installation of final cover, would be conducted as required for active disposal units. Additional units of Phase II would not be developed. Leachate collection and monitoring, surface and groundwater monitoring, and landfill gas monitoring would continue indefinitely.

The No Project Alternative would result in considerably less alteration of topography and disturbance of surface soils than would occur under the Proposed Project.

5.2.3.2 Continuing Operations

Extensive alteration of canyon topography has been, and will continue to be, a major consequence of operation and further development of West Central Landfill; the operation will ultimately fill up the canyon with a compacted mixture of solid waste and soil. Final grades defining the final topographic "shape" of the site when the landfill reaches capacity will be designed as part of closure plans and subject to environmental review, as applicable. This effect, however, does not cross the identified thresholds of significance and is therefore found to be less-than-significant.

Generally, and as described in previous environmental documents and preliminary closure plans, the landfill area will be graded for stability and drainage in a generally mounded shape across the canyon. As an environmental effect on soils, or as far as landfill operations are related to geologic hazards, no significant effects are identified associated with topography. (Other aspects of topographic alternations are discussed elsewhere in this EIR.)

Available evidence suggests that potential environmental effects associated with geologic hazards are less-than-significant. Generally, as evaluated in this EIR and previous environmental documents, geologic formations and soils at the site are considered suitable for landfill development and use in terms of stability, soil texture, permeability, and other factors. Geologic hazards associated with the landfill resulting from seismic events and slope instability have been considered insignificant in previous site planning evaluations. Shasta County in general has a low level of historic seismic activity. The landfill is not within an Alquist-Priolo Earthquake Special Study Zone. Effects related to mass movement, slope failure, or other ground failure, whether or not caused by seismic events, are considered in the design of the in-place environmental protection systems at the landfill. Topsoil, were possible, is stockpiled for subsequent use as cover. No significant effects have been identified for geology and soils.

5.2.4 Mitigation and Monitoring

As suggested in the 1980 EIR, little can be done to minimize the topographic impact of filling the canyon for landfill operations. That document suggested that final grading for the closed units would be designed to blend with the existing landforms, and that grading would be supplemented with "routine surface maintenance" to remediate any differential settlement. The Preliminary Closure and Post Closure Maintenance Plan developed for the West Central Landfill identifies final grades and routine maintenance, and will be implemented for this project.

Because no significant effects were identified for geology and soils, no mitigation measures are identified. The County will continue to conduct further geotechnical investigations, as needed, to ensure proper design, construction, and closure of future landfill units. Erosion control measures are an essential component of landfill design and operation, as discussed in Section 3.5 and in the next section.

5.3 Groundwater, Drainage, and Water Quality

5.3.1 Environmental Setting

The original EIR addressing siting and development of the West Central Landfill (Shasta County 1980) provided initial information on groundwater and hydrology, based on field investigations, test borings, and observation wells. Additional information has been developed over the years in subsequent CEQA documents, regulatory agency documents, design documents, and technical reports. This information is summarized here.

5.3.1.1 Groundwater

The West Central Landfill site is located near the western edge of the Redding groundwater basin. In most areas of this basin, the underlying Chico Formation contains saline water, believed to be a relict of its marine depositional environment; this water is generally of poor quality and limited use (Shasta County 1980; Shasta County 1998a).

Early information suggested that the Red Bluff and Tehama geological formations at the site had similar water-bearing characteristics, as observed in observation wells drilled at the site; however, this view has subsequently been modified. While it may be typical of the alluvial deposits of the Red Bluff-Tehama group that permeable lenses are separated from other permeable zones by deposits of much less permeable clayey sediments (Shasta County 1980), the Tehama Formation is now recognized as the principal water-bearing formation in the area. The overlying Red Bluff Formation forms a thin veneer especially on ridgetops and generally contains little useable groundwater (RWQCB 2002).

Groundwater is relatively shallow beneath the site and, depending upon recharge by precipitation, may discharge into the canyon drainages (RWQCB 2002). The first-

encountered groundwater is in the Tehama Formation (Shasta County 1998a). Initial estimates suggested that depth to groundwater beneath the ridges was more than 90 feet (Shasta County 1980); subsequent reports put the water table at approximately 80 feet below the ridges, based on data from monitoring wells (Shasta County 1998a).

The measured groundwater level in an observation well drilled near the canyon bottom was actually above the ground surface, indicating that the canyon bottom is a groundwater discharge area (Shasta County 1980; Shasta County 1998a). One monitoring well in the bottom of the canyon downgradient from the developed portions of Phase 2, is artesian in the winter and spring, indicating a groundwater discharge area. In the summer, groundwater at this well may drop to approximately 3 feet below the ground surface (Shasta County 1998a). According to the original 1980 EIR, "the artesian pressure in this observation well also indicates that the hydraulic gradient is upward: groundwater at depth is moving upward toward the canyon bottom."

5.3.1.1.1 Groundwater Protection Measures

As noted in the 1999 EIR Addendum, landfill liners were initially constructed using compacted native clay, according to the standards at the time; however, liners used for waste management units in the Phase II area incorporate additional features and are substantially more effective. Phase IA, the closed portion of the landfill, was constructed in 1982, and the liner consists of three feet of clayey soil, and the Leachate Collection and Removal System is comprised of a perforated PVC pipe underdrain surrounded by gravel and cobbles. Phase II-A, the first unit to be constructed following closure of Phase I, is lined with a one-foot clay layer and a 6-mil PVC moisture barrier overlain by six inches of drainrock with perforated PVC piping. Units 1B, 1C, and 2 are constructed with 12 inches of compacted clay with a bentonite additive, a geosynthetic clay liner, and 40-mil PVC flexible membrane overlain by a one-foot gravel drainage layer. Unit 1D, the currently active unit of the Phase II portion of the landfill, is lined (from bottom to top) with a one-foot, compacted clay layer with a bentonite additive, a geosynthetic liner, a textured 60-mil HDPE flexible membrane liner, and a one-foot gravel drainage layer (RWQCB 2003a). The liner for the next unit, Unit 3, is currently in design.

The County will continue to use improved liners for remaining units of the landfill; all future liners will comply with the applicable federal and state standards, as enforced by the RWQCB. The current construction specifications for bottom and slope liners for waste units at the West Central Landfill are provided in that agency's Waste Discharge Requirements Order No. R5-2002-0037; these specifications require that the liners be constructed in accordance with either of two designs, as follows:

> "a. The prescriptive standard design which consists of a lower compacted soil layer that is a minimum of two feet thick with a hydraulic conductivity of 1×10^{-7} cm/sec or less and has a minimum relative compaction of 90%. Immediately above the compacted soil layer, and in direct and uniform contact with the soil layer, shall be a synthetic flexible

membrane component that shall be at least 40-mil thick (or at least 60 mils thick if composed of high density polyethylene [HDPE]), which is immediately overlain with a leachate collection and removal system. A soil operations layer shall be placed above the leachate collection and removal system; or

"b. An engineered alternative composite liner system that is comprised, in ascending order, of the following:

(1) A twelve-inch thick compacted soil layer with a hydraulic conductivity of 1×10^{-7} cm/sec or less and has a minimum relative compaction of 90%.

(2) A geosynthetic clay liner (GCL) that shall exhibit appropriate strength characteristics (hydrated) to accommodate stresses associated with specific landfill design parameters, with particular attention to interface, long-term creep shear, and bearing capacity.

(3) A 60-mil thick synthetic flexible membrane of HDPE (RWQCB 2002)."

As of January 1, 2002, all landfills in the RWQCB Central Valley Region are required to demonstrate compliance with Title 27 performance standards for waste management unit liners. At issue throughout the state is whether the state and federal minimum prescriptive standard (single composite liner) for Class II and III landfills is capable of meeting Title 27 performance standards under most hydrogeologic settings in California. The Regional Board may require a more stringent design (e.g., a double composite liner) where the Board determines that the minimum design is not sufficient to meet the performance standard (RWQCB 2000). **The RWQCB has reviewed and approved a Liner Performance Demonstration for the proposed Unit 3 liner design at the West Central Landfill, and the RWQCB Staff have determined that Shasta County has adequately demonstrated that the proposed liner will meet the performance requirements in Title 27. The report titled "Liner Evaluation of Unit 3, Richard W. Curry-West Central Landfill, Shasta County, California", prepared by CH2MHILL is available for review at the Shasta County Department of Public Works.**

5.3.1.2 Surface Water

The landfill canyon has a drainage area of approximately 360 acres. An intermittent, natural water flow down the canyon existed prior to development; this flow was diverted by the County in 1990 through construction of a drainage diversion near the head of the drainage channel to carry surface flow around the landfill disposal area into another tributary canyon on County property to the north (CH2M HILL 1990b). The diversion channel was constructed at the time on adjacent property owned by the Bureau of Land Management (BLM); the County has since acquired a portion of this property and is in negotiation for the remainder. No ponds or flowing water were observed in 1979 prior to site development; one small seep approximately 50 feet above the canyon bottom was noted (Shasta County, 1980).

The general direction of overland flow (and groundwater movement) follows surface topography downward from the ridges toward the canyon bottom (Shasta County 1980; Shasta County 1998a). Surface runoff collected in the canyon bottom below the landfill flows eastward into Dry Creek, a tributary to Cottonwood Creek, which in turn flows into the upper Sacramento River. During wet weather, this stream presents considerable flows, increasing in volume from west to east.

Dry Creek flows most or all of the year. The flow during the rainy season is primarily runoff; during the dry season, the flow is maintained almost entirely by groundwater discharge. Groundwater levels are continually at or near the surface in Dry Creek; prior to development of the landfill and the installation of subsurface liners, groundwater from the landfill canyon naturally discharged to Dry Creek (Shasta County 1980).

According to the RWQCB, groundwater under the landfill site is classified as Magnesium-Calcium Bicarbonate-type waters. Iron concentrations are elevated above the EPA secondary drinking water standards. In the early installation of observation wells at the site, prior to any deposition of waste material, effervescence was noted in the water. The gas was odorless and ignitable, indicating the presence of natural gas (RWQCB 2002).

5.3.1.3 VOC Release From Landfill

While the implementation of landfill liners are meant to restrict and retard the infiltration of contaminants into the ground and surface waters at the landfill, they do not provide a 100-percent barrier, and seepage of contaminants occurs from time to time. To detect contaminants that may enter the groundwater, the County has installed a series of monitoring wells around the landfill. These are monitored at regular intervals with results submitted to the RWQCB for review and to ensure that the landfill is in compliance with its waste discharge requirements.

Water from the landfill (landfill leachate) is collected under the waste management units and piped to a lined and covered leachate collection pond where it evaporates. Additionally, an underdrain system collects groundwater under the landfill liner and moves water away from the landfill; this water under normal conditions does not contain any landfill leachate. Groundwater beneath the landfill lies at depths of approximately 5 to 80 feet, and the underdrain constructed beneath the landfill liner helps to maintain separation between groundwater and the waste management unit. Groundwater is observed in the underdrain in the winter and spring; it is dry most of the year (RWQCB 2003a). The County undertakes regular monitoring of the leachate pond and the underdrain system, with results submitted to the RWQCB.

On December 23, 2002 the County sampled the underdrain system as part of its regular monitoring program; water samples were taken and shipped to the lab for analysis. On January 9, 2003 laboratory results were sent to the County indicating that the underdrain system had detected positive for the presence of volatile organic compounds (VOC). It

was visually estimated that the underdrain was discharging approximately 0.5 gallons per minute to the ground surface. The flow was reduced substantially in February, due to dry whether. Follow-up inspections by the RWQCB were conducted at the site on January 10, 13 and 24 and verified the release.

On January 21, 2003 the RWQCB issued a Notice of Violation to the County for the release of VOC at West Central Landfill. In response, the County collected the underdrain discharge and piped it to the leachate collection system, thereby eliminating the discharge to surface waters. There is no evidence that the VOC release has entered groundwater on or offsite. The nearest downgradient well is located less than 100 feet from the underdrain outlet; this well, and all other downgradient wells, have tested negative for VOC.

While the exact source of contamination is not known, it is believed to be coming from Phase II waste units that have been completed. Continued investigation is on-going as to the location and remedy of the VOC release to the underdrain system. **The RWQCB has evaluated and approved the County's Unit 3 liner design (as noted above in 5.3.1.1.1).** Additionally, the RWQCB is working with the County to develop a Corrective Action Plan (CAP) for the release. This information discloses all information known at this time. **The CAP currently being developed is anticipated to be completed in the fall of 2003, and will include the results of investigations concerning the cause of the recent VOC release and actions to remedy the problem. If information in the CAP reveals new information, such as an increase in the severity of this impact from what is now known, additional environmental review may be required.**

Prior to the completion of the FEIR, Shasta County submitted a revised Water Quality Protection Standards Report and an Evaluation Monitoring Program (EMP), which have been approved by the RWQCB. This information, along with continued investigations by the County will be used to complete the CAP that will address the VOC detection. Review and approval of the CAP will occur subsequent to the FEIR.

5.3.2 Potential Issues and Thresholds of Significance

During the County's scoping process, California Department of Fish and Game commented on the possible need for a (Section 1601) streambed alteration agreement with respect to changes in surface water features. The authority behind this issue is related to the protection of biological resources (including wetland habitats); the issue is addressed in the Biological Resources chapter (Section 6.0). No other issues were specifically identified regarding surface water, groundwater, drainage, or water quality.

The following thresholds of environmental significance can be identified with respect to groundwater, drainage, and water quality conditions; these thresholds include pertinent issues identified in the CEQA Guidelines, as adapted for this assessment. The project would have a significant effect on the environment if it would:

- Violate any water quality standards or waste discharge requirements.

- Degrade water quality.
- 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.
- Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, in a manner that would cause substantial erosion onsite or off-site.
- Create or contribute runoff water that would cause substantial additional sources of polluted runoff.

5.3.3 Environmental Effects

The initial CEQA review for West Central Landfill (Shasta County 1980) identified a potential for degradation of groundwater quality if leachate were to reach surface or groundwater, a potential adverse effect of any landfill. "The potential for leachate to reach the water table and the composition of the leachate varies with the site topography and depth to groundwater. In all cases this potential may be managed and controlled by proper design and operation of the landfill" (Shasta County 1980).

The 1980 EIR also stated that inherent soil and groundwater conditions at the West Central Landfill site were favorable for leachate management and control. According to this document: "The natural processes of containment dilution and attenuation, combined with a landfill design that enhances the natural hydrologic isolation of the site, will result in no degradation of offsite groundwater resources."

Despite recent releases of VOC to the ground surface at West Central Landfill, the County is confident that the use of new technology and continued monitoring and maintenance will limit impacts to surface and groundwater in the area.

5.3.3.1 No Project Alternative

Under the No Project Alternative, there would be a reduced potential for water quality impacts than under the Proposed Project Alternative. Closure of the landfill under the No Project Alternative would result in a considerably smaller volume of disposed waste and therefore an associated reduction in quantities of leachate and contact water.

Also under the No Project Alternative, there would be a reduced potential for soil erosion because less area would be disturbed. The probability of groundwater contamination would presumably be lower because less waste disposal area would be available for water percolation and contact.

5.3.3.2 Continuing Operations

Environmental Effect Phys-1: *Potential effects on groundwater from leachate, contact water, and landfill gas.*

As described in Section 3.7 and 5.3, groundwater quality is monitored by a system of onsite wells. Results of this monitoring have for the most part not indicated releases from the landfill in violation of water quality standards. Groundwater monitoring results in January 1999, however, detected VOCs at low concentrations in three wells, and the RWQCB issued a Notice of Violation (Bowman, personal communication). The concentrations ranged between the detection limit of 1 microgram per liter to 3 microgram per liter. These detections occurred in the winter during or immediately following periods of significant storm events – i.e., when soils were saturated, and barometric pressures were low, possibly causing gas pressures within the landfill to be greater than those outside the disposal area. Thus, the source of the VOCs was attributed to landfill gas (RWQCB 2002). These effects are considered less-than-significant.

Due to high groundwater, underdrain systems are necessary to prevent buildup of hydraulic head under the disposal areas. The underdrains consist of perforated PVC pipe in the bottom of drainage channels. Compacted fill and clay liners are placed over the pipes in quantities sufficient to assure a minimum five-foot separation between groundwater and the base of the waste management units (RWQCB 2002). Recent releases of VOC into the underdrain system, could be a significant effect to surface and groundwater if corrective action is not taken. As identified in 5.3.1.3, the County has taken steps to collect and control the VOC releases, and is continuing to work with the RWQCB on developing corrective actions that will address the current water quality violations, as well as address continued use of the site as a landfill.

With the implementation of the existing and continued water quality protection measures at the landfill, as well as a continued commitment by the County to design future units that meet or exceed state water quality protection requirements, the County believes that no significant impacts are identified to water quality as a result of continued operation of West Central Landfill. Mitigation measures are described below.

As discussed in Section 5.2, some of the onsite soils are generally known to have a moderate to high potential for erosion. In landfill design and operations, the need to control erosion and sedimentation is a daily practice. Mitigation measures are described below.

5.3.4 Mitigation and Monitoring

Mitigation Measure Phys-1/MM-1: *Construction of future unit liners according to specifications approved by the Regional Water Quality Control Board. Continued use of underdrain*

and leachate collection system; continued use and further development of runoff diversion trenches and pipe; continued monitoring for landfill gas.

The 1980 EIR specifically identified several mitigation measures for potential water contamination:

- An underdrain system to collect leachate for treatment and disposal.
- Runoff diversion trenches around the landfill perimeter and a sloping landfill surface to minimize the quantity of leachate formed by direct infiltration of precipitation.
- A liner of compacted, native clay soil placed over the alluvium in the canyon bottom to limit downward movement of leachate and remove many leachate constituents through filtration and adsorption.
- Installation of groundwater monitoring wells downgradient of the landfill to detect changes in groundwater quality due to contamination transported from the landfill.

These measures have all been implemented, as described in the 1992 and 1999 EIR Addenda (Shasta County 1992a and Shasta County 1999). An underdrain system was constructed beneath the landfill area; surface water runoff ditches were constructed around the landfill to prevent "run-on" to solid waste areas; liners have been constructed beneath the landfill areas in accordance with applicable requirements; and a groundwater monitor program has been instituted. Recent releases of VOC to the underdrain system have been collected and piped to the leachate collection pond, which was designed for the containment and treatment of VOC. Evaluations, liner designs and collection systems are being developed by the County to meet current regulations and address recent releases. The CAP will include the results of investigations concerning the cause of the current VOC release, and actions to remedy the problem. If information in the CAP reveals new information, such as an increase in the severity of this impact from what is now known, the DEIR will be recirculated for additional review.

As a mitigation measure for the adverse impacts of erosion, the 1980 EIR prescribed construction of "a siltation basin." Actually, several such sedimentation ponds have been constructed; these engineered ponds receive and detain surface runoff, allowing heavier particles to settle out prior to discharge.

The 1992 EIR Addendum noted that two sedimentation basins had been constructed onsite; these allow settling of stormwater prior to release into an unnamed tributary channel leading to Dry Creek (Shasta County 1992a). In the second EIR addendum in 1999 it was noted that two more sedimentation ponds had been constructed. One is downstream of the first two ponds in the unnamed tributary to Dry Creek; the second basin is located on a separate tributary to Dry Creek in an adjacent canyon north of the now closed Phase I area (Shasta County 1999). (Sedimentation is further addressed with respect to biological effects and mitigation measures; see Chapter 6.0.)

Construction of future unit liners at West Central Landfill will be according to specifications approved by the Regional Water Quality Control Board. The County will continue to use and maintain the underdrain and leachate collection system; similarly, the County will continue use and further develop as necessary, runoff diversion trenches and pipe. Monitoring for landfill gas will also continue, as required.

5.4 Air Quality

5.4.1 Environmental Setting

The formation and dispersion of air pollutants is closely related to weather conditions and topography. The air quality setting for the West Central Landfill and Shasta County is the air basin of the Sacramento Valley – in particular, the northern end of the air basin. To the north and west, this basin is bounded by the Coastal Mountains Range and to the east by the southern portion of the Cascade Mountain Range and northern portion of the Sierra Nevada Mountains. These mountain ranges, which reach heights in excess of 6000 feet, create a barrier to wind movement, impeding the transport of locally created pollution as well as pollution transported northward from the Sacramento metropolitan area (Shasta County 1998b; NSVAB 2000).

The two pollutants of greatest concern in the air basin are ozone and particulate matter. These pollutants were also noted as the most significant in early project documents (Shasta County 1980). Although much of the land surface within the air basin is above 1000 feet in elevation, the valley generally below this elevation is subject to temperature inversion layers, which can create a "lid" under which pollutants are trapped. This effect, coupled with geographic barriers and high summer temperatures, create a high potential for air pollution problems. Weather conditions cause air pollution concentrations to vary widely on a daily and seasonal basis; summer is generally the peak ozone season (Shasta County 1998b; NSVAB 2000).

5.4.2 Regulatory Setting

Air quality management in California is governed by the federal Clean Air Act and the California Clean Air Act (CAAs). As required under the federal CAA, the U.S. Environmental Protection Agency (EPA), established the National Ambient Air Quality Standards (NAAQS) for the protection of human health and welfare. The NAAQs set standards for six "criteria" pollutants: ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, lead, and fine particulate matter (10 microns or less in diameter). These standards consist of maximum allowed pollutant concentrations during specified time periods and total emission amounts. The standards are of two types: primary standards, which seek to protect human health, and secondary standards, which are designed to protect property, visual quality, and resources such as soil, crops, wildlife, and vegetation. Under the federal CAA, each state must prepare and submit to EPA for approval a State Implementation

Plans (SIP), which describes the methods and schedule by which the state will meet the NAAQs. Within areas found to meet the NAAQs ("attainment areas"), air quality is regulated under the federal Prevention of Significant Deterioration program.

The California CAA also sets standards for criteria pollutants; these standards are somewhat more stringent than those of the federal government. The California Air Resources Board (ARB) is the state agency responsible for oversight of statewide air quality management programs and air pollution control efforts, including the activities and programs of local air pollution control districts. As required by the CAAs, local districts prepare air quality management plans (AQMPs) aimed at achieving air quality standards. After approval by the California ARB, the district plans are combined to form the State Implementation Plan.

For Shasta County, the responsible air management district is the Shasta County Air Quality Management District. [5] The County and the West Central Landfill are located in the Sacramento Valley Air Basin, which consists of two planning units: the Northern Sacramento Valley Planning Area (NSVPA) and the Broader Sacramento Planning Area. In addition to Shasta County, the NSVPA includes Tehama, Glenn, Butte, Colusa, Sutter, and Yuba Counties. The NSVAB air districts have committed to jointly prepare and adopt a uniform air quality attainment plan for the achieving and maintaining healthful air quality throughout the basin. The plan is updated every three years (NSVAB, 2000).

Title V is a federal permit program mandated by the Clean Air Act Amendments of 1990. This federal program requires sources in Shasta County with emissions of criteria pollutants greater than 100 tons per year or sources with emissions of 10 tons per year of a single hazardous air pollutant (HAP) or 25 tons per year of a combination of HAPs to obtain a federal operating permit. This permit is issued for a period of 5 years and includes all federal requirements. This program also allows EPA and the general public to comment and bring suit against a source if it is found to be operating out of compliance with the Title V permit.

5.4.3 Potential Issues and Thresholds of Significance

The air in Shasta County does not fully meet state health standards for clean air. The northern Sacramento Valley is subject to ozone transport from the Broader Sacramento Planning Area. These factors, coupled with the region's climate, topography, and forest resources, have caused the air quality of the NSVPA and Redding metropolitan area to be classified as "moderate nonattainment" for ozone and particulate matter. The "moderate" pollution standard is based on health criteria established by the California Clean Air Act. Air quality effects from all sources become more potentially significant within this setting.

5 Shasta County Air Quality Management District's Rule Book is posted on the California Air Resources Board website available on the Internet at http://www.arb.ca.gov/drdb/sha/cur.htm.

The following thresholds of environmental significance can be identified with respect to air quality; these thresholds include pertinent issues identified in Appendix G of the CEQA Guidelines, as adapted for this assessment. The project would have a significant effect on air quality if it would:

- Conflict with or obstruct implementation of the applicable air quality plan.
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- Result in a cumulatively considerable net increase of any priority pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.
- Expose sensitive receptors to substantial pollutant concentrations.
- Create objectionable odors affecting a substantial number of people.

5.4.4 Environmental Effects

5.4.4.1 No Project Alternative

Under this scenario, the landfill would be closed; consequently, all potential anthropogenic air pollutants, including mobile emissions and particulates generated by traffic and diesel engines – would be lower than under the Proposed (Continuing Operations) Project. The landfill would no longer actively contribute to the region's cumulative air quality problems.

5.4.4.2 Continuing Operations

Environmental Effect Phys-2: *Landfill contribution to a cumulative air quality problems in the region related to particulate matter and ozone.*

The 1980 EIR (Shasta County 1980) predicted that air quality could be affected by landfill operations through vehicular emissions, dust, and landfill gas. Daily emissions from mobile sources, including waste transport trucks and equipment operating at the site, were estimated in 1980 to be 185 pounds per day, most of which was in the form of carbon dioxide. An additional potential impact of landfills in general is odor; however, odor has not historically been a problem at West Central Landfill (see further discussion under Land Use, Section 7.1).

Any substantial disturbance of non-vegetated areas – including excavation, grading, compaction, and heavy equipment operation – can result in air quality impacts. Fugitive dust is emitted during such activities and also by wind moving over exposed earth surfaces. Grading and earth moving activities comprise the major source of construction dust emissions, but traffic and general disturbances of the soil also generate emissions.

Increased "dustfall" and locally elevated levels of particulate matter (including PM10) are expected effects of construction work. Through comparison with routine grading operations, the 1980 EIR predicted a dust emission factor of 80 pounds per day per acre. Additional dust is also generated by traffic on unpaved roads. The actual dust emission volume is subject to a variety of factors, such as soil moisture content, dust preventative measures, particle size, and weather conditions.

Within the above context, the landfill contributes to a cumulative air quality problem in the region related to particulate matter. Due to existing air quality conditions within the NSVAB, especially with regard to PM10, the added increment of dust emissions resulting from the project is considered a significant effect. Mitigation measures are discussed below.

Organic waste buried in a landfill undergoes anaerobic microbial decomposition, which produces a combination of gases, collectively called landfill gas. This gas varies in composition from landfill to landfill as well as over time within the same landfill, due to waste quantity and composition, moisture, and stage of decomposition. Typically, about half the total gas produced in a landfill is methane (CH_4), the primary component of natural gas. Carbon dioxide (CO_2) makes up much of the other half, especially in earlier phases of decomposition. Landfill gas also may contain small amounts of hydrogen sulfide and other non-methane organic compounds (NMOCs). Methane is a significant contributor to global warming; landfills are the single largest anthropogenic source of methane emissions in the United States (EPA 1999; EPA 2002; Masters 1998).

The 1980 EIR predicted that most landfill gas generated at the West Central Landfill would exit the landfill through the surface and harmlessly enter the atmosphere. The EIR noted that approximately 1 to 3 pounds of gas is produced per pound of refuse over a period of 20 to 30 years, and that the volume of gas decreases with time (Shasta County 1980). Given the small quantities of landfill gas produced and the continued monitoring activities, generation of landfill gas from the West Central Landfill is considered a less-than-significant effect.

5.4.5 Mitigation and Monitoring

Mitigation Measure Phys-2/MM-2a. *Compliance with requirements of the Title V permit program, as mandated by the Clean Air Act Amendments of 1990 and enforced by the Shasta County Air Quality Management District.*

Mitigation Measure Phys-2/MM-2b. *Continued use of dust-control and emissions-control measures and similar best management practices.*

In the current regulatory context, the County will be responsible for meeting the requirements of the Title V permit program mandated by the Clean Air Act Amendments of 1990 and enforced by the Shasta County Air Quality Management District. This

program can be expected to consider ways to reduce the landfill contributions to the cumulative PM10 effect.

To keep dust emissions to a minimum, the 1980 EIR prescribed paving of the access road, watering of other, on-site unpaved roads, and revegetation of completed portions of the landfill. As part of future activities and permitting considerations, the following mitigation measures will be applied during grading and construction activities to control dust and PM10 emissions, in addition to those requirements prescribed by Title V.

- Apply nontoxic soil stabilizers according to manufacturer's specification to all inactive construction areas.
- All grading operations shall be watered, as site conditions dictate, to minimize airborne dust, and as directed by Shasta County Air Quality Management District.
- During periods of dry weather, unpaved roads shall be watered, as necessary, to control dust.
- Exposed stockpiles of soil and other backfill material shall be enclosed, covered, or watered twice daily or have soil binders added.

Construction activities will be designed to reduce PM10 and carbon monoxide emissions through the following measures:

- Vehicle and equipment idling should be limited to the fullest extent practicable.
- Construction activities and the delivery or hauling of project related materials shall be organized to maximize productivity and reduce truck and vehicle trips to the fullest extent practicable.
- Equipment used for landfill operations shall be maintained in good working order and comply with any applicable standards for pollutant emissions.

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6.0 Biological Environment

6.0 Biological Environment

The biological environment, as considered in this EIR, includes the general vegetation and habitat types at West Central Landfill, special-status species, and several other management concerns related to the biological environment, including oak woodlands, riparian habitat, and black bear issues. Appendix E provides additional, more detailed biological information on the County property as a whole, including discussions of potential future biological issues. A brief outline of general vegetation types around the immediate landfill area is shown on Figure 6-1.

6.1 Environmental Setting

In a broad sense, the West Central Landfill property is part of the Sacramento River ecosystem; the property is within a larger watershed which collects and contributes runoff into streams that feed the Sacramento River.

The landfill property currently consists of the active disposal areas, areas where previous landfill development has occurred, and areas supporting vestiges of the pre-development native vegetation, mainly on slopes, within drainages, and in other isolated "islands." In general, the main landfill activity area is surrounded by a less disturbed, more well-vegetated "buffer." The surrounding buffer is not pristine, but it does have biological value and provide habitat for wildlife.

The dominant plant association around the landfill disposal area can be generally described as a blue oak–foothill pine woodland, with an understory of manzanita and other shrubs, herbaceous plants, and grasses. Under the California Wildlife Habitat Relationships System, the habitat would be classified as the Blue Oak–Foothill Pine (CDF 1988; DFG 1999). Associated with the blue oaks and foothill pines are a variety of other species such as live oak (tree and shrub forms), whiteleaf manzanita, ceanothus, poison oak, and California redbud. Along Dry Creek and in lower drainage areas where groundwater levels are nearer the surface, there is phreatophytic vegetation such as willows and cottonwood.

Other systems can be used to characterize the biological setting. The area can be described as presenting three broad plant "series": (1) whiteleaf manzanita chaparral, (2) blue oak woodland, and (3) arroyo willow riparian (Sawyer and Keeler-Wolf 1995). Each series is based on the presence of a "dominant" species, although each series will have numerous other species associated with the dominant species for which the series is named. Appendix E includes further description of the vegetation and an illustration of general vegetation types on the County property where the landfill is located.

6.1.1 Special-Status Species

No special-status species are currently known to occur on the landfill property, based on currently available information. Previous environmental documents for West Central Landfill did not identify the presence of, or high potential for, any endangered, rare, or other special-status plants, animals, or natural communities (Shasta County 1980; Shasta County 1992a; and Shasta County 1999).

A records review by the California Natural Diversity Data Base (CNDDB) for the subject USGS topographic quadrangle identified no special-status species or communities. The closest occurrence record was for the spring-run Chinook Salmon (*Oncorhynchus tshawytscha*), approximately four miles east; this species is both federally and state-listed as threatened. For the adjacent quadrangle to the north, the CNDDB identified one animal species, the Bald Eagle (*Haliaeetus leucocephalus*). The U.S. Fish and Wildlife Service has proposed the Bald Eagle for de-listing as a threatened or endangered species; however, it currently remains a species subject to federal regulation. The Bald Eagle is listed by the State of California as endangered. Absence from the CNDDB does not necessarily preclude the occurrence of a special-status species or natural community onsite (DFG 2002).

Nearby field investigations likewise have not identified any special-status species in the immediate area (Enplan 2002; BLM 1990). On an adjacent County property adjacent to Gas Point Road, the project environmental document suggested the possible presence of Red Bluff dwarf rush (*Juncus leiospermus* var. *leiospermus*) and silky cryptantha (*Cryptantha crinita*); these species, however, were not actually found. The field investigation did locate one elderberry plant, which is the host plant for the valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), which is federally listed as threatened (Enplan 2002). On another adjacent property, a field investigation by the Bureau of Land Management found no sensitive species (BLM 1990). A biological reconnaissance study of the landfill property (Appendix E) found no sensitive species; however, further site-specific field investigations for special-status species are warranted.

6.1.2 Stream Courses and Riparian Habitat

As discussed in the previous chapter, an intermittent, natural water feature previously was more evident in the landfill canyon. The County in 1990 diverted the surface flow that would have entered this channel around the disposal area into another canyon on the north to reduce the amount of surface water potentially entering the landfill and thereby reduce adverse potential effects to water quality. The effects of this diversion have not been documented. Upon inquiry for this EIR, the Department of Fish and Game was unable to produce a record of a "1601 Streambed Alteration agreement" or other documentation for this diversion (B. Williams, personal communication).

There is riparian habitat below the current landfill disposal area; stream courses and adjacent areas in general constitute sensitive habitat. Existing operations, particularly in wet seasons, may be contributing sediment to downstream aquatic habitat (as discussed further in section 6.3 below and in Appendix E.) Further consultation with the Department of Fish and Game is warranted, as required, regarding potential impacts to riparian habitat prior to any future development of landfill units lower in the canyon, as well as appropriate restoration measures as mitigation.

6.1.3 Oak Woodland

The ecological and landscape importance of oak woodlands / hardwood habitats has become increasingly well recognized in California over past decades. According to State public resource agency sources, hardwoods, including oaks of the genus *Quercus*, and hardwood-dominated habitats are vitally important to fish, wildlife, and natural resources of the State; hardwoods support a wide variety of wildlife species by providing habitat, preventing erosion, shading waterways, and contributing nutrients and food-chain organisms to ecological systems. California's hardwood habitats provide forage and breeding habitat for 331 species of vertebrates; 32 species of birds and 39 species of mammals feed regularly on acorns. Increases in acorn production usually equate to increases in survival for deer and other species (DFG 1994; SFGC and SBF 1994).

The State Fish and Game Commission and the State Board of Forestry in 1994 adopted a joint policy statement on hardwoods, recognizing hardwood resources as an important natural and economic resource and generally encouraging long-term conservation of hardwood habitats (SFGC and SBF 1994). Similarly, the County of Shasta Board of Supervisors in 1995 adopted voluntary guidelines for management and conservation of oak woodland in Shasta County (Shasta Board 1995).

6.1.4 Wildlife Management Issues

Wildlife use of the overall landfill property is described in Appendix E, which finds that wildlife use of the property is fairly high, apparently due, at least in part, to the presence of the landfill itself. Black bears have been a (relatively minor) management issue at West Central Landfill. As in other rural, solid waste disposal areas, "problem" bears that are attracted to non-natural water or food sources may lose their wariness of people; attraction to refuse may bring bears into more frequent contact with people, resulting in a higher probability of negative human-bear encounters. At West Central, however, no such incidents have been reported, although foraging bears may occasionally disrupt the daily cover on the active face (e.g., as noted in CIWMB 2002).

For bears, feeding on refuse may be a health concern; sharp objects can cause lacerations of the paws and mouth, and ingestion of indigestible materials may cause internal damage to organs, block the intestines, or introduce toxic substances and parasitic infections.

Landfill operators have taken steps to minimize wildlife problems by maintaining the active face in a small area, covering the refuse daily, "bear-proofing" refuse containers, and equipping the Class II leachate pond with an electrified perimeter fence to discourage entry by larger wildlife.

6.2 Potential Issues and Thresholds of Significance

During the County's scoping process, California Department of Fish and Game commented on the possible need for a (Section 1601) streambed alteration agreement with respect to changes in surface water features. The following thresholds of environmental significance can be identified with respect to biological conditions; these thresholds include pertinent issues identified in the CEQA Guidelines, as adapted for this assessment. The project would have a significant effect on the environment if it would:

- Effect, either directly or through habitat modifications, 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.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service.
- 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.
- 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.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

6.3 Environmental Effects

6.3.1 No Project Alternative

The No Project Alternative would mean that fewer acres of oak woodland and riparian habitat would be disturbed and converted to landfill disposal areas. In addition, less ground surface area would be subject to disturbance, which would mean less potential

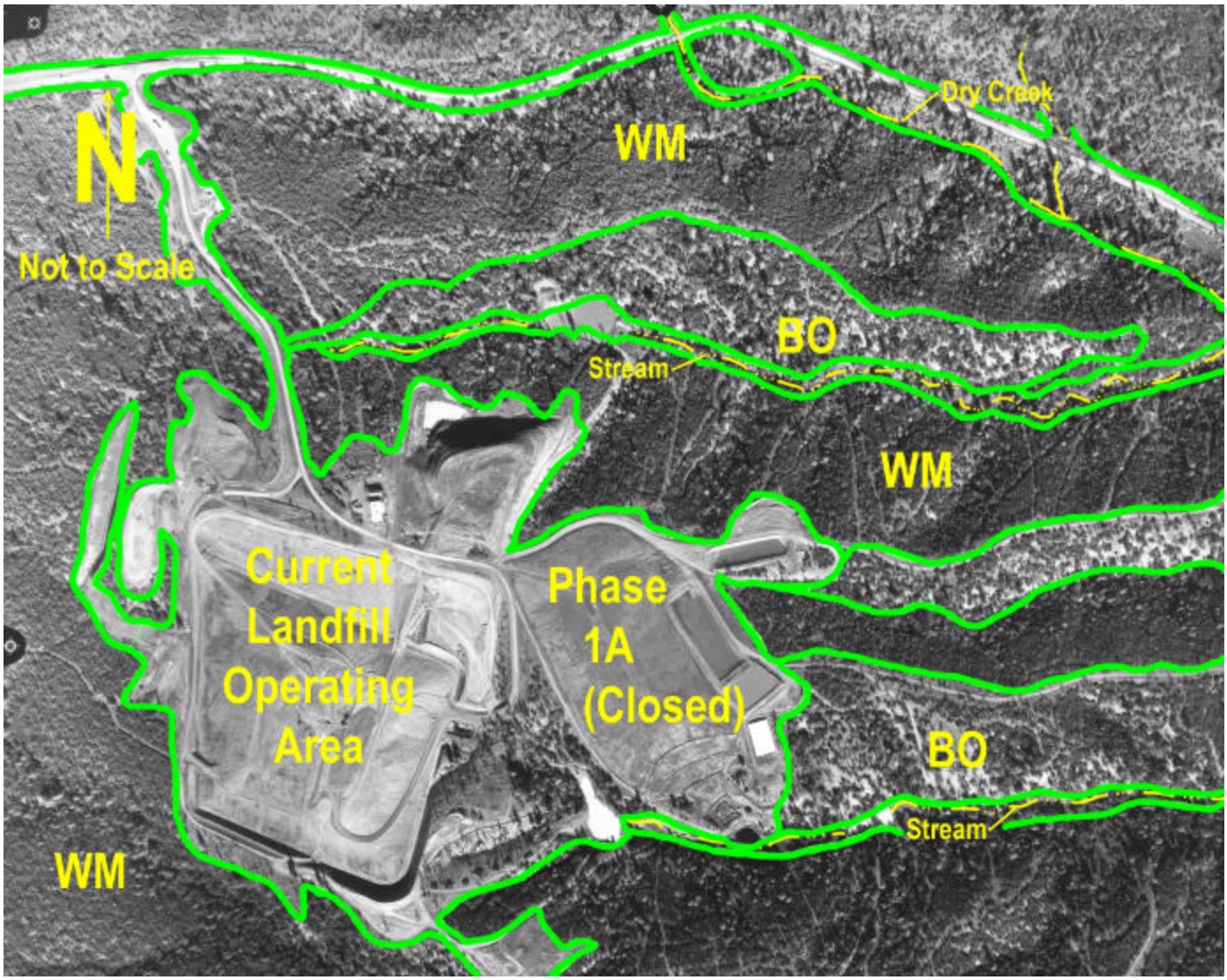

Photo Source: Hedges Aerial Surveys, Redding, CA 96002. Photo dated 14 December 1998.
Photo Mapping by Roberts, Kemp and Associates, based on Reconnaissance Field Survey, December 18, 2002.

Legend

BO	Blue Oak Woodland
WM	Whiteleaf Manzanita Chaparral
Stream	Riparian Area with Arroyo Willow

See Biological Reconnaissance for additional information and an explanation of plant associations and habitat conditions.

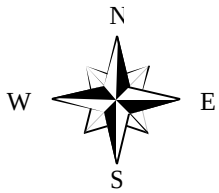

Figure 6-1
Plant Associations
West Central Landfill
502006

Consulting Engineers & Geologists, Inc.

sedimentation of stream courses. Thus the environmental effects under the No Project Alternative would be less than under the Preferred Alternative.

6.3.2 Continuing Operations

Environmental Effect Bio-1. *Low probability of adverse effects to sensitive species.*

Environmental Effect Bio-2. *Loss and conversion of oak woodland and riparian habitat.*

Environmental Effect Bio-3. *Some degree of sediment loading of downstream aquatic ecosystem, particularly during wet seasons.*

The 1980 EIR concluded that the landfill project would eliminate or disrupt all existing vegetation within the boundaries of the landfill and that the landfill would "produce a net decrease in available animal habitats." The 1980 EIR also stated that species inhabiting the area (prior to development) "will have to tolerate high levels of noise, dust, and human activity. The generation of methane gas and heat from decomposing organic material in the landfill may discourage burrowing animals from reoccupying the landfill area. Birds of prey, various seed and insect-eating species, and grazing species would in turn shift their feeding activities to adjacent areas" (Shasta County 1980). The EIR Addenda (Shasta County 1992a and Shasta County 1999) did not add substantially to this initial analysis.

As predicted, the landfill has resulted in a near-complete loss of vegetation within the developed, active disposal areas, with a corresponding decrease in wildlife habitat. While some "tolerant" species may remain, less tolerant species have likely been displaced, resulting in loss of individual animals. Overall, there has likely been a shift in animal species composition, although available data are insufficient for extended analysis. Among such likely changes, as suggested by on-site observations, landfill records, and anecdotal information, are increased use of the site by species attracted to refuse, including birds, such as gulls and ravens, as well as black bears. It is also likely that more than "disruption" of wildlife has occurred; loss of habitat typically equates to loss of the animals supported by that habitat. In addition, revegetation with a seed mix does not restore the habitat values that existed prior to landfill development. The site in general is judged to have a low potential for supporting special-status species; however, field investigations are needed for confirmation. As previously discussed, a limited biological reconnaissance of the landfill and surrounding County owned property was undertaken and no sensitive or special status species were found.

Future development of the West Central Landfill will mean that additional oak woodland and other habitat areas, including possible riparian habitat in the lower canyon area, will be affected, resulting in additional habitat conversion from current conditions to revegetated cover. In light of the existing State and County policies and the thresholds of significance identified above, conversions of oak woodland and riparian habitat are regarded as potentially significant cumulative effects.

Sediment transport from the existing operation may be having an effect on downstream aquatic habitat and possibly contributing to a cumulative effect on salmonids that occur in the Sacramento River basin. Sediment carried by runoff from disturbed soils may not be completely captured by erosion control measures currently in place and by existing sediment ponds, particularly during wet weather (see Appendix E).

Mitigation and Monitoring

Mitigation Measure Bio-1/MM-1. *Field investigations for sensitive species by qualified personnel will be conducted in the appropriate season prior to further construction of new landfill units beyond the currently approved area.*

Mitigation Measure Bio-2/MM-2a. *Implementation of a natural resources conservation program for the overall landfill property.*

Mitigation Measure Bio-2/MM-2b. *To the extent future riparian habitat and other sensitive habitats are lost to landfill areas, the County, in conjunction with the Department of Fish and Game, will restore comparable amounts of habit in other County- controlled locations.*

Mitigation Measure Bio-2/MM-2c. *Management of oak woodlands on buffer areas of the County landfill property in accordance with State and County policies.*

Mitigation Measure Bio-2/MM-2d. *Restoration and revegetation of closed landfill units using seed mixtures and plant species that more closely resemble and restore the habitat values and ecological functions that existed onsite prior to development, while complying with landfill closure requirements. Appropriate environmental restoration manuals will be used to develop revegetation and restoration specifications.*

Mitigation Measure Bio-2/MM-2e. *The County shall revise existing sediment and erosion control plans to increase the likely retention onsite of sediment arising from ongoing operations, and shall enact additional onsite Best Management Practices to assure that sediment is not released to offsite aquatic ecosystem elements.*

Mitigation prescribed in the 1980 EIR (and reiterated in the two EIR addenda) suggested that "animal disruption" would be minimized by filling only one portion of the landfill at a time and by revegetating completed areas. Revegetation of closed waste disposal units must comply with IWMB specifications to avoid deep-rooted plants, which could breach the soil cover over the waste; the "revegetation" consisted of seeding with "Shasta range seed mix" (Shasta County 1999). As noted above, these measures do little to mitigate adverse effects to animal populations and habitat.

Avoiding or minimizing the potential, adverse effects of further development of the landfill on biological resources, including oak woodlands, riparian habitat, and special-status species, deserves additional consideration. The following measures have been identified:

- Prior to further development of additional landfill areas beyond the currently permitted and approved footprint, the County will conduct surveys in the appropriate season, for listed or otherwise sensitive species, including the Red Bluff dwarf sedge and silky cryptantha, within and surrounding potentially affected areas.
- To the extent in the future riparian habitat (aquatic ecosystem elements) or other sensitive habitat is lost to landfill areas, the County, in conjunction with the California Department of Fish and Game, will restore comparable amounts of habitat functions on areas controlled by the County, such as along Dry Creek and its tributary drainages.
- Oak woodlands in buffer areas of the County property surrounding landfill disposal areas will be managed in accordance with State and County policies.
- Where possible, all project elements, including sediment-control ponds, should be sited outside of the existing stream courses. Buffers with appropriate vegetation shall be developed that separate the watercourses from active landfill areas.
- Revegetation of closed landfill units will use seed mixtures and plant species that more closely resemble and restore the habitat values and ecological functions that existed onsite prior to development, while complying with landfill closure requirements. Cover soils will be augmented as necessary to ensure that replacement soils are of sufficient quality to support native vegetation. Deeper-rooted plants such as oaks will be replanted where allowable and where they would not interfere with final cover requirements for landfill units, such as in former roadways.
- Environmental restoration manuals, including the Integrated Waste Management Board's "Guide to Vegetative Covers" (CIWMB nd.) and "A Guide to the Revegetation and Environmental Restoration of Closed Landfills" (CIWMB 1999), will be used to develop revegetation and restoration specifications.

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7.0 Human Environment

7.0 Human Environment

The human environment, as the term is used in this EIR, includes the current pattern of existing land uses related to the West Central Landfill; applicable land use planning programs and policies, including the County General Plan; public health and safety matters; traffic and circulation; utilities and services; noise; and cultural resources.

7.1 Land Use

7.1.1 Environmental Setting

West Central Landfill is located in a sparsely populated, rural region of Shasta County off Clear Creek Road, approximately 10 miles west of State Route 273. Along Clear Creek Road, mostly within the City of Redding city limits, are a number of commercial and industrial land uses, including: several sand and gravel operations; an aggregate, asphalt, and concrete yard; a precast manufacturer; trucking companies, wrecking yards, and truck repair services; a plumbing company; and a landscape supply company. There are also single-family residences in this area.

The Bureau of Land Management, Redding Resource Area, Ukiah District, administers public land to the west of the landfill and along Clear Creek Road to the east, including the Horsetown / Clear Creek Nature Preserve.

The small community of Igo is located along Placer Road approximately 2 miles north of the landfill; the small community of Ono is located along Platina Road (the westerly extension of Clear Creek Road), approximately 4 miles west of the landfill. The nearest school is the Igo-Ono-Platina Union Elementary School District's Igo-Ono School, approximately 2 miles from the landfill access road entrance. Both Igo and Ono support volunteer fire and rescue stations. There is some cattle grazing near these communities.

Along Clear Creek Road west of the access to the landfill and off Gas Point Road and Small Farms Drive south and southeast of the landfill are rural residential parcels, generally varying in size from approximately 5 to 20 acres. The nearest residences to the landfill are on several properties to the south and southeast, within approximately 3,000 feet of the developed disposal area, with an intervening canyon. Several residences to the northwest are located within approximately 4,000 feet to one mile from the landfill disposal area. The distance to the nearest residences to the east is **over 1-mile**. Based on County zoning information, there are approximately 30 residential addresses within one mile of the landfill disposal area. **Figure 7-1 shows a current aerial photograph of the landfill and surrounding properties; many of the adjacent developed properties are shown with most the nearest developed site at 2890 feet from the center of the landfill operations.**

7.1.1.1 County General Plan and Zoning

The Shasta County General Plan was adopted in 1984 and last updated in 1998. It divides the County into ten planning areas, and categorizes communities in terms of Urban Centers, Town Centers, and Rural Community Centers. Among the plan's major concepts is the accommodation of growth while preserving a high quality of life, particularly the amenities of rural living. As the plan notes, the historic pattern of growth has resulted in an unequal distribution of the County population, with approximately 84 percent of the population residing in the South Central Region Planning Area, which includes the urban centers of Redding, Anderson, and Shasta Lake.

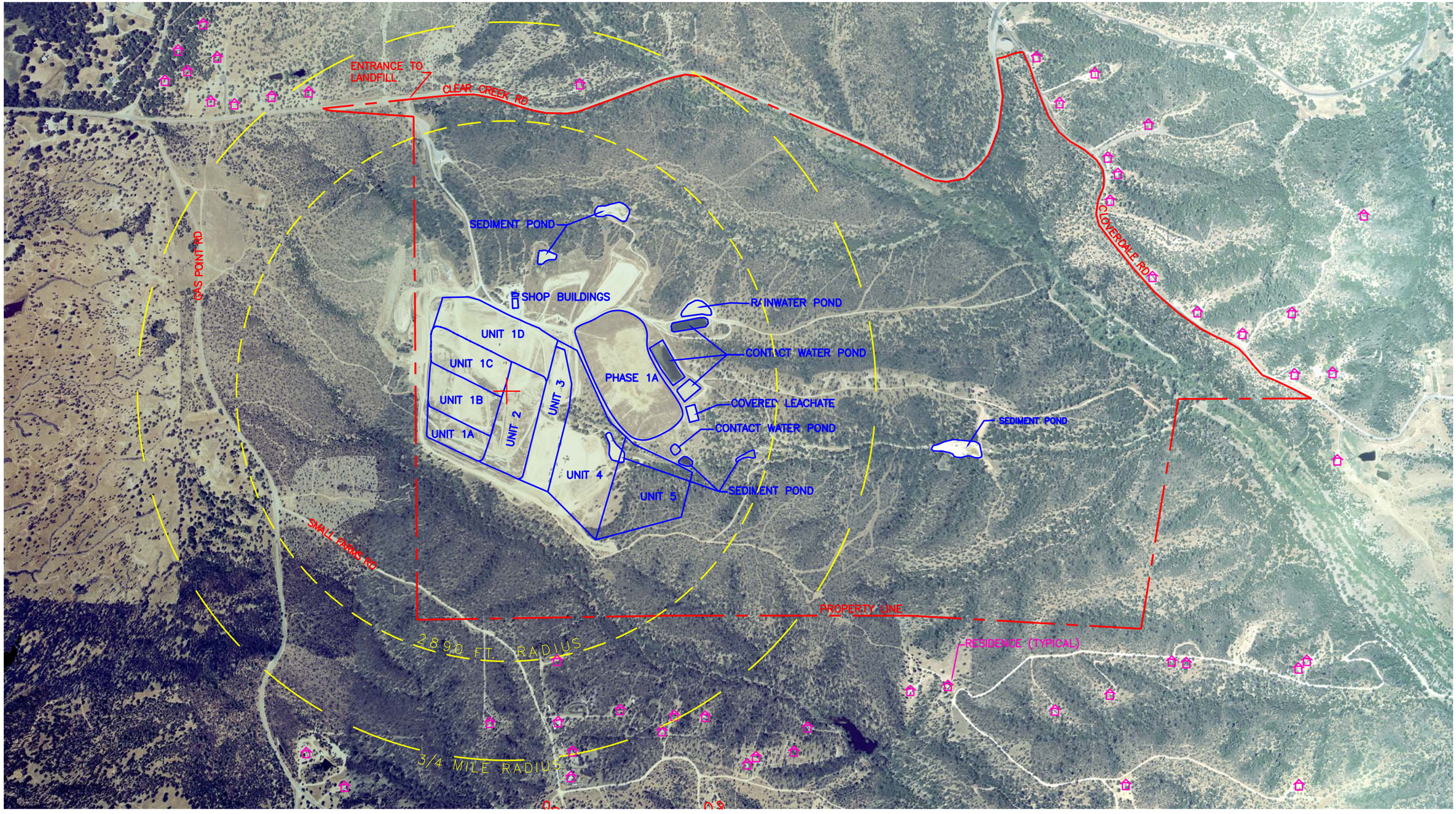
Shasta County Resource Management has determined that the West Central Landfill is consistent with the objectives, policies, uses, and programs of the County General Plan (Shasta County 1995b). The West Central Landfill is part of the Western Upland Planning Area, in the vicinity of the Igo Rural Community Center. The landfill property is designated "PF – Public Facility." Surrounding land uses are designated "RA – Rural Residential A" and "RB – Rural Residential B." The West Central Landfill is identified in the General Plan as the largest of three operating landfills in the County; references are also made to the County's Integrated Waste Management Plan.

The County General Plan includes the following Objectives and Policies related to public solid waste facilities:

- Objective PF-6: "Develop the Shasta County solid waste program in accordance with the adopted management plans."
- Policy PF-d: "Shasta County shall take actions required to implement plans for the management of its solid waste stream."
- Policy PF-i: "Public uses (e.g., schools, parks, waste disposal sites) and public utilities (e.g., substation[s], transmission lines) whose site specific locations often cannot be identified in advance by the General Plan may be permitted throughout the County to serve the public need. Appropriate zoning on site-specific locations will be determined in response to the identified need as it occurs. Solid waste disposal facilities shall be conditionally permitted to ensure that the site is compatible with adjacent land uses. Surrounding land uses, to the extent feasible, shall be regulated to avoid incompatibility with the solid waste disposal facilities."

The West Central Landfill property is zoned U–Unclassified (zoning provisions, however, do not apply to County-owned property). [6] Surrounding properties are classified as various types of residential zones. Zoning classifications around the West Central Landfill property are shown in Figure 7-2, with corresponding zoning definitions outlined in Table 7-1.

[6] (Section 17.02.015 of the Shasta County Code ("Zoning"), states that zoning provisions "do not apply to federal reservations or to land owned, leased, or otherwise controlled by the County.")



SHN Consulting Engineers & Geologists, Inc.	WEST CENTRAL LANDFILL 14095 CLEAR CREEK ROAD SHASTA COUNTY, CALIFORNIA	AERIAL PHOTOGRAPH OF LANDFILL AND DISTANCE TO NEAREST HOMES SHN 502006
	DATE: SEPT 2003	P:\502006\West Central Landfill\dwg\Aerial.dwg — FIGURE 7—1

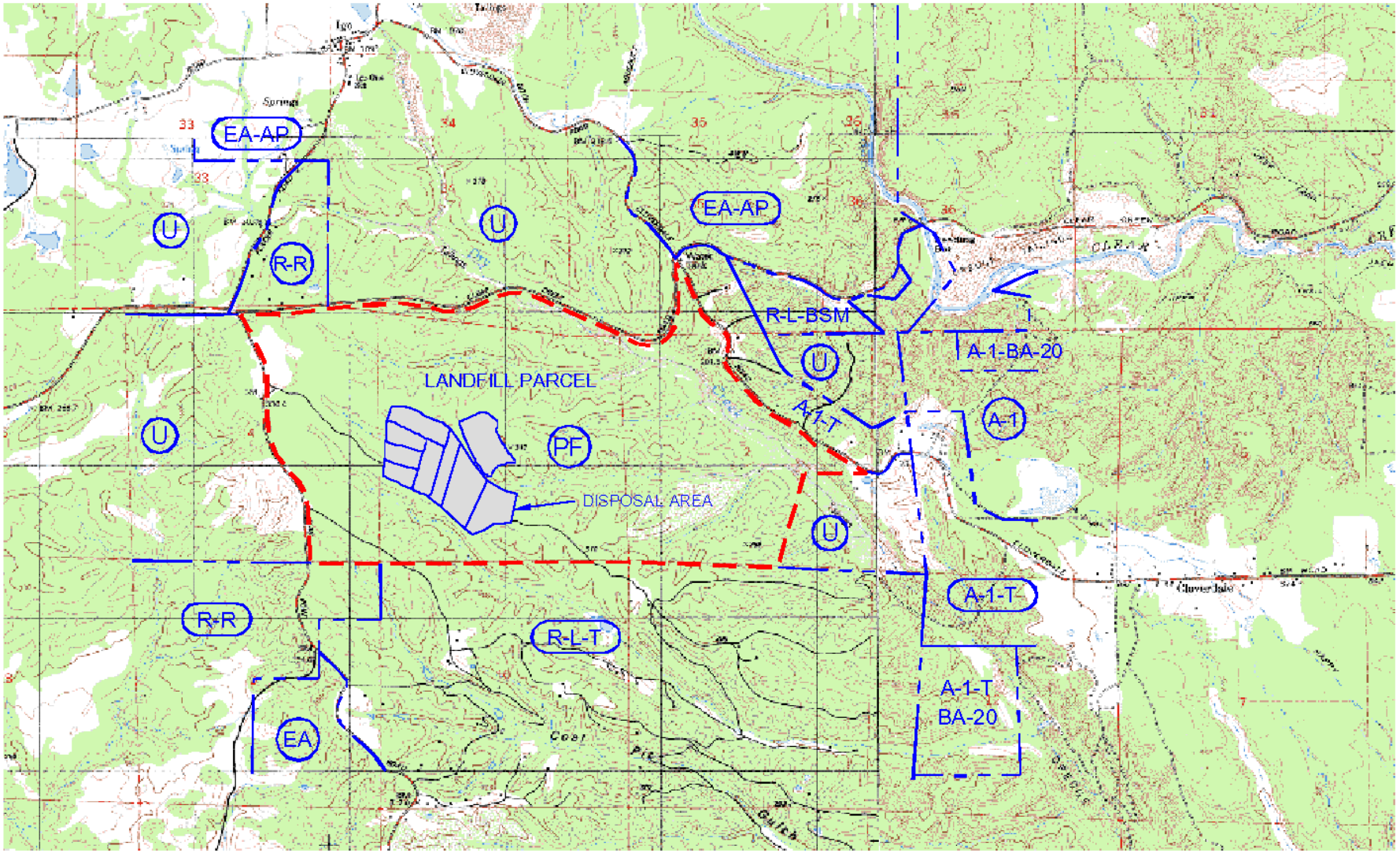


Figure 7-2

ZONING CLASSIFICATIONS
WEST CENTRAL LANDFILL
& SURROUNDING AREA
SHASTA COUNTY, CALIFORNIA

SOURCE:USGS QUAD

SCALE:1"=3000'

SHN 502006 DECEMBER 2002

SHN CONSULTING ENGINEERS & GEOLOGISTS

Table 7-1
Zoning in Vicinity of West Central Landfill*

Zoning Abbreviation	Zoning Definition
A-1	Limited Agriculture
A-1-BA-20	Limited Agriculture-20 Acre Minimum Lot
A-1-T	Limited Agriculture-Mobile Home
A-1-T-BA-20	Limited Agriculture-Mobile Home-20 Acre Minimum
EA	Exclusive Agriculture
EA-EP	Exclusive Agriculture-Agriculture Preserve
PF	Public Facilities
R-R	Rural Residential
R-L-T	Limited Residential-Mobile Home
R-L-BSM	Limited Residential-Building Site Limited to Site Shown on Recorded Map
U	Unclassified

*Taken from Shasta County Code, Title 17 Zoning.

7.1.2 Potential Issues and Thresholds of Significance

Results of the County's scoping process identified no potentially significant issues specifically regarding land use planning (traffic issues are addressed below in Section 7.3, visual quality in Section 7.5, and noise effects in Section 7.6). The following thresholds of environmental significance can be identified with respect to land use; these thresholds include pertinent issues identified in Appendix G of the CEQA Guidelines, as adapted for this assessment (including, in this instance, previous criteria of the CEQA Guidelines no longer in effect but, nevertheless, still useful in evaluating land use impacts). The project would have a significant effect on the environment if it would:

- Cause the disruption or division of the physical arrangement of an established community.
- Convert prime agricultural land to non-agricultural use.
- Conflict with an adopted land use plan, policy, or regulation of an agency with jurisdiction over the project.
- Conflict with an applicable habitat conservation plan or natural community conservation plan.
- Be incompatible with nearby existing land uses in the vicinity.

7.1.3 Environmental Effects

7.1.3.1 No-Project Alternative

The closure and post-monitoring scenario of the No-Project Alternative would have no significant land use planning effects. In terms of compatibility with adjacent land uses,

closure of the landfill would mean a reduction in truck traffic and noise, which could be perceived as a beneficial effect by residents and visitors in the surrounding area.

7.1.3.2 Continuing Operations

The 1980 pre-development EIR (Shasta County 1980) identified limited land use issues, primarily related to long-term (post-closure) uses, truck traffic impacts, and general compatibility with adjacent land uses. It was noted that development of the site for a landfill would preclude using the site for other purposes. Subsequent environmental documents did not add substantially to that analysis.

Continuing operations of the West Central Landfill is consistent with, and further implements, County land use planning. The County General Plan specifically addresses and accommodates the landfill in its current location. The landfill is also compatible with, and further implements, the County's Solid Waste Management Plan. Continued operation and development would not cause a disruption or division in the physical arrangement of an established community, nor convert prime agricultural land to non-agricultural use. No applicable habitat conservation plan or natural community conservation plan has been identified that applies to the site.

Continued development of the landfill may have some implications for surrounding land uses, especially if there is further residential growth and development in the immediate vicinity. In this regard, the planned Northern California Veterans Cemetery is also a consideration. This project, sponsored by the U. S. Department of Veterans Affairs, the California Department of Veterans Affairs, and County of Shasta, would develop roads, landscaped areas, and interment space to accommodate about 34,262 burials, with access from Gas Point Road west of West Central Landfill (ENPLAN 2002). This future development project is also discussed further under Visual Quality (Section 7.5) and Noise (Section 7.6).

To some extent, the 200-acre developed landfill area is removed from surrounding uses by the "buffer" provided by the larger 1,028-acre County property. As development of landfill units moves down the canyon, the distance between the active area and rural residential properties will be reduced. While there have been no formal complaints recently regarding landfill noise, visual effects, dust, or odor (L. Gibson, personal communication), such complaints may be possible in the future. The environmental assessment for the future Northern California Veterans Cemetery considered the potential for cemetery visitors and staff to be exposed to objectionable odors and found that the effects were insignificant. "Casual observations show that the landfill does not have an odor-generation problem;" the assessment also concluded that prevailing wind directions were not likely to convey landfill odors to the cemetery (ENPLAN 2002).

The County has not identified final uses of the West Central Landfill property following closure of the landfill, other than as generally described in the "Preliminary Closure and

Postclosure Maintenance Plan (CH2M HILL 1990b). This plan suggests that future development of the property for recreational or residential use is unlikely, and that livestock grazing could be allowed except where such use could interfere with environmental controls and the landfill cap. Boundary access control fences could be installed, if necessary, to control access to the property, and signs would be posted to discourage unauthorized access and warn of potential hazards (CH2M HILL 1990b). Environmental monitoring would continue as part of post-closure maintenance activities. The planning designation for the area would remain Public Facility and the zoning Unclassified. The County has not identified any other specific uses of the site, and thus further consideration of potential, related effects of land uses other than maintenance is beyond the scope of this EIR.

Overall, therefore, as there is no substantive evidence identifying significant land use planning or compatibility issues, land use effects of continued operation and development of the West Central Landfill are judged to be less-than-significant. (See related discussions under Visual Quality and Noise, below.)

7.1.4 Mitigation and Monitoring

As noted in the 1980 EIR, proper operation of the landfill, including appropriate hours of operation, dust and litter control, application of daily cover over the refuse, and provision of engineered final cover, can help reduce some adverse land use effects on adjacent land uses (Shasta County 1980). In previous environmental documents, "a buffer zone to preclude residential development was recommended for future zoning around the landfill site" (Shasta County 1999).

Because potential effects related to land use as assessed in this EIR are judged to be less-than-significant, no further mitigation measures are identified.

7.2 Public Health and Safety

The protection of public health and safety is the County's essential underlying objective in developing and operating the West Central Landfill, in accordance with state and federal laws and regulations, as discussed in Section 3.1. Specific procedures for response to fires, accidents, explosions, spills, and other emergencies at the West Central Landfill are provided in the site's Operation Manual (CH2M HILL 1990a). This section considers potential concerns related to hazardous materials, fire safety, and vector control.

7.2.1 Environmental Setting

7.2.1.1 Hazardous Materials

West Central Landfill is designated as a Class III disposal site (see Section 3.8) and is permitted to accept only non-hazardous solid waste; hazardous materials are prohibited. The landfill has a load screening program to help reduce the possibility of hazardous materials entering the site, as well as operating procedures to follow if questionable or suspicious waste loads are encountered.

7.2.1.2 Fire Safety

The West Central Landfill is located in an area of high fire hazard for wildland fires, according to the County General Plan (Shasta County 1998b). The nearest fire response unit outside the landfill is the Igo-Ono Volunteer Fire Company.

Fire prevention and suppression in Shasta County is the shared responsibility of various agencies at local, state, and federal levels of government who provide mutual aid fire response across jurisdictional boundaries. The response to a given situation generally depends upon the location of available fire suppression forces, types of equipment needed, availability, and existing weather conditions that may affect the expansion of the fire. At West Central Landfill, the first response to a fire, as with any emergency, is the responsibility of the site operators, who are trained to begin fire suppression activities using on-site heavy equipment, fire extinguishers, and other means to the extent they can do so without endangering personnel or equipment.

7.2.1.3 Vectors

Landfills generally attract rodents, birds, and insects that may be associated with public health concerns. The County and the City of Redding use an integrated vector control program, which includes the use of a minimal working face at the active disposal area, solid waste compaction, and other measures as described below.

7.2.2 Potential Issues and Thresholds of Significance

Results of the County's scoping process identified no potentially significant issues specifically regarding public health and safety. The following thresholds of environmental significance can be identified with respect to this topical area; these thresholds include pertinent issues identified in the CEQA Guidelines, as adapted for this assessment. The project would have a significant effect on the environment if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

- 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.
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- 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.

7.2.3 Environmental Effects

7.2.3.1 No-Project Alternative

Under the No-Project Alternative, the potential effects on public health and safety would be somewhat less than under the Proposed Project. If the landfill were closed, there would be no (as opposed to low) probability of hazardous waste entering the disposal areas. The possibility of fire would be very low. Active, ongoing vector control measures would probably not be needed for properly closed units.

7.2.3.2 Continuing Operations

No significant effects have been identified in the area of public health and safety. The continued operation and development of the West Central Landfill as permitted and approved will not pose a significant hazard to the public or to the environment through the routine transport, use, or disposal of hazardous materials, nor because of accidents causing the release of hazardous materials into the environment. The waste screening program is not infallible; however, there is no evidence to suggest that significant quantities of hazardous materials are entering the landfill. There is no evidence to indicate that the landfill is now emitting, or would in the future emit, hazardous emissions or acutely hazardous materials that would have any impact on residences, schools, or other land uses.

A landfill does raise the potential for fire hazards, and there are adjacent wildlands; however, incident records at West Central Landfill do not indicate any problem with fires (L. Gibson, personal communication). Overall, the potential impacts of continued operation and development of the West Central Landfill on public health and safety are judged to be less-than-significant.

The County and the City of Redding will continue to use an integrated vector control program, which will continue to include: the use of a minimal working face at the active disposal area; solid waste compaction; application of daily soil or equivalent and approved cover; and revegetation of completed or inactive areas. Shasta County Environmental Health Division will continue its current schedule of periodic inspections.

7.2.4 Mitigation and Monitoring

As no significant impacts are identified related to public health and safety, no mitigation measures are warranted.

7.3 Traffic and Circulation

Assessment of potential impacts to traffic and circulation in this EIR is based on previous environmental documents for the West Central Landfill, additional project-related information, studies conducted in conjunction with other environmental documents, and readily available, existing information from County, City, and Caltrans sources. The assessment did not include project-specific traffic counts, modeling, or field studies.

7.3.1 Environmental Setting

As described in Section 7.1.1, West Central Landfill is located off Clear Creek Road, approximately 10 miles west of State Route 273.

In 1980, Route 273 was reported to have an average daily traffic (ADT) count of 17,000; the ADT for Clear Creek Road (specific location unspecified) was reported to be 500. Clear Creek Road was "considered to be an above-average constructed county road with below traffic usage." The capacity was estimated using procedures in the Highway Capacity Manual; according to this 1980 estimate, Clear Creek Road had a daily vehicle capacity of 6,988 at level of service (LOS) [7] level C, which corresponded to a peak volume of 497 vehicles per hour. (Shasta County 1980).

Currently, traffic counts for Clear Creek Road below the landfill identified an existing peak hourly volume of 310 vehicles and a LOS of C; above the landfill, Clear Creek Road was found to have a peak hourly volume of 90, representing an LOS of B (ENPLAN 2002). Within the City of Redding, closer to State Route 273, recent traffic counts taken by the City of Redding, showed that Clear Creek Road immediately west of State Route 273 has an ADT of 3,589 (1804 westbound, and 1785 eastbound) (Otremba, personal communication); peak hourly volumes are 151 vehicles westbound (7:00 a.m.) and 172 vehicles eastbound (3:00 p.m.).

7 (LOS is a measure for describing operational conditions within a traffic stream or at an intersection. LOS is designated by a letter A-F, with A representing the least delay or congestion and F representing the most delay or congestion.

The City of Redding Solid Waste Utility keeps records of the numbers and types of vehicles entering the gate at West Central Landfill. In 2001, a total number of 30,159 vehicles were recorded, with a total net weight of 13,4094 tons. By number of vehicles, the greatest numbers of vehicles (47 percent) were pickup trucks; by weight, however, 60 percent of the total is attributable to transfer trailers (Redding 2002).

7.3.2 Potential Issues and Thresholds of Significance

Several transportation and traffic-related issues were identified as a result of the County's scoping process. Caltrans expressed concern regarding traffic volumes and congestion at intersections serving landfill truck traffic; according to Caltrans, the Clear Creek Road / State Route 273 intersection and the Oxyoke Road / State Route 273 intersection both meet at least some of their warrants for signalization. The City of Redding indicated that the EIR should address the need for a traffic signal at the Clear Creek Road / State Route 273 intersection. The City also expressed concern regarding the condition of, and maintenance needs for, Clear Creek Road due to the amount of heavy truck traffic now using the road to access the landfill.

The following thresholds of environmental significance can be identified with respect to traffic and circulation; these thresholds include pertinent issues identified in the CEQA Guidelines, Appendix G. The project would have a significant effect on the environment if it would:

- 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).
- Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways.
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.

7.3.3 Environmental Effects

7.3.3.1 No-Project Alternative

Under the No-Project scenario, the County would stop receiving waste at West Central landfill, operations would cease, and the landfill would close. Under such conditions, truck and other vehicle traffic refuse-hauling trips to and from the landfill would also cease, thus presumably reducing the traffic volume on Clear Creek Road and other routes. This reduction in traffic would probably be perceptible; however, the reduction would presumably not be sufficient to alleviate the congestion at the Clear Creek Road / State

Route 273 intersection; traffic warrants would likely continue to demonstrate the need for a traffic signal at this location (see further discussion below).

7.3.3.2 Continuing Operations

7.3.3.2.1 Traffic Volumes on Clear Creek Road

The 1980 EIR provided the following assessment of traffic effects related to landfill development at the "West Central site":

> "The proposed project will cause increased traffic along the routes. Since both the city and county will use the landfill, more traffic than is presently served at either of the existing sites is foreseen.... The combined city and county vehicles currently servicing the region would result in 85 round trips per day of roll-off bin and refuse compactor trucks to and from the West Central site. In addition, approximately 200 to 250 private autos and pickup trucks would use the site on an average weekend day.
>
> "As waste generation increases each year over the projected lifetime, a corresponding increase in traffic along the routes would be expected. Increased traffic on the local access roads would increase noise, litter, and possibly dust. If compactors are utilized at certain major transfer stations, and if eastern Shasta County provides a separate landfill site, and if resource recovery is pursued, then it is possible that waste generation will stabilize or decrease over the projected lifetime of this site. Subsequently, there will be a decrease in traffic along the access rods with corresponding decrease in noise, litter and dust.
>
> "Clear Creek Road will become the most frequently used servicing road to the site.... The project will increase the traffic to about 1060 vehicles per day, or about 15 percent of the available service volume...."
>
> (Shasta County 1980).

The 1999 EIR Addendum subsequently noted that haul traffic to the landfill was reduced after the Redding Solid Waste Transfer Facility became operational in 1995. City collection trucks haul to the Transfer Facility where the waste is compacted and placed in transfer trucks with 43-foot top-load trailers, which then proceed to the landfill. This transfer process has reduced the average Redding truck trips from 65 to 12. Self-haul traffic has also used the transfer facility, thus further reducing traffic to the landfill (Shasta County 1999).

Traffic associated with future operations of West Central Landfill are projected to continue to be commensurate with solid waste generation volumes; that is, presuming an increase in the amount of waste requiring disposal, there will be a corresponding increase in haul traffic, up to about 3 percent annually over past and current conditions. As stated previously, the landfill serves all jurisdictions within the County (i.e., the Cities of Redding, Anderson, and Shasta Lake and the unincorporated County area). The Shasta County

Travel Demand Model (Shasta RTPA) estimates a Clear Creek Road 2020 ADT of 7,663 vehicles at the State Route 273 intersection.

Traffic impacts associated with continued landfill operations can be reduced by reducing the number of vehicles going to the landfill. This can be accomplished by additional transfer stations, larger (and therefore fewer) trucks, compaction of refuse prior to hauling, increased recycling, and reduction in waste discarded.

7.3.3.2.2 Intersection Traffic Congestion

Environmental Effect Hum-1. *Landfill traffic contributes to a cumulative traffic congestion problem at the State 273/Clear Creek Road intersection.*

Traffic related to the West Central Landfill contributes to cumulative traffic congestion at the intersection of State Route 273 and Clear Creek Road. Other industrial, commercial land uses also substantially contribute to current traffic volumes and congestion. Industrial development along Clear Creek Road is primarily within the City of Redding; however, some properties are within the unincorporated area.

In 1988, the State Route 273/Clear Creek Road intersection met six traffic signal warrants. Since responding to the Notice of Preparation, California Department of Transportation District 2 has identified a joint candidate project, with the City of Redding, for installation of a traffic signal at the intersection of State Route 273 and Clear Creek Road (Caltrans 2002; Gonzalez, personal communication).

Signals on Caltrans facilities are typically funded by formula based on who has jurisdiction over the street "legs" that constitute the intersection. For example, in a four-way intersection where two legs constitute the Caltrans highway and the two other legs constitute a City cross-street, Caltrans would pay half the cost and the City the other half. Five signals have been installed on Caltrans facilities over the past four years using this formula, including four on State Route 273. Another at State Route 273 and Ox Yoke Drive (City of Anderson) has been programmed and is currently under development.

The intersection at Clear Creek Road and State Route 273 is a three-legged "T" intersection. Caltrans has appropriately offered to pay two-thirds of the signalization cost. The City of Redding will likely pay its share of the signal; however, the amount has not yet been budgeted in the City's transportation improvement plan (Otremba, personal communication).

7.3.4 Mitigation and Monitoring

Hum-1/MM-1. *West Central Landfill will contribute to the installation of a new traffic signal at the intersection in conjunction with Caltrans and the City of Redding.*

In keeping with past accepted practice, the responsible public jurisdictions should contribute to the signal project according to the accepted formula. The County expects that the City of Redding will continue to work with Caltrans to program traffic impact fees for the City's share of the Clear Creek Road signal costs at State Route 273. The West Central Landfill could also contribute a fair share (e.g., based on ADT ratios of increased West Central Landfill traffic to total traffic) of the signal cost, and other maintenance costs along Clear Creek Road, subject to a recommendation by City of Redding and approval by the Solid Waste Disposal Committee (SWDC). The SWDC is comprised of both City and County officials. As indicated in the comment letter from Caltrans; however, such a cost sharing arrangement should be developed through a traffic impact fee program for the area.

7.4 Utilities and Services

7.4.1 Environmental Setting

The West Central Landfill currently is supplied with the level of utilities and services necessary for operation. Originally, services did not exist on the site, and earlier documents indicated that utilities and services would need to be provided. Currently there is an 8-inch water line along Clear Creek Road and a 6-inch water line installed from the landfill entrance to the maintenance shop. Water is provided by the Clear Creek Community Services District. The County has developed two onsite sewage disposal systems. Restrooms, shower, and locker room facilities have been constructed for landfill workers. The landfill office is equipped with a telephone. Onsite buildings and pumping facilities have necessary electrical service

7.4.2 Potential Issues and Thresholds of Significance

Results of the County's scoping process identified no potentially significant issues specifically regarding utilities and services. The following thresholds of environmental significance can be identified with respect to this topical area; these thresholds include pertinent issues identified in the CEQA Guidelines, as adapted for this assessment. The project would have a significant effect on the environment if it would:

- 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 fire protection; police protection, schools, parks, or other public facilities.
- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

- 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.
- Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed.
- 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.
- Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.
- Comply with federal, state, and local statutes and regulations related to solid waste.

7.4.3 Environmental Effects

7.4.3.1 No-Project Alternative

Under the No-Project Alternative, there would be no significant effects on utilities and services. Water, communications, and electrical services would likely remain in place indefinitely following closure in order to support site monitoring activities.

7.4.3.2 Continuing Operations

The proposed continued operations and future development of the West Central Landfill will not have adverse effects on existing services and utilities at the site. The project will not result in the need for new or expanded services or facilities, or otherwise affect current levels of service ratios, response times, or other performance objectives for fire protection; police protection, schools, parks, or other public facilities. Continued operation would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities. Stormwater management is an essential part of the landfill design and operation.

The County is aware of one other proposed project in the vicinity of West Central Landfill that would require future utilities and services, including a water service extension. As mentioned in Section 7.1, the Northern California Veterans Cemetery is jointly sponsored by federal, state, and County agencies and would involve the development of a landscaped cemetery accommodating about 34,000 burials on approximately 60 acres located off Gas Point Road. This project will require a new water line extension for potable water and irrigation. As proposed, an 8-inch water line would be extended from the Clear Creek Community Services District water pump site across country to the cemetery. The specific location of this line will need to be coordinated with activities at West Central Landfill.

7.4.4 Mitigation and Monitoring

As no significant impacts are identified related to utilities and services, no mitigation measures are warranted.

7.5 Visual Quality

7.5.1 Environmental Setting

The West Central Landfill is located in a region of northern California renown for scenic vistas. Development of the site has "opened up" views from the landfill of distant, often snow-capped mountain ranges that are as scenic as views from similar elevations in the area. The site itself, however, does not possess exceptionally scenic landforms, water bodies, or other features. Currently, the landfill is not visible from public roads.

7.5.2 Potential Issues and Thresholds of Significance

Results of the County's scoping process identified no potentially significant issues specifically regarding visual quality. The following thresholds of environmental significance can be identified with respect to this topical area; these thresholds include pertinent issues identified in the CEQA Guidelines, as adapted for this assessment. The project would have a significant effect on the environment if it would:

- Have a substantial adverse effect on a scenic vista.
- Substantially degrade the existing visual character or quality of the site and its surroundings.
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

7.5.3 Environmental Effects

7.5.3.1 No-Project Alternative

Under this scenario, operations would cease, the landfill would close, and the County would stop receiving waste at West Central Landfill; future units would not be developed. This would visually mean substantially less topographic alteration than under the Proposed Alternative.

7.5.3.2 Continuing Operations

Environmental Effect Hum-2. *Viewshed effects resulting from alteration of the existing landforms and topography, including views of the landfill from nearby rural residential areas and the future Northern California Veterans Cemetery.*

Previously identified effects consisted of traffic along access roads to the landfill, primarily Clear Creek Road (Shasta County 1999).

As additional landfill units are developed within the permitted and approved area, Landfill areas and possibly operational activities will become more visible from surrounding viewpoints. Units will likely be filled to elevations similar to the closed Phased I – i.e., about 1130 feet above sea level, which is similar to the elevations of ridges above the landfill canyon (Shasta County 1999).

As future units are developed and filled, the landfill working areas and the graded, revegetated units will potentially become more visible from the future Northern California Veterans Cemetery. Such effects on visual quality could be perceived by some visitors to the cemetery as a significant adverse effect. At the time the cemetery site was selected, however, the landfill was a known feature of the existing environment, and potential aesthetic effects were duly considered in the environmental review for the cemetery. That environmental review (ENPLAN 2002) did not find such effects significant because the cemetery design includes maintenance of vegetated buffers and planting of trees to ensure that views of the landfill are not obtrusive.

7.5.4 Mitigation and Monitoring

Mitigation Measure Hum-2/MM-2. *Preservation and maintenance of a vegetated buffer between the Landfill and the Veterans Cemetery and residential areas as needed to providing landfill screening.*

The County will retain vegetation on slopes and ridgelines in order to maintain a vegetated buffer between the landfill and the Veterans Cemetery as needed to providing landfill screening. This measure will be in addition to measures included in the cemetery design. Vegetated buffers will also be retained between the landfill and nearby residential properties, as needed. With these measures, visual quality effects are reduced to a less-than-significant level.

7.6 Noise

7.6.1 Environmental Setting

The noise environment in the vicinity of the West Central Landfill has not been the subject of specific noise assessments in the past; no specific noise measurements, modeling, or quantitative analyses were conducted for this EIR. Qualitatively, primary noise sources in the landfill vicinity are generally related to operational noise at the landfill and traffic on Clear Creek Road.

7.6.2 Potential Issues and Thresholds of Significance

Results of the County's scoping process identified no potentially significant issues specifically regarding noise. The following thresholds of environmental significance can be identified with respect to this topical area; these thresholds include pertinent issues identified in the CEQA Guidelines, as adapted for this assessment. The project would have a significant effect on the environment if it would:

- Result in 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.
- Result in exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels.
- Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
- Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

7.6.3 Environmental Effects

The County has not recently received complaints regarding noise at the landfill. Nevertheless, daily operation does involve heavy equipment that generates noise that is audible offsite. As a general rule, sound decreases by about 6 decibels (dB) with each doubling of distance between the source of the noise and the receptors; this attenuation can be affected by intervening obstacles and landforms. Noise also has a psychological component that may make some sounds seem disturbing or louder than they actually are.

7.6.3.1 No-Project Alternative

Under the No-Project Alternative, the heavy equipment and truck traffic noise would cease. Thus, there would be no adverse noise effects under the No-Project Alternative, and ambient sound levels would be less than under the Proposed Project Alternative. This could be perceived by local residents as an improvement over current and proposed conditions.

7.6.3.2 Continuing Operations

Continued operation activities at West Central Landfill will involve the use of heavy equipment and trucks that generate noise. Future development of disposal units will involve periods of elevated construction noise. No new activities are proposed, however, that would generate new types of noise, such as blasting or tire shredding. Table 7-2 presents some representative noise levels for various types of equipment expressed in the

A-weighted decibel scale (dBA) [8] at several distances from a receptor. The County would expect these noise levels to be comparable to the noise levels of the equipment and vehicles at the landfill.

Table 7-2
Construction Equipment Noise Ranges*

Type of Equipment	Average Noise (dBA)		
	At 50 feet	At 500 feet	At 1000 feet
Dump truck	80	55	47.5
Front loader	80	55	47.5
Backhoe	79	54	46.5
Excavator	76	51	43.5
Dozer	71	46	38.5

*Source: California Department of Transportation

Operation and construction at the landfill may be occasionally audible to visitors at the future Northern California Veterans Cemetery, including sounds generated by heavy equipment and vehicle back-up alarms. Noise may increase during periods of construction of new solid waste units. Environmental documentation for the Cemetery indicated that the existing noise environment, including landfill operations, was considered in siting and preliminary design of the Cemetery; however, no significant noise effects were identified in the associated document, and no mitigation measures were found to be needed (ENPLAN 2002).

The Shasta County General Plan identifies that construction noise effects on residents are not considered significant if work is conducted during daytime hours (7:00 am to 10:00 pm). Work at the West Central Landfill generally occurs between the hours of 7:00 am and 5:00 pm. Additionally, the Shasta County General Plan allows for noise levels of 60 decibels (dBA) or less at the exterior of residences. Typical equipment used at the West Central Landfill (dump trucks, dozers, excavators) will likely generate noise levels of 48 dBA and lower at 1000 feet from the activity. Residences and the proposed cemetery are located farther than 1000 feet from landfill activities. Based on previous documentation and effects to adjacent residences, noise effects related to the continued operation and

8 Sound levels are measured on a logarithmic scale of decibels (dB). The decibel scale compresses the audible acoustic pressure levels, typically from the threshold of hearing and reference pressure (0 dB) to the threshold of pain (120 dB). The A-weighted scale adjusts sound pressure levels by frequency, reducing low and high-frequency sound, similar to the way people actually hear sound. Generally, a 3 dB increase is a doubling of acoustic energy and is the threshold of perceptibility; a 10 dB increase is a tenfold increase in acoustic energy but is perceived by most listeners as a doubling in loudness.

further development of the West Central Landfill within the approved and permitted footprint are therefore judged to be less-than-significant.

7.6.4 Mitigation and Monitoring

As noise effects of the project are judged to be less-than-significant, no mitigation measures are proposed. The County will conduct noise monitoring in the future, however, to ascertain any possible changes in the noise environment attributable to the West Central Landfill. Without stopping operations, however, little can be done to eliminate noise from heavy equipment and trucks (except, of course, to maintain them in proper condition). It is possible that, with sufficient advance knowledge, the County and the City could, upon request, temporarily suspend noise-generating operations at the landfill for special occasions at the Veterans Cemetery; events at the cemetery could also be scheduled for times when the landfill operations are not occurring.

7.7 Cultural Resources

7.7.1 Environmental Setting

Cultural resource studies related to the West Central Landfill have been conducted on several occasions with the result that the history and prehistory of the area are now fairly well-documented. In conjunction with the original EIR for the selection of a "new" regional landfill in about 1980, reconnaissance-level archaeological studies were conducted of several alternative landfill sites, including the West Central canyon area (Dotta 1979 in Shasta County 1980). Subsequent, more intensive field investigations related to the landfill and adjacent areas were conducted in 1989, 1990, and 2002 (Vaughan 2002). In conjunction with this EIR, an archaeological reconnaissance was conducted for the property as a whole (approximately 1,160 acres), incorporating the results of the previous studies (Vaughan 2002); this report is attached as Appendix F. [9]

The West Central Landfill area lies within the ethnographic territory of the Wintu, a Penutian-speaking group, who inhabited the northern end of the Sacramento Valley as well as the mountainous areas to the north and west. Ethnographic accounts of Wintu culture are summarized in Appendix F.

Historically, this property and surrounding areas were explored and used for placer mining activity, which occurred intermittently from the 1850s into the 1940s [10]. The 1848 discovery of gold by Major Pierson Barton Reading on Clear Creek about two miles to the

9 The appended material intentionally omits site records and location maps, which are considered to be sensitive cultural resource information. The full report, available to qualified individuals, is on file with the County of Shasta Department of Public Works and with the Northeast Center of the California Historical Resources Information System at California State University, Chico.

10 Information in this section is summarized from Vaughan 2002 unless otherwise noted.

northeast led to establishment of the town of Clear Creek Diggings, which a few years later became Horsetown, a commercial center for mining in the area until it was destroyed by fire in 1868. Throughout this period, there were many small mining claims in the area; by the 1900s, major mining activities were directed toward the dredging of streambeds, and all stream valleys in this foothill region experienced some modification. Dry Creek, immediately to the east, was extensively dredged (Dotta 1979). Miners in the area were both Euroamerican and Chinese. The project area evidently was not hydraulically mined; the method typically used in the area was placer mining, which uses running water to separate gold from gravel deposits.

7.7.1.1 Cultural Resource Sites

As a result of the cultural resources surveys, nine recorded sites (six previously recorded and three newly recorded) have been identified on the landfill property. All of the sites are historical; no archaeological sites are known to exist on the property. Because the landfill property overall was found to contain numerous, scattered historical mining-related features, the entire landfill property was recorded as one large historic mining site. Other individually recorded sites are also related to mining activity, or otherwise characterized as historic camps, ditches, or debris.

Based on the criteria for eligibility of historic properties for the National Register of Historic Places and the California Register of Historic Resources, none of the recorded sites is considered eligible for these registers, and concurrence from the State Historic Preservation Officer on this determination is expected.

7.7.2 Potential Issues and Thresholds of Significance

Results of the County's scoping process identified no potentially significant issues specifically regarding archaeological or historical resources. The following thresholds of environmental significance can be identified with respect to cultural resource; these thresholds include pertinent issues identified in the CEQA Guidelines, as adapted for this assessment. The project would have a significant effect on the environment if it would:

- Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5. [11]
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5.
- Directly or indirectly destroy a unique paleontological resource or site or unique geological feature.
- Disturb any human remains, including those interred outside of formal cemeteries.

11 In summary, this section of the CEQA Guidelines, "Determining the Significance of Impacts to Archaeological and Historical Resources," (1) defines "historical resources" (generally, as resources that are determined to meet the criteria for listing in the California Register of Historical Resources), (2) states that a substantial adverse change in the significance of a resource is a significant environmental effect, and (3) specifies related procedures.

7.7.3 Environmental Effects

7.7.3.1 No-Project Alternative

The No-Project Alternative would not result in any changes in existing conditions beyond areas already disturbed by landfill activities. Under the No-Project Alternative, no further landfill units would be developed, and earth-disturbing activities would cease; therefore, the probability of encountering previously unknown cultural sites would be less than under the Proposed Project.

7.7.3.2 Continuing Operations

Environmental Effect Hum-3. *Inadvertent discovery of previously unknown cultural resource artifacts, sites, or materials.*

Continued operation of the West Central Landfill, including the further development of disposal areas and other related, ground-disturbing activities, is likely to obliterate some of the historical surface features identified within the impact area; apparently, for several previously recorded historic sites, this has already occurred. Because none of these historical sites, including the property as a whole, is considered eligible for the federal or state registers, loss of these sites would not constitute a substantial adverse change under CEQA. Therefore, the potential effects of continued operation of West Central Landfill on cultural resources is judged to be less-than-significant.

There is some possibility that project-related activities could result in the discovery of previously unknown cultural resource materials, including sites below the ground surface. The EIR, therefore, identifies the mitigation measure below to reduce any potential adverse effect to such resources.

7.7.4 Mitigation and Monitoring

Hum-3/MM-2. *In the event that project activities encounter any previously unknown archaeological or historical discoveries (e.g., human skeletal remains, culturally modified stone materials, structural features, or historical artifacts), all ground-disturbing activities shall cease within a 100-foot radius of the discovery, and a qualified archaeologist shall be contacted to determine the nature of the find, evaluate its significance, and, if appropriate, suggest preservation or mitigation measures.*

The original 1980 EIR recommended that if archaeological materials were encountered during earth-moving activities, that activity in the area be stopped until a qualified archaeologist could assess the significance of the cultural materials and, if needed, recover the exposed data. This provision was reiterated in both the 1992 and the 1999 EIR Addenda (Shasta County 1992a and Shasta County 1999); the 1999 Addendum indicated

that continued monitoring with provisions to stop work is included in all construction documents. This measure continues to be applicable and is again stated in the most recent archaeological reconnaissance report, and that language is adopted in the mitigation measure above. No further measures are identified.

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8.0 Additional CEQA-Required Considerations

8.0 Additional CEQA-Required Considerations

8.1 Effects Found Not to Be Environmentally Significant

Section 15128 of the CEQA Guidelines requires that an EIR contain a statement briefly indicating why various possible effects were found "not to be significant and were therefore not discussed in detail in the EIR." The environmental subject areas that the County found to be not significant in terms of continued operation of the landfill, and which, therefore, were not addressed in detail in this EIR, were effects related to:

- *Airport noise or safety hazards.* The project is not related in any evident way to air traffic or airport land use planning.
- *Agricultural resources.* The landfill is not located in a major agricultural area, and continued operation has no evident connection to agriculture resources.
- *Mineral resources.* The project is not related to the extraction, conservation, use, or restriction of mineral resources in any evident way.
- *Public services.* The continued operation of the landfill cannot reasonably be linked directly or indirectly to any physical effects associated with new schools, parks, or other public facilities, nor is it likely in itself to be associated with an increased demand for fire or police services.

8.2 Effects Reduced to a Level of Insignificance

The assessments in Chapters 5.0, 6.0, and 7.0 of this EIR considered the potential effects of the proposed project and, where appropriate, identified mitigation measures that can be expected to reduce the Preferred Alternative's effects to levels that are consistent with findings that the mitigated effects are less-than-significant. To some extent, a number of potentially adverse environmental effects are already being avoided or reduced through proper construction, operation, and management of the landfill. The EIR has identified the following environmental concerns as being reduced to levels of insignificance:

- Slope movement or subsidence; soil erosion.
- Potential effects on water quality, including groundwater resources.
- Generation of landfill gas.
- Potential effects on sensitive species of plants or animals.
- Traffic on local roads associated with the landfill and the corresponding increased potential for accidents and intersection congestion.
- Potential effects on public health and safety.
- Conversion of undeveloped rural land to landfill.
- Effects on archaeological and other cultural resources.

8.3 Unavoidable Significant Effects

Section 15126.2(b) of the CEQA Guidelines requires that an EIR identify any effects that are both significant and unavoidable, including effects that can be mitigated but not to a level that is less-than-significant.

Most of the potential effects of the project identified in this EIR have been found to be less-than-significant, including those that would be reduced to a level of insignificance by identified mitigation measures. In one area, however, the EIR identifies an unavoidable significant effect:

- *Cumulative air quality*. The landfill will have an unavoidable significant effect, through its contributions to the region's non-compliance with air quality standards.

8.4 Irreversible Changes

Section 15126.2(c) of the CEQA Guidelines requires that an EIR identify any significant irreversible changes in the environment that would occur from implementation of the proposed project. Irreversible commitments of resources include both direct and indirect effects that would be associated with the proposal and which would commit future County decision-makers to courses of action based on the current proposal. This EIR has identified the following irreversible changes:

- Commitment of undeveloped rural land to solid waste disposal.
- Viewshed changes resulting from major topographic changes.
- Long-term reduction in biological productivity in areas developed for landfill units.
- Long-term limitations on future land uses for closed landfill units.

8.5 Growth Inducement

Section 15126.2(d) of the CEQA Guidelines requires that an EIR evaluate potential growth-inducing aspects of the proposed project. These are identified as aspects fostering economic or population growth, either directly or indirectly, by removing obstacles to population growth, or by encouraging and facilitating other activities that could have adverse environmental effects.

The West Central Landfill is addressed in the County General Plan and County Integrated Waste Management Plan, as discussed in this EIR. As indicated in these plans, the landfill is part of the established County infrastructure, and it is expected to serve a growing area population. As noted in the first CEQA document to address a landfill operation at the West Central location (Shasta County 1980), solid waste disposal facilities accommodate planned growth; however, use of the site as a sanitary landfill is not directly growth-

inducing. Thus the County finds that continued operation and development of the West Central Landfill will not have growth-inducing effects within the meaning of CEQA.

8.6 Summary of Cumulative Effects

Section 15130 of the Guidelines requires that an EIR identify cumulative impacts. The assessment of cumulative effects requires, for each category of effect, an analytical mechanism which allows the impacts of the project and other past, present, and reasonably foreseeable future projects to be jointly assessed. In chapters 5.0, 6.0, and 7.0, cumulative effects were included in the assessments of each topic considered in this EIR.

Several effects considered in this EIR appear to indicate that ongoing operations and future development of the West Central Landfill may have a potential for participating in environmentally significant cumulative effects, primarily related to air quality and traffic. Mitigation measures have been identified for traffic impacts. For air quality, although measures have been identified that will reduce the effects of the project, operation and development of West Central Landfill will continue to contribute to regional air quality non-compliance for particulates and ozone.

8.7 Environmentally Superior Alternative

The CEQA Guidelines, section 15126.6(e)(2), includes the following statement: "If the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among other alternatives." By inference, an EIR is thus required to identify an "environmentally superior alternative" from among the proposed action alternatives.

The No Action is not environmentally superior alternative because it would mean that capacity for the continuing waste stream would need to be developed elsewhere with unknown environmental impacts. Similarly, other conceivable alternatives (as discussed in Section 3.2) do not meet most of the basic project objectives and are not feasible for economic, technical, and environmental reasons.

The County believes that the proposed project – the continued operation of the West Central Landfill as permitted and approved – is the environmentally superior alternative. In fulfilling its mandates to provide and implement a solid waste management program, the County's underlying objective for this "project" is to provide a cost-effective facility for disposal of nonhazardous solid waste in a manner that protects public health and safety and the environment, in accordance with state and federal laws and regulations.

In Shasta County, as elsewhere in California and throughout this country, people and businesses depend on local government to provide solid waste disposal capacity. In developing and operating the West Central Landfill, the County provides a regional solid waste disposal facility where County residents and commercial entities can meet their

ongoing and future needs for the sanitary disposal of nonhazardous municipal wastes. The increasing practice of "reduction, re-use, and recycling" helps extend the life of landfills; however, there continues to be on ongoing and projected need. West Central Landfill has been, and will continue to be, designed and operated in accordance with environmental protection regulations.

9.0 EIS Preparers and Contributors

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This Environmental Impact Report was prepared by the County of Shasta, Department of Public Works and consultant personnel under contract.

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10.0 References

10.0 References

10.1 Documents Cited

BLM 1990. J. Molter. *Bureau of Land Management Threatened and Endangered Plant Report*. Unpublished report ("Shasta County / West Central Landfill direct sale;" T 30N, R 6W, S 4). Bureau of Land Management, Redding, California. May, 1990.

CA Energy Commission 2002. State of California Energy Commission. Website information available at www.energy.ca.gov.

Caltrans 2002. California Department of Transportation, District 2 – Traffic Operations (Redding, CA). Letter from R. Stinger, Chief, to Bill Goodwin, City Engineer, City of Redding, CA. 13 June 2002.

CDF 1988. California Department of Forestry and Fire Protection; USDA Forest Service, Pacific Southwest Forest and Range Experiment Station; California Department of Fish and Game; Pacific Gas and Electric Company; and USDA Forest Service Region 5. *A Guide to Wildlife Habitats of California.* October 1988.

CH2M HILL 1990a. *Operations Manual, West Central Landfill, Phase 2, Shasta County, California.* Prepared for the Department of Public Works, Shasta County, California. September 1990.

CH2M HILL 1990b. *Preliminary Closure and Postclosure Maintenance Plan, Phase II, West Central Landfill, Shasta County, California.* December 1990.

CH2M HILL 1991a. *Final Postclosure Maintenance Plan, West Central Landfill Phase 1*. Prepared for Shasta County. December 1991.

CH2M HILL 1991b. *Solid Waste Assessment Test Report, County of Shasta, West-Central Landfill, Phase I, Redding Californi*a. May 1991.

CH2M HILL 1992. *Source Reduction and Recycling Element*. Prepared for County of Shasta, City of Anderson, City of Redding. January 1992.

CH2M HILL 1997. *Source Reduction and Recycling Element*. Prepared for the City of Shasta Lake and the County of Shasta. January 1997.

CIWMB nd. California Integrated Waste Management Board. *Guide to Vegetative Covers for California Landfills.* Prepared by Bryan A. Stirrat & Associates. No date [1994?].

CIWMB 1988. California Waste Management Board. *Landfill Gas Characterization*. October 1988.

CIWMB 1999. California Environmental Protection Agency, Integrated Waste Management Board. *A Guide to the Revegetation and Environmental Restoration of Closed Landfills.* October 1999.

CIWMB 2000. California Environmental Protection Agency, Integrated Waste Management Board. *Landfill Facility Compliance Study [Task 1]: Checklist of Pertinent Environmental Regulatory Requirements.* Prepared by GeoSyntec Consultants, Inc. and Sierra Research, Inc. April, 2002.

CIWMB 2002. California Environmental Protection Agency, Integrated Waste Management Board. *Site Inspection Report*. Reinhardt Hohlwein, Permitting and Inspection Branch, Region 1; Permitting and Enforcement Division. May 23, 2002.

DCMG 1997. Fault-Rupture Hazard Zones in California: *Alquist-Priolo Earthquake Fault Zoning Act with Index to Earthquake Fault Zones Maps.* California Department of Conservation, Division of Mines and Geology. Special Publication 42; revised 1997, supplements 1999.

CDMG 1992. California Department of Conservation, Division of Mines and Geology. Peak Acceleration from Maximum Credible Earthquakes in California (Rock and Stiff-Soil Sites). DMG Open-File Report 92-1.

DFG 1994. "DFG Standard Conditions;" [excerpt:] *Hardwoods.* Provided by California Department of Fish and Game, Redding. December 1994.

DFG 1999. California Department of Fish and Game, in cooperation with the California Interagency Wildlife Task Group, 1999. *California Wildlife Habitat Relationships System* Version 7.0 personal computer program.

DFG 2002. California Department of Fish and Game; K. Bates, California Natural Diversity Database, Wildlife Conservation Division. Personal communication: Response letter to request for occurrences of special-status species. June 13, 2002.

Dotta 1979. Dotta, James. *Archaeological Reconnaissance of the Proposed Igo/Ono Landfill Project, Shasta County, California.* Prepared for the County of Shasta Department of Public Works. Contained in Shasta County 1980. November 19, 1979.

ENPLAN 2002. *Initial Study and Negative Declaration: Northern California Veterans Cemetery, Shasta County*. Prepared for: U.S. Department of Veterans Affairs, National Cemetery Administration; California Department of Veterans Affairs; and State of California, Department of General Services. April 2002.

Fraticelli et al. 1987. Luis A. Fraticelli, John P. Albers, William P. Irwin, Milton C. Blake, Jr. *Geologic Map of the Redding 1X2 Degree Quadrangle, Shasta, Tehama, Humboldt, and Trinity*

Counties, California. U.S. Department of the Interior, Geological Survey, Open File Report 87-257.

Jennings 1994. Charles W. Jennings. *Fault Activity Map of California and Adjacent Areas, with Locations and Ages of Recent Volcanic Eruptions.* California Department of Conservation, Division of Mines and Geology.

Masters 1998. Masters, Gilbert M. *Introduction to Environmental Engineering and Science,* Second Edition. New Jersey: Prentice Hall.

NSVAB 2000. Northern Sacramento Valley Air Basin [joint air management districts] 2000 *Air Quality Attainment Plan.* Draft. 2000.

Redding 2002. City of Redding, Solid Waste Utility. Unpublished results of database inquiries; provided by L. Gibson. June 12, 2002.

RWQCB 2000. California Regional Water Control Board Central Valley Region. *Resolution No. 5-00-213: Request for the State Water Resources Control Board to Review the Adequacy of the Prescriptive Design Requirements for Landfill Waste Containment Systems to Meet the Performance Standards of Title 27.* September 2000. (Including related documents and letters.)

RWQCB 2002. California Regional Water Control Board Central Valley Region. *Order No. R5-2002-0037: Waste Discharge Requirements for Shasta County West Central Class III Municipal Solid Waste Landfill and Class II Surface Impoundment Shasta County*. March 2002.

RWQCB 2003a. California Regional Water Control Board Central Valley Region. *Notice of Violation. (Verified Release of Volatile Organic Compounds).* January 2003.

RWQCB 2003b. California Regional Water Control Board Central Valley Region. *Letter from Regional Board staff to Shasta County Department of Public Works; Technical Review, Liner Evaluation, West Central Class III Municipal Solid Waste Landfill, Shasta County*. January 2003.

SFGC and SBF 1994. State Fish and Game Commission and the State Board of Forestry. *Joint Policy Statement on Hardwoods.* May 1994.

Shasta Board 1995. Shasta County Board of Supervisors. Resolution No. 95-157: Shasta County Oak Woodland Management Guidelines. August 1, 1995.

Shasta County 1980. County of Shasta, Department of Public Works, and CH2M HILL. *Final Environmental Impact Report for a Proposed Sanitary Landfill Site.* (SCH No. 79021259). April 1980.

Shasta County 1992a. County of Shasta, Department of Public Works, and CH2M HILL. *Final Richard W. Curry West Central Landfill EIR Addendum* (SCH No. 91123013). February 1992.

Shasta County 1992b. County of Shasta, Department of Resource Management, Environmental Health Division [Local Enforcement Agency]. *Solid Waste Facility Permit*. Issue date: October 19, 1992.

Shasta County 1995a. County of Shasta, Department of Public Works. *The Richard W. Curry West Central Landfill Phase II Planning Study*. May 10,1995.

Shasta County 1995b. County of Shasta, Department of Resource Management. Letter from James W. Cook, Planning Division Manager, to Bill Lyman, Director, Shasta County Department of Public Works. May 31.

Shasta County 1998a. County of Shasta, Department of Resource Management. *Final Report of Disposal Site Information, West Central Landfill* [pursuant to 27 CCR Section 21600]. June 1998.

Shasta County 1998b. County of Shasta, Department of Resource Management, Planning Division. *Shasta County General Plan*. January 1984, as amended through October 1998.

Shasta County 1999. County of Shasta, Department of Public Works. *Richard W. Curry West Central Landfill EIR Addendum.* March 1999. *Comments and Responses Regarding the 1999 Richard W. Curry West Central Landfill EIR Addendum.* March 4, 1999.

Shasta County 2001a. County of Shasta [Department of Public Works]. *2000 Monitoring Data Summary Report* [report prepared for the Regional Water Quality Control Board]. February, 2001.

Shasta County 2001b. County of Shasta, Department of Public Works, 2001. *Notice of Preparation of a Draft EIR for Ongoing Operations and Permitting at the West Central Landfill.* October.

Shasta County Health 2002. County of Shasta, Department of Resource Management, Environmental Health Division. Unpublished letters, documents, reports, and other materials on file for West Central Landfill.

USDA 1974. US Department of Agriculture, Soil Conservation Service and Forest Service. *Soil Survey of Shasta County Area, California.*

US EPA 1998. US Environmental Protection Agency, Office of Solid Waste and Emergency Response. *Greenhouse Gas Emissions from Management of Selected Materials in Municipal Solid Waste* (EPA 530-R-98-013). September 1998.

US EPA 1999. US Environmental Protection Agency, Office of Air and Radiation. *U.S. Methane Emission 1990 – 2020: Inventories, Projections, and Opportunities for Reductions* (EPA 430-R-99-013). September 1999.

US EPA 2002. U.S. Environmental Protection Agency. Website information available at www.epa.gov/globalwarming.

Vaughan, Trudy; Coyote & Fox Enterprises 2002. Archaeological Reconnaissance of Shasta County's West Central Landfill on Clear Creek Road. Report prepared for the Shasta County Department of Public Works. October.

10.2 Persons Contacted

Bowman, Katie. Regional Water Quality Control Board, Central Valley Region.

Clementsen, Karen. Chief, Groundwater Unit, California Regional Water Quality Control Board, Central Valley Region.

Gonzalez, Marcelino. California Department of Transportation, District 2.

Gibson, Larry. City of Redding, West Central Landfill operations.

Hohlwein, Reinhardt. California Integrated Waste Management Board, Permitting and Enforcement Division.

Loane, John. California Integrated Waste Management Board, Environmental Review Division.

O'Leary, Sue. California Integrated Waste Management Board, Environmental Review Division.

Otremba, Gary. City of Redding, Department of Public Works.

Serio, Carla. Shasta County Department of Resource Management, Environmental Health Division.

Waldrop, John. Shasta County Department of Resource Management, Air Quality Management District.

Walker, Bill. Shasta County Department of Resource Management, Planning Department.

Williams, Bob. California Department of Fish and Game, Region 1 (Redding).

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11.0 Mitigation Monitoring and Reporting Program

11.0 Mitigation Monitoring and Reporting Program

This section describes the Mitigation Monitoring and Report Program (MMRP), outlining each potentially significant environmental effect, mitigation measures to reduce the effect to less than significant, and the responsible agency and time frame for mitigation monitoring.

Development and implementation of this Mitigation Monitoring and Reporting Program will require the coordination of the City of Redding and Shasta County with the RWQCB, AQMD, Shasta County Environmental Health (LEA), and the IWMB, with the ultimate responsibility resting with the agency shown in Table 11-1.

Table 11-1
Mitigation Monitoring and Reporting Program Matrix

Potentially Significant Effect	Mitigation Measure	Responsible Agency	Time Frame
Physical Environment (Phys)			
Phys-1. Potential effects on groundwater from leachate, contact water, and landfill gas.	**Phys-1/MM-1.** Construction of future unit liners according to specifications approved by the Regional Water Quality Control Board. Continued use of underdrain and leachate collection system; continued use and further development of runoff diversion trenches and pipe; continued monitoring for landfill gas.	City of Redding, Municipal Utilities Department and Shasta County Department of Public Works.	Construction monitoring at time of liner construction will be the responsibility of the City of Redding. Groundwater and gas monitoring at timelines specified by the RWQCB will be the responsibility of Shasta County. Timelines for these activities will vary, depending on regulatory requirements.
Phys-2. Landfill contribution to a cumulative air quality problems in the region related to particulate matter and ozone.	**Phys-2/MM-2a.** Compliance with requirements of the Title V permit program, as mandated by the Clean Air Act Amendments of 1990 and enforced by the Shasta County Air Quality Management District.	Shasta County Department of Public Works	Monitoring and reporting as required by the Title V permit program.
	Phys-2/MM-2b. Continued use of dust-control and emissions-control measures and similar best management practices.	City of Redding, Municipal Utilities Department	Dust-control to be implemented as needed to control dust emissions. Times and frequency will vary depending on need.
Biological Environment (Bio)			
Bio-1. Low probability of adverse effects to sensitive species.	**Bio-1/MM-1.** Field investigations for sensitive species by qualified personnel will be conducted prior to further construction of new landfill units beyond the currently approved area.	Shasta County Department of Public Works.	Conducted prior to construction of new landfill units beyond current approved areas.
Bio-2. Loss and conversion of oak woodland and other habitat areas, including possible riparian habitat in the lower canyon area.	**Bio-2/MM-2a.** Implementation of a natural resources conservation program for the overall landfill property.	Shasta County Department of Public Works	This program will be developed at the time of planning for any expansion of the landfill beyond the current approved area on County-owned property.

Table 11-1
Mitigation Monitoring and Reporting Program Matrix

Potentially Significant Effect	Mitigation Measure	Responsible Agency	Time Frame
	Bio-2/MM-2b. To the extent the future riparian or other sensitive habitat is lost to landfill areas, the County, in conjunction with the California Department of Fish and Game, will restore comparable amounts of similar habitat in other County- controlled locations.	Shasta County Department of Public Works and the City of Redding Municipal Utilities Department	Restoration to occur on County-controlled lands, at a future time if sensitive habitat is lost to construction of new landfill areas at the West Central Landfill site. Planning efforts will be coordinated by Shasta County. Restoration activities will be coordinated with the Department of Fish and Game and it is anticipated that any restoration activities will be undertaken by the City of Redding.
	Bio-2/MM-2c. Management of oak woodlands on buffer areas of the County landfill property in accordance with State and County policies.	Shasta County Department of Public Works.	Management to continue according to current County and State policies and new strategies will be developed in the future if the landfill area is expanded at the current site.
	Bio-2/MM-2d. Restoration and revegetation of closed landfill units using seed mixtures and plant species that more closely resemble and restore the habitat values and ecological functions that existed onsite prior to development, while complying with landfill closure requirements. Appropriate environmental restoration manuals will be used to develop revegetation and restoration specifications.	Shasta County Department of Public Works and City of Redding Municipal Utilities Department	Shasta County will work with the California Integrated Waste Management Board to identify possible alternative seed mixtures at the time of preparation of landfill units for closure. Implementation of this mitigation measure will be in conformance with Waste Board standards for vegetation of closed units and will be accomplished when landfill units are closed; work will be performed by the City of Redding.

Table 11-1
Mitigation Monitoring and Reporting Program Matrix

Potentially Significant Effect	Mitigation Measure	Responsible Agency	Time Frame
Bio-3. Some degree of sediment loading of the downstream aquatic ecosystem, particularly during wet seasons.	**Bio-3/MM-3.** The County shall revise existing sediment and erosion control plans to increase the likely retention onsite of sediment arising from ongoing operations, and shall enact additional onsite Best Management Practices to assure that sediment is not released to offsite aquatic ecosystem elements.	Shasta County Department of Public Works and City of Redding Municipal Utilities Department	Sediment basins will be resized, as needed, to accept stormwater runoff from landfill operations as new units are developed within the existing permitted area. New sediment control basins will be constructed, as needed, to control surface runoff and prevent pollution. Shasta County will design appropriate sediment control devices and basins and the City of Redding will be responsible for the implementation and maintenance of the facilities.
Human Environment (Hum)			
Hum-1. Landfill traffic contributes to a cumulative traffic congestion problem at the State 273 / Clear Creek Road intersection.	**Hum-1/MM-1.** West Central Landfill will contribute to the installation of a new traffic signal at the intersection in conjunction with Caltrans and the City of Redding.	Shasta County Waste Disposal Committee	Contributions to the Shasta County Waste Disposal Fund have been made and the installation is at the pleasure of the Waste Disposal Committee in coordination with Caltrans.
Hum-2. Viewshed effects resulting from alteration of the existing landforms and topography, including views of the landfill from nearby rural residential areas and the future Northern California Veterans Cemetery.	**Hum-2/MM-2.** Preservation and maintenance of a vegetated buffer between the landfill and the Veterans Cemetery and residential areas as needed to provide landfill screening.	Shasta County Department of Public Works.	Visual screening is and will continue to be implemented through development of the currently permitted units of the landfill. Clearing of vegetation for new landfill unit construction will only remove vegetation necessary for the construction and safe operation of the site. The City of Redding will ensure that vegetation screening is maintained. Where necessary, additional vegetation will be planted to maintain a visual screen; Shasta County will be responsible for the planning efforts and the City of Redding will implement the plan.

Table 11-1
Mitigation Monitoring and Reporting Program Matrix

Potentially Significant Effect	Mitigation Measure	Responsible Agency	Time Frame
Hum-3. Inadvertent discovery of previously unknown cultural resource artifacts, sites, or materials.	**Hum-3/MM-3.** In the event that project activities encounter any previously unknown archaeological or historical discoveries (e.g., human skeletal remains, culturally modified stone materials, structural features, or historical artifacts), all ground-disturbing activities shall cease within a 100-foot radius of the discovery, and a qualified archaeologist shall be contacted to determine the nature of the find, evaluate its significance, and, if appropriate, suggest preservation or mitigation measures.	City of Redding Municipal Utilities Department	Construction activities will cease immediately in the prescribed area and only be restarted with the consensus of a professional archaeologist. Additional mitigation measures may be recommended at the time of the event by the archaeologist if additional mitigation or project design changes are needed. The City of Redding will insure that construction operations cease and that Shasta County is notified if cultural resources are found.

Appendix A

Landfill Design and Operations
1999 EIR Addendum for
West Central Landfill

Section 2
Landfill Design and Operations

Introduction

The landfill is owned by Shasta County, who is the legal operator of the site, and the City of Redding has been the contract operator since January 1, 1990. The landfill was operated by private contractors from 1982 to 1990. An (RDSI), required under Title 27 of the California Code of Regulations (CCR), was updated in 1998 and includes the most current guidelines for proper operation of the landfill consistent with local, State and Federal regulations.

The landfill operations include two landfill phases or development areas, a public disposal area, a closed tire disposal cell, four contact water ponds, a lined leachate evaporation pond, and four sedimentation basins. These facilities are described as follows:

- Phase I Landfill--A Class III waste management unit which is currently closed. The final cap was completed in the summer of 1992. This waste management unit covers approximately 20 acres and has a final in-place volume of approximately 800,000 cubic yards.

- Phase II Landfill--A subsequent waste management unit that succeeded the Phase I area. The Phase II operation is a different method of landfill operation. Phase I consisted of large-scale earthwork over a previously prepared base and liner. Phase II will continue to be prepared in increments of 200,000 to 500,000 square feet. Excavations will be made and an impervious liner and leachate collection system constructed in these incremental units. Daily and intermediate cover soil for the active unit will come from the excavation for the next increment. This soil is stockpiled from time to time. As of January 1, 1999, the developed portion of Phase II occupied about 30 acres and will cover an estimated 100 acres at full buildout.

  Phase II opened in 1991 with an annual tonnage of 90,000 tons. In 1998 the annual tonnage was 118,421 tons. As of January 1, 1999, the available waste capacity of Phase II is estimated at 5,855,000 cubic yards. As shown in Table 2-1, this should provide sufficient capacity until the year 2016. The following factors were used to estimate capacity:

  - Tonnage increases at an estimated 2.5 percent per year, in step with anticipated population increases

  - It is estimated that waste tons convert to volumes with the following formula:

    900 lb waste = 1 cubic yard of landfill space (waste and cover soil)

  - It is estimated that recycling will result in a 2.5 percent waste reduction each year, through the year 2000 which will basically offset waste disposal increases associate with population growth through 2000:

TABLE 2-1 PHASE-II UNIT CAPACITIES AND SITE-LIFE PROJECTIONS				
Unit	Capacity (CY)	Projected Construction Date	Projected Date Full	Estimated Life (yr)
remain (1&2)	487,890	N/A	Oct 2000	1.8
1D	991,143	Summer 1999	Mar 2004	3.5
3	1,455,852	Summer 2004	Dec 2008	4.6
4	1,987,565	Summer 2008	Jun 2014	5.6
5	932,407	Summer 2013	Jan 2016	1.6
Total	5,854,857	--	--	17.1

- Public Disposal Area--The landfill design includes a transfer facility for private citizen incoming waste. Requiring the disposing of such waste into specially designated 50 cubic yard boxes will allow for greater control by the operator and permits ease of implementing the hazardous waste screening program. The full boxes are transferred to the working face by the operator.

- Tire Disposal Area--A unclassified cell used for the disposal of tires that was closed in 1992. Tires are now temporarily stored in a sealed bin and diverted to fire a kiln at the Calaveras Cement Company.

- Contact Water/Leachate Collection Ponds--Includes four ponds used for the collection/evaporation of contact water and one Class II double-lined, impervious pond for leachate evaporation. This pond is covered by a metal roof to keep out rain water.

- Sedimentation Basins--Noncontact surface water from the site is routed through four sedimentation basins for detention and settlement of heavy soil particles prior to entering Dry Creek.

The governmental agencies that administer laws and regulations affecting landfill operations are the California RWQCB, the California IWMB, Shasta County Department of Environmental Health, Department of Fish and Game (Region I), and the Air Quality Management District. Table 2-2 lists each of these agencies and briefly describes their regulations.

Table 2-2
Summary of Applicable Regulations

Agency	Nature of Regulatory Control
California Regional Water Quality Control Board, Central Valley Region	Title 27 of the California Code of Regulations (CCR) instructs the Regional Water Quality Control Board (RWQCB) to approve sites suitable for disposal of solid wastes so that surface-water and groundwater quality are protected. The Regional Boards may prescribe specific water quality protection features that are deemed appropriate for each solid waste disposal site considered. Any governmental agency or individual who plans to operate a facility where wastes will be deposited on the land must apply to the appropriate RWQCB for a hearing of the proposed project and to receive waste discharge requirements that will govern the site operation and design. The County site is operating under a Waste Discharge Permit, Order No. 90-190, issued by the RWQCB, Central Valley Region. RWQCB staff conduct routine inspections and issue reports regarding Waste Discharge Requirements (WDR). (CCR Title 27, Division 2, Subdivision 1, Chapter 4, Subchapter 3)
California Integrated Waste Management Board (IWMB)	The IWMB sets minimum standards for the operation of all disposal sites in the state. The IWMB must concur with LEA issuance of the Solid Waste Facilities Permit, including theRDSI and other supporting documents. The standards are located in CCR Title 27.
Shasta County Environmental Health Division	Designated as the Local Enforcement Agency (LEA) for Solid Waste Operations by the IWMB. Enforces CCR Title 27 requirements, provides routine inspection and reports, and issues a Solid Waste Facilities Permit for all facilities.
Department of Fish and Game, Region 1	Regulates all activities in water courses or water course alterations.
Air Quality Management District (AQMD)	Local Air Pollution Control District under authority of the Air Resources Board regulates emissions from the landfill. This includes dust and landfill gases. Rule 3:29 and 40 CFR Part 60.754 (a) (3) (iii). Rule 3:16 provides that the AQMD may require mitigation of fugitive, indirect, or non-traditional sources to mitigate any such emissions to less than significant levels. Rule 3:16 has not been invoked to date. A Title 5 Operating Permit application, which further regulates all project emissions, is not required at this time but will be within 1 year after the California State Plan for Municipal Solid Waste Landfills are adopted by the Environmental Protection Agency (EPA). Proposed regulations by the EPA are currently under review.

Site Design

Phase I was designed in 1981 and constructed in 1982. The bottom of the canyon was lined with 3 feet of clayey soil. A groundwater underdrain system consisting of a perforated PVC pipe surrounded with gravel and filter fabric was installed beneath the liner. A leachate pipe surrounded with gravel and cobbles was installed on top of the clay liner to allow leachate collection. The final cap was in place by summer of 1992. Phase II has an estimated waste capacity of 6,500,000 cubic yards.

The Phase II leachate collection system consists of a one foot thick layer of leach rock on top of a network of 4" diameter, perforated HDPE piping, on top of the liner. The leachate collection pipes are laid in swales, or low points in the liner. Leachate collection pipes are spaced a maximum of 200' on center, underneath the entire waste pile. The collection pipes lead out of the waste unit to a 6-inch diameter leachate mainline. The mainline runs down the canyon to a wet well and pump station near the Phase I landfill toe. The leachate is pumped to a lined Class II pond for final treatment via evaporation. This pond has metal roof to prevent rainwater from entering the pond.

The leachate collection system was designed to:

1. Provide a route for leachate flow.

2. Confine leachate within fixed, controlled boundaries.

3. Prevent leakage of leachate out of the landfill face.

4. Prevent groundwater from contacting landfill refuse.

5. Minimize hydrostatic pressure on the liner.

Contact water is collected from the active face of the landfill during periods of moderate to intense rainfall. It is routed through a series of ditches and pipes on the landfill face to a sedimentation pond at the toe of Phase II and then to a 12-inch-diameter pipeline to Pond No. 1 at the base of the Phase I landfill. From there it is pumped to Pond No. 2, which is located on a ridge, and flows by gravity to Ponds No. 3 and 4. Contact water evaporates from Ponds No. 1 through 4 and a small amount is used for dust control in the active phases.

Landfill design and operation are tailored to the site. The main climatological factors to be considered in design are the volume, intensity and timing of precipitation. There are significant interrelationships between sub-units, leachate facilities and cover. Sub-units must be constructed during the dry season (summer), when the clayey soils can be successfully excavated, hauled, screened, mixed, placed and compacted. Leachate collection and storage facilities are designed to account for 1,000 year storm event. Leachate design volumes assume that infiltration/inflow of surface waters directly into the leachate collection system will be minimal. This is accomplished by dividing new expansions into multiple sub-units. One sub-unit is immediately connected into the leachate collection system and completely covered with five feet of waste and cover material

prior to the onset of the rainy season. The remaining sub-units, devoid of waste, drain to surface waters for the first rainy season after initial liner and leachate system construction. Following the first winter, they are connected to the main system and immediately covered with a minimum of five feet of waste and cover.

The Phase I landfill has a small sediment basin below the toe of the landfill. Because of the location and size of the Phase II area, it was not considered practical to use the Phase I sediment basin. Therefore, a small embankment was constructed in the main canyon below the Phase II area. This embankment has a rip rap overflow spillway adequate to pass a 100-year storm event. The basin was designed to settle out the majority of sediment in runoff from the landfill; however, some suspended clay will be discharged from the basin. This condition is similar to that in effect for the Phase I landfill.

Landfill Operations

The public self-haulers are required to dispose of solid waste materials in the transfer boxes located near the entrance gate. Commercial customers are directed to the active fill areas for discharging waste directly from the trucks. The waste piles are spread out by a dozer, scraper or landfill compactor in layers about 2 feet thick. These layers are compacted with the dozer or compactor several times in order to achieve a target density of approximately 900 pounds of waste per cubic yard. Soil cover is placed over the exposed waste at the close of each day's operation. The soil layer is not less than 6 inches thick after compaction.

Environmental Monitoring and Reporting

The California RWQCB has established Monitoring and Reporting Program No. 90-190 for the Richard W. Curry West Central Landfill site. This program is attached in Appendix A. In addition, California Code of Regulations Title 27 regulations require periodic monitoring of landfill parameters with reports submitted to the RWQCB, with a copy to the Local Enforcement Agency (LEA). Shasta County monitors nonhazardous waste quantities, groundwater, leachate, and surface water, as discussed below.

Nonhazardous Solid Waste Monitoring. Shasta County monitors all wastes discharged to the waste management units on a monthly basis. The results are reported quarterly to the LEA as shown in Table 2-3.

Table 2-3
Monitoring of Wastes at Richard W. Curry West Central Landfill

Parameter	Report in Units of	Frequency of Reporting
Quantity discharged	cubic yards	Quarterly
Type of material discharged	--	Quarterly
Source(s) of material discharged	--	Quarterly
Capacity of Phase II landfill unit remaining	percent	Annual

Leachate Monitoring. All landfill and surface impoundment areas, leachate collection system discharge pipes, and sumps are inspected weekly for leachate generation. Upon detection of leachate in a previously dry pipe, the landfill operator institutes sampling at monthly, quarterly, or semiannual frequencies thereafter, as required in the Waste Discharge Requirements. Leachate samples are analyzed for the constituents shown in Table 2-4.

Table 2-4
Monitoring of Leachate at Richard W. Curry West Central Landfill

Parameter/Constituent	Report in Units of	Sampling & Reporting Frequency
Flow Rate	gallons/day	Monthly
Specific Conductance (field)	µmhos/cm	Monthly
pH (field)	pH units	Monthly
Total Dissolved Solids	mg/l	Quarterly
Chloride	mg/l	Quarterly
Sulfate	mg/l	Quarterly
Nitrate (as N)	mg/l	Quarterly
Sulfides (including H_2S)	presence or absence	Quarterly
Carbonate Alkalinity	mg/l	Semiannually[a]
Bicarbonate Alkalinity	mg/l	Semiannually[a]
Total Alkalinity	mg/l	Semiannually[a]
Dissolved iron[b]	mg/l	Semiannually[a]
Sodium	mg/l	Semiannually[a]
Magnesium	mg/l	Semiannually[a]
Calcium	mg/l	Semiannually[a]
Potassium	mg/l	Semiannually[a]
Dissolved Organic Carbon	mg/l	Semiannually[a]
Volatile Organics[c]	µg/l	Semiannually[a]
Aluminum[b]	mg/l	Semiannually[a]
Antimony[b]	mg/l	Semiannually[a]
Arsenic	mg/l	Semiannually[a]
Cadmium[b]	mg/l	Semiannually[a]
Total Chromium (III + VI)[b]	mg/l	Semiannually[a]
Chromium (VI)	mg/l	Semiannually[a]
Copper[b]	mg/l	Semiannually[a]

Table 2-4 Monitoring of Leachate at Richard W. Curry West Central Landfill		
Parameter/Constituent	**Report in Units of**	**Sampling & Reporting Frequency**
Lead[b]	mg/l	Semiannually[a]
Manganese[b]	mg/l	Semiannually[a]
Mercury	mg/l	Semiannually[a]
Nickel[b]	mg/l	Semiannually[a]
Selenium	mg/l	Semiannually[a]
Silver[b]	mg/l	Semiannually[a]
Thallium[b]	mg/l	Semiannually[a]
Zinc[b]	mg/l	Semiannually[a]

[a]In February and in August if liquid is present. If liquid is not present in August, at the first detection of liquid thereafter (for leachate monitoring only).

[c]EPA Methods 601 and 602, or EPA Method 624 shall be used. All peaks shall be reported.

Groundwater Monitoring. The monitoring network consists of "background" Monitoring Wells OB-5, OB-7, OB-9 and OB-12 downgradient Monitoring Wells OB-2, OB-6A, OB-6B, OB-10, and OB-16. In addition, the groundwater underdrain system for Phase II is monitored. Wells OB-2, OB-6A, and OB-6B constitute the "points of compliance" with respect to groundwater. Since 1992 three new wells have been added, OB-10, OB-11 and OB-12. OB- 11 was located at the bottom of the canyon, in the middle of Phase II and was a downgradient "point of compliance". It was in the way of Phase II, unit II and so it was properly abandoned, in accordance with all applicable rules and regulations, and under the direction of a Registered Engineering Geologist. It was replaced with OB-16, approximately 400 feet farther down the canyon. Samples from all monitoring wells and groundwater underdrain systems are analyzed for the parameters and constituents listed in Table 2-5.

Table 2-5 Monitoring of Groundwater at Richard W. Curry West Central Landfill		
Parameter/Constituent	**Report in Units of**	**Sampling & Reporting Frequency**
Specific Conductance (field)	µmhos/cm	Monthly
pH (field)	pH units	Monthly
Turbidity	NTU	Monthly
Total Dissolved Solids	mg/l	Monthly
Chloride	mg/l	Monthly
Sulfate	mg/l	Quarterly
Nitrate	mg/l	Quarterly

Table 2-5 Monitoring of Groundwater at Richard W. Curry West Central Landfill		
Parameter/Constituent	**Report in Units of**	**Sampling & Reporting Frequency**
Sulfides (including H_2S)	presence or absence	Quarterly
Carbonate Alkalinity	mg/l	Quarterly
Bicarbonate Alkalinity	mg/l	Quarterly
Total Alkalinity	mg/l	Quarterly
Dissolved iron[a]	mg/l	Quarterly
Sodium	mg/l	Quarterly
Magnesium	mg/l	Quarterly
Calcium	mg/l	Quarterly
Potassium	mg/l	Quarterly
Dissolved Organic Carbon	mg/l	Semiannually[b]
Volatile Organics[c]	µg/l	Semiannually[b]
Aluminum[a]	mg/l	Semiannually[b]
Antimony[a]	mg/l	Semiannually[b]
Arsenic	mg/l	Semiannually[b]
Cadmium[a]	mg/l	Semiannually[b]
Total Chromium (III + VI)[a]	mg/l	Semiannually[b]
Chromium (VI)	mg/l	Semiannually[b]
Copper[a]	mg/l	Semiannually[b]
Lead[a]	mg/l	Semiannually[b]
Manganese[a]	mg/l	Semiannually[b]
Mercury	mg/l	Semiannually[b]
Nickel[a]	mg/l	Semiannually[b]
Selenium	mg/l	Semiannually[b]
Silver[a]	mg/l	Semiannually[b]
Thallium[a]	mg/l	Semiannually[b]
Zinc[a]	mg/l	Semiannually[b]
[c]EPA Methods 601 and 602, or EPA Method 624 shall be used. All peaks shall be reported.		

Surface-Water Monitoring. Surface-water monitoring stations have been established on Dry Creek above and below the point where runoff from the waste management facility enters the stream channel. The monitoring stations are:

R1 Discharge from the lower sediment pond in unnamed tributary of Dry Creek
R2 200 feet upstream from the point of discharge in Dry Creek
R3 500 feet downstream from the point of discharge in Dry Creek

R3 constitutes the point of compliance for surface water. Surface-water samples are obtained from R1, R2, and R3 during the first storm of the rainy season that produces significant flows. Surface-water samples are analyzed for the constituents shown in Table 2-6. Sampling is conducted during significant storm events (1 inch or greater in 24 hours) and weekly thereafter.

Table 2-6
Monitoring of Surface Water at Richard W. Curry West Central Landfill

Parameter/Constituent	Report in Units of	Frequency of Reporting
Total Suspended Solids	mg/l	Weekly
Turbidity	NTU	Weekly
Settleable Solids	mg/l	Weekly

Landfill Gas Monitoring. Since 1992 the following gas monitoring programs have been put in place;

- California solid waste regulations require the owner to monitor for the presence and movement of gases, and to take action to control such gases (27 CCR 20919). There are four locations along the property lines at the Richard W. Curry West Central Landfill site at which gas monitoring has been conducted quarterly since 1994. Subsurface tests are conducted using a 505 Gas Tech probe and a bar-hole punch penetrating approximately 18" below grade. Quarterly monitoring results are reported to the LEA. Also, a permanent gas detector was installed in the shop building.

- District Rule 3:29, as adopted on February 25, 1997, requires testing for Non-methane Organic Compounds (NMOC). The sampling was done in the closed Phase I area by first drilling a hole down to within one foot of the waste and then driving a stainless steel probe down onto the waste one meter. A filter just above the drive top allowed sampling of the gas. Tubing was connected to the drive probe and 6 liter vacuum canisters were used to obtain samples at a density of 2 samples per hectare. In 1997, samples were taken at 17 sites within Phase I, the results of testing indicate a (NMOC) emission rate of 20 MG/year and in compliance with current IWMB regulations. Regulations require the County to retest every five years.

Inspections. In 1996 the leachate collection system was tested to demonstrate that the leachate mainline under the existing Phase II was working properly. Testing equipment from the City of Redding sewer maintenance division was used to penetrate 600 feet under Phase II. No blockages were encountered and the test was videotaped.

The following inspections are made by the landfill operators on a regular basis:

- **Leachate Pond Liner Monitoring.** All visible portions of leachate pond liner are inspected on a weekly basis and their condition reported monthly to the RWQCB.

- **Leachate Collection Monitoring.** Leachate is tested and the system inspected monthly to demonstrate operation. The results are reported monthly to the RWQCB. A comparison is included with earlier tests made under comparable conditions.

- **Local Enforcement Agency (Shasta County Department of Environmental Health).** The LEA conducts monthly inspections as required by law. The landfill supervisor accompanies the LEA on these inspections as needed and a report of the inspection and discussion with the LEA is placed in the file.

Appendix B

Waste Quantities and Types, 1999 EIR Addendum for West Central Landfill

Section 3
Waste Quantities and Types

Waste Quantities

As described in the RDSI for Shasta County, 1998, an average of 380 tons per day of residential, commercial, and industrial wastes was received at the landfill in 1998. The amount of waste is expected to increase approximately 2 percent per year, as listed in Table 3-1. The peak waste load day typically occurs in August with approximately 580 tons per day. The minimum loading day typically occurs during the months of December or February with approximately 200 tons per day.

Shasta County has a *Source Reduction and Recycling Element* (SRRE) prepared for the IWMB. The SRRE is a waste management plan to reduce the solid waste going to landfills by 25 percent by the year 1995 and 50 percent by the year 2000. When the SRRE is adopted and the proposed waste management programs are implemented, the quantity of solid waste going to the landfill may be reduced from the quantities shown in Table 3-1.

Table 3-1
Five Year Projected Waste Flow
Richard W. Curry West Central Landfill

Year	Annual Tonnage (Tons)	Annual Volume (Cubic Yds)	Volume Cumulative (Cubic Yds)
1997	118,000	262,222	262,222
1998	118,421	262,222	524,444
1999	119,000	262,222	786,666
2000	120,950	268,778	1,055,444
2001	123,974	275,498	1,330,942
2002	127,073	282,384	1,613,326
2003	130,250	289,444	1,902,770

ASSUMPTIONS

1. All solid waste tonnages converted to volume with formula:
   1 cubic yard of landfill space = 900 lbs. of waste (.45 tons)

2. Starting weight of 118,421 tons based on 1998 tonnage.

3. A straight 2.5 percent per year increase in waste quantity based on estimated population increases of about 2.5 percent per year beginning in the year 2000.

Waste Types

The landfill as a Class III landfill may receive only Nonhazardous or Inert Wastes as defined in CCR, Title 27, Chapter 3, Section 20220 and 20230. In November 1984, CCR Title 23 changed the landfill regulatory designation from a Class II-II facility to a Class III facility. The change in classifications was for a definition clarification and did not change the allowable waste that could be received at the landfill. The current Title 27 requirements maintain the same nomenclature.

NONHAZARDOUS SOLID WASTE

Nonhazardous solid waste; This definition includes "all putrescible and nonputrescible solid, semisolid, and liquid wastes, including garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, discarded home and industrial appliances, manure, vegetable or animal solid and semisolid wastes, and other discarded solid or semisolid wastes; provided that such wastes do not contain wastes which must be managed as hazardous wastes, or wastes which contain soluble pollutants in concentrations which exceed applicable water quality objectives, or could cause degradation of waters of the state" (i.e. designated waste).

INERT WASTES

Inert waste is defined as follows; This includes "wastes that do not contain hazardous waste or the soluble pollutants at concentrations in excess of applicable water quality objectives, and do not contain significant quantities of decomposable waste." These are generally not water soluble, non-decomposable solid materials.

Other wastes may be accepted at the landfill with special permission from the regulatory community. Other wastes currently approved for disposal include:

- Sewage sludge - approx. 2000 tons/yr

DESIGNATED WASTE

Because the landfill is lined and equipped with a leachate collection and removal system, it may receive certain designated wastes. These wastes include those wastes defined in 27 CCR 20220 where written permission has been granted for those wastes that are nonhazardous but must be managed as "designated" wastes by the RWQCB. Not all defined designated wastes have been approved for disposal at the Richard W. Curry West Central Landfill. Among those that have been approved, only sludge from septage ponds is likely to be received in the immediate future.

These wastes may ONLY be received if the following conditions are met:

- The wastes are NONHAZARDOUS or have received a variance from the California Department of Health Services.
- The wastes meet the conditions, requirements or definition of a designated waste pursuant to 27 CCR chapter 3 sec. 20180.
- Written permission is received from the Regional Water Quality Control Board and the Shasta County Environmental Health Department.
- Test results are available that provide information on the chemical composition and leachability of the waste.

Appendix C

Load Screening Program, 1999 EIR Addendum for West Central Landfill

Section 4
Load Screening Program

The load screening program helps prevent the disposal of hazardous wastes at the landfill. The load screening program was implemented by the City of Redding beginning in January 1990, when the City took over as contract operator of the landfill. In 1995 the load screening program was greatly improved with the opening of the City of Redding Transfer Station. The City of Redding waste accounts for approximately 66% of the tonnage that goes to the landfill. This waste is dumped on the tipping pad at the transfer station where an additional opportunity exists for load screening on a continuous and daily basis.

The load-screening program consists of the following components:

- Signs posted at the landfill and leaflets distributed that identify those wastes that are considered hazardous and cannot be disposed of at the landfill.
- Verbal entrance check with drivers of incoming waste loads to determine if their loads contain any hazardous wastes.
- Random load check.
- Visual inspections of waste deposition area.
- Visual inspections of City of Redding wastes at the Redding Transfer Station and permanent Household Hazardous Waste Collection Facility (PHHWCF)
- Employee training programs.

Signs and Leaflets

Signs are posted at the entrance to the landfill listing the types of materials considered to be hazardous waste that cannot be disposed of at the landfill. Leaflets are also distributed describing wastes that cannot be accepted, means of reducing unacceptable wastes, and alternative locations for the disposal of hazardous waste. The leaflets inform parties that the Permanent Household Hazardous Waste Collection Facility (PHHWCF) at the Redding Transfer Station exists.

Entrance Check

The gate attendant is trained to question the driver of each private waste load with the following inquiry:

> "Do you have any hazardous wastes in your load such as paint, waste oils, solvents, pesticides, or other wastes identified on the sign in front of you?"

If the driver responds in the negative, then the driver is asked to proceed to the waste disposal area. If the answer is affirmative, the driver is asked to separate those items from the load and remove them from the landfill. An isolated area is established where the driver can sort the waste load, temporarily leave the hazardous waste while dumping the solid waste, and then pick up the hazardous waste for removal from the landfill. The license number of the vehicle and the reason for the turn back are noted on daily logs.

The gate attendant, who is trained to recognize hazardous waste, visually inspects every private load as it passes through the entrance.

Load Checking

The random load-checking component consists of checking commercial and public loads every month. Approximately 16 loads are inspected each month at the landfill and the Redding Transfer Station. As the driver of the randomly selected commercial load enters the landfill, the driver is directed toward a designated area near the working face. This designated area will be free of waste and covered with compacted soil. The driver is asked to deposit the waste in a windrow. An observer, trained to recognize hazardous waste, sorts through the waste. If heavy items are included in the waste load, the bulldozer may be used to distribute the load for inspection. Care will be taken by the bulldozer operator not to crush the load. Once the inspection is complete, all nonhazardous waste is pushed to the working face by the bulldozer. Hazardous waste is seldom found. Most of what is found consists of household items such as used motor oil, paint, etc. Monthly reports of the inspection results are on file with the Shasta County Department of Public Works.

If hazardous wastes are found during the load screening, the following response will be taken:

Origin Identified

If the source of the waste can be identified, the individual disposing of the waste will be asked to remove the waste and hold it for future household hazardous waste collection days or dispose of the waste properly (pursuant to CCR Title 27).

Drivers of commercial vehicles will be questioned as to the possible source(s) of the waste(s). If the source of the hazardous waste can be identified, then the source will be contacted and requested to remove the wastes from the site for proper disposal.

Source Unknown

If the source of the material cannot be identified, the materials that are recyclable and for which County recycling facilities are available will be separated. Oil and batteries will be taken to the City recycling facility.

If the source of the material cannot be identified and no county/city facility exists to recycle the waste, then the landfill operator will store the waste until sufficient quantities are accumulated for shipment to a recycler or to an appropriate disposal site. The landfill will store these materials in an enclosed storage area in the storage area building. The maximum storage time of hazardous wastes is approximately 90 days or as allowed by CCR Title 27. Similar materials will be stored together. The storage area will be locked and posted that hazardous materials are contained within. The City has obtained an EPA generation number (CAD981583784) for disposal and recycling of these wastes.

Load screening activities at the landfill are publicized in local newspapers on a periodic basis to make the public aware of the program and to demonstrate the landfill's strong commitment to preventing the disposal of hazardous wastes. The results of the load screening program, the types of hazardous wastes found, and the environmental hazards associated with the disposal of these wastes in a solid waste landfill are discussed in the local newspaper. During the month of October 1998, 15 loads were inspected at the landfill, very little environmental contaminants were found; spray cans, paints and cleaners.

Visual Inspection of Waste Area

The working face is inspected for hazardous wastes by the equipment operator. The working face inspection is continuous and for all loads. The equipment operators are trained to identify hazardous waste materials at the landfill face.

Any hazardous material discovered in the waste area is isolated and the owner of the material is requested to remove the material from the site.

Employee safety is important. Employees are instructed not to handle leaking, unmarked, or damaged containers. Leaking and damaged containers of unknown origin are a serious threat to employee and public health and safety. Hazardous materials of unknown origin are identified and dealt with by qualified professionals.

Visual Inspection of City of Redding Waste on Transfer Station Tipping Floor and the Permanent Household Hazardous Waste Collection Facility (PHHWCF)

City of Redding waste, both residential and commercial, are deposited on the tipping floor of the transfer station prior to being pushed to a compaction device and loaded into trucks bound for the landfill. While on the tipping floor, load screening and recyclables screening takes place. Also, with the establishment of PHHWCF, there is currently a place to safely dispose of household hazardous waste projects.

Employee Training Programs

Employees are given eight hours of training upon hire and annually thereafter in a Hazardous Waste Identification Program.

Appendix D

Notice of Preparation and Comment Letters

SHASTA COUNTY

DEPARTMENT OF PUBLIC WORKS

1855 PLACER STREET
REDDING, CA 96001
(530) 225-5661
FAX (530) 225-5667
DPW/ROADS 1-800-479-8022

PATRICK J. MINTURN
DIRECTOR

October 31, 2001

FWS 070401

State Clearinghouse
Office of Planning & Research
1400 Tenth Street, Room 222
Sacramento, CA 95814

Subject: Notice of Completion

Dear Sir/Madam:

Attached is the Notice of Completion and fifteen copies of the Notice of Preparation package for Environmental Impact Report concerning the continued operation of the West Central Landfill. Also attached is our distribution list to which agencies were directly sent the NOP package via certified mail.

If you have any questions or need further information, please call Dan Little at (530) 245-6819.

Very truly yours,

Patrick J. Minturn, Director

By _____
FOR Daniel J. Kovacich
Deputy Director - Administration

DJK/DSL/jmg

Enclosures

NOTICE OF COMPLETION

State of California
Office of Planning and Research
1400 Tenth Street
Sacramento, CA 95814

Ongoing Operations at the West Central Landfill
Project Title:

The project is located in the Igo area off Clear Creek Road and is commonly known as the West Central Landfill (WCL). The site address is 14095 Clear Creek Road.
Project Location - Specific:

Igo — **Project Location - City/Community:**

Shasta — **Project Location - County:**

Description of Nature, Purpose, and Beneficiaries of Project:
Ongoing development of Phase II at the WCL as currently permitted by the California Integrated Waste Management Board. Phase II covers 100 acres.

The WCL, owned by Shasta County, has been operational since 1982. It is permitted as a Class III solid waste disposal site serving the western portion of Shasta County. The site has been developed in two phases. Phase 1 was operated from 1982 through 1991, and covers approximately 20 acres. Ponds, access roads, a maintenance building, and associated facilities cover about 80 acres. A Final Closure and Postclosure Maintenance Plan for Phase 1 was prepared for Shasta County in December 1990. The Phase II portion of the landfill is being developed in subphases over a period of 20 to 25 years. Phase 2 began receiving waste in the summer of 1991. The WCL receives approximately 120,000 tons of solid waste annually.

The initial EIR for the landfill was certified April 22, 1980 (SCH#79021259). The EIR considered the existing landfill site - including the Phase I and Phase II footprints - and several other alternative sites as required under the California Environmental Quality Act (CEQA). After completion of Phase I, the EIR was updated by an addendum approved February 25, 1992 (SCH #91123013). A second EIR Addendum was prepared and adopted in March 1999 for continued operation of Phase 2.

This proposed, new and, updated EIR would supercede all prior environmental documents. Although development plans and operations for the WCL are unchanged, the environmental documentation has become fragmented and somewhat outdated due to changing regulatory requirements.

Lead Agency:

Shasta County

Division:

Department of Public Works

Address Where Copy of EIR is Available:

1855 Placer Street, Redding, CA 96001

Review Period

October 31, 2001 through December 14, 2001

Contact Person:

Daniel Little

Area Code/Phone/Extension

(530) 245-6819

Reviewing Agencies Checklist

- ☐ Resources Agency
- ☐ Boating/Waterways
- ☐ Conservation
- ☒ Fish & Game
- ☐ Forestry
- ☐ Colorado River Board
- ☐ Dept Water Resources
- ☐ Reclamation
- ☐ Parks and Recreation
- ☐ Office of Historic Preservation
- ☐ Native American Heritage Commission
- ☐ S.F. Bay Cons. & Dev't Commission
- ☐ Coastal Commission
- ☐ Energy Commission
- ☐ State Lands Commission
- ☐ Air Resources Board
- ☒ Solid Waste Management Board
- ☐ SWRCD: Sacramento
- ☒ RWQCB: Region # Central Valley
- ☐ Water Rights
- ☐ Water Quality
- ☒ Caltrans District 2
- ☐ Dept of Transportation Planning
- ☐ Aeronautics
- ☐ California Highway Patrol
- ☐ Housing and Community Development
- ☐ Statewide Health Planning
- ☐ Health
- ☐ Food and Agriculture
- ☒ Public Utilities Commission
- ☐ Public Works
- ☐ Corrections
- ☐ General Services
- ☐ OLS
- ☐ Santa Monica Mountains
- ☐ TRPA
- ☐ OPR - OLGA
- ☐ OPR - Coastal
- ☐ Bureau of Land Management
- ☐ Forest Service
- ☐ Other _____

For SCH Use Only:

Date Received at SCH _____

Date Review Starts _____

Date to SCH _____

Clearance Date _____

Catalog Number _____

Applicant _____

Consultant _____

Contact _____ Phone _____

Address _____

Notes: _____

Notice of Completion and Environmental Documentation Transmittal Form

For SCH Use:
SCH # _____

1. Project Title: EIR Update for Ongoing Operations at the West Central Landfill
2. Lead Agency: Shasta Co Dept of Pub Wks
3. Contact Person: Daniel Little
3a. Street Address: 1855 Placer Street
3b. City Redding
3c. County: Shasta
3d. Zip: 96001 3e. Phone: 530-245-6819

Project Location

4. County: Shasta
4a. Nearest City/Community: _____
4b. Assessor's Parcel No.: Various
4c. Section: 3 TWP 30N Range 6W
5a. Cross Streets: Clear Crk Rd/Cloverdale Rd
5b. For Rural, Nearest Community Igo
6. Within 2 miles a: State Hwy # _____ b. Airports _____
c: Railways _____ d. Waterways Dry Creek, Clear Creek

7. Document Type

CEQA: 01. ☒ NOP
02. ☐ Early Cons
03. ☐ Neg Dec
04. ☐ Draft EIR
05. ☐ Supplement/Subsequent
06. ☐ NOE
07. ☐ NOC
08. ☐ NOD
NEPA: 09. ☐ NOI
10. ☐ FONSI
11. ☐ Draft EIS
12. ☐ EA
Other: 13. ☐ Joint Document
14. ☐ Final Document
15. ☐ Other _____

8. Local Action Type

01. ☐ Gen. Plan Update
02. ☐ New Element
03. ☐ Gen Plan Amndmt.
04. ☐ Master Plan
05. ☐ Annexation
06. ☐ Specific Plan
07. ☐ Community Plan
08. ☐ Redevelopment
09. ☐ Rezone
10. ☐ Land Division (Subdivision, Parcel Map, Tract Map, etc.)
11. ☐ Use Permit
12. ☐ Waste Mgmt Plan
13. ☐ Cancel Ag. Preserve
14. ☒ Other Public Landfill

9. Development Type

01. ☐ Residential: *Units* _____ *Acres* _____
02. ☐ Office: *Sq.ft.* _____ *Acres* _____ *Employees* _____
03. ☐ Shopping/Commercial: Sq.ft. _____ *Acres* _____ *Employees* _____
04. ☐ Industrial: Sq.ft. _____ *Acres* _____ *Employees* _____
05. ☐ Water Facilities MGD _____
06. ☐ Transportation: Type _____
07. ☐ Mining: *Mineral* _____
08. ☐ Power: *Type* _____ Watts _____
09. ☐ Waste Treatment: *Type* _____
10. ☐ OSC Related
11. ☒ Other: Public Landfill

10. Total Acres 100 **11. Total Jobs Created** _____

12. Project Issues Discussed in Document

01. ☒ Aesthetic/Visual
02. ☒ Agricultural Land
03. ☒ Air Quality
04. ☒ Archeological/Historical
05. ☐ Coastal Zone
06. ☐ Economic
07. ☒ Fire Hazard
08. ☒ Flood/Drainage
09. ☒ Geologic/Seismic
10. ☐ Jobs/Housing Balance
11. ☐ Minerals 0
12. ☒ Noise
13. ☒ Public Services
14. ☐ Schools
15. ☐ Septic Systems
16. ☐ Sewer Capacity
17. ☐ Social
18. ☒ Soil Erosion
19. ☒ Solid Waste
20. ☒ Toxic/Hazardous
21. ☒ Traffic/Circulation
22. ☒ Vegetation
23. ☒ Water Quality
24. ☐ Water Supply
25. ☒ Wetland/Riparian
26. ☒ Wildlife
27. ☐ Growth Inducing
28. ☒ Incompatible Land Use
29. ☒ Cumulative Effects
30. ☐ Other _____

13. Funding (approx) Federal $ _____ State $ _____ Total $ _____

Present Land Use and Zoning Public Facility

Project Description Ongoing development of Phase II at the WCL as currently permitted by the California Integrated Waste Management Board. Phase II covers 100 acres.

16. Signature of lead Agency Representative _____ **Date** 10-30-01

NOTICE OF PREPARATION

To: State Clearinghouse
Office of Planning & Research
1400 Tenth Street
Sacramento, CA 95814

From: Shasta County Dept of Public Works
1855 Placer Street
Redding, CA 96001

Subject: **Notice of Preparation of a Draft Environmental Impact Report for Ongoing Operations and Permitting at the West Central Landfill.**

The Shasta County Department of Public Works (SCDPW) will be the lead agency to prepare an environmental impact report (EIR) for ongoing operations and permitting at the West Central Landfill. We need to know the views of your agency as to the scope and content of the environmental information applicable to your agency's statutory responsibilities. This EIR will be used by our agency when considering permits or other approvals for the project.

The project description, alternatives, location, and the potential environmental effects are contained in the attached materials.

As part of your response, please provide the following information:

- ❑ The agency contact person's name, title, address, phone number, and E-mail to which future correspondence regarding this project would be directed;
- ❑ The types of permits or approvals which may be required to continue operations of the WCL, including applicable code sections and a summary of typical requirements; and
- ❑ Concurrence or additional comments regarding the attached summary of significant environmental issues, reasonable alternatives and mitigation measures which will need to be explored in the EIR to issue such approvals (CEQA Guidelines §15082(b)(1)(A)).

Due to the time limits mandated by State law, your response must be sent at the earliest possible date, but not later than December 21, 2001.

Please send your response to Dan Little, Senior Planner, at the address shown above.

Date October 31, 2001

Signature 

Title Senior Transportation Planner

Telephone (530) 245-6819

Reference: California Code of Regulations, Title 14, (CEQA Guidelines) Sections 15082(a), 15103, 15375.

SHASTA COUNTY

DEPARTMENT OF PUBLIC WORKS

1855 PLACER STREET
REDDING, CA 96001
(530) 225-5661
FAX (530) 225-5667
DPW/ROADS 1-800-479-8022

PATRICK J. MINTURN
DIRECTOR

Project Information
Notice of Preparation for Draft Environmental Impact Report

Project Title:

EIR Update for Ongoing Operations of the West Central Landfill

Lead Agency:

Shasta County Department of Public Works
1855 Placer Street, Redding CA 96001
(530) 245-6819
http://www.co.shasta.ca.us

Lead Agency Contact:

Dan Little, Senior Planner
Shasta County Department of Public Works
1855 Placer Street
Redding CA 96001
(530) 245-6819
dlittle@co.shasta.ca.us

Project Location:

Shasta County: The project is located in the Igo area off Clear Creek Road and is commonly known as the site of the West Central Landfill (see attached location map). The site address is 14095 Clear Creek Road

Project Description:

Ongoing development of Phase II and Phase III at the West Central Landfill (WCL). Phase II covers 100 acres.

The WCL, owned by Shasta County, has been operational since 1982. It is permitted as a Class III solid waste disposal site serving the western portion of Shasta County. The site has been developed in two phases. Phase 1 was operated from 1982 through 1991, and covers approximately 20 acres. Ponds, access roads, a maintenance building, and associated facilities cover about 80 acres. A Final Closure and Postclosure Maintenance Plan for Phase 1 was prepared for Shasta County in December 1990. The Phase 2 portion of the landfill is being developed in subphases over a period of 20 to 25 years. Phase 2 began receiving waste in the summer of 1991. The WCL receives about 120,000 tons of solid waste annually.

The initial EIR for the landfill was certified April 22, 1980 (SCH#79021259). The EIR considered the existing landfill site - including the Phase I and Phase II footprints - and several other alternative sites as required under the California Environmental Quality Act (CEQA). After completion of Phase I, the EIR was updated by an addendum approved February 25, 1992 (SCH #91123013).

A second EIR Addendum was prepared and adopted in March 1999 for continued operation of Phase 2.

This new, updated EIR would supercede and update all prior environmental documents. Although development plans and operations for the WCL are unchanged, the environmental documentation has become fragmented and somewhat outdated due to changing regulatory requirements.

Alternatives:

The range of alternatives have not yet been fully considered. Since the project is limited to ongoing use within the permitted area of the landfill, the range of alternatives will be limited. An off-site alternative will not be considered; however, the original siting EIR and corresponding off-site alternative analysis will be referenced. Alternatives may include the following:

- ❑ Lower or higher vertical limits within the existing Phase II footprint.
- ❑ Increasing or decreasing the Phase II footprint
- ❑ Changed phasing or design
- ❑ No project: Closing landfill operations

Potentially Significant Impacts:

The EIR may also include statements of overriding consideration for transportation related impacts such as noise and air quality. Subsequent discretionary approvals to develop units within Phase II will require an assessment for consistency with this EIR. Subsequent CEQA documents may be necessary pursuant to CEQA Guidelines §15152.

Impact analysis will be assessed in the following manner:

- environmental impacts based on existing operations and anticipated future operations
- applicable local, state and federal standards which address identified impacts
- mitigation measures to reduce such impacts
- whether such impacts can be reduced to less than significant levels
- Where adequate mitigation is not feasible, potential economic, legal, social, technological or other factors for statements of overriding consideration as may be contemplated by the lead agency (CEQA Guidelines §15093)

Previously identified impacts and mitigation included the following:

Aesthetics: The prior EIR identified visual impacts involving surrounding land uses and increased traffic primarily along Clear Creek Road with some increased usage of Gas Point, Cloverdale, and Placer Roads. The mitigation measures include fencing and screening of the site; a separate access road off Clear Creek Road; and revegetation of the completed landfill phases. The landfill was sited to be isolated from the view of residents and traffic along Clear Creek and Cloverdale Roads. The topography of the site permits visual screening after completion of the landfill. Visual impacts associated with litter were also identified.

Visual impacts relating to traffic have been made less severe due to significant reductions in traffic levels resulting from the new Redding Transfer Facility.

Mitigation measures previously identified continue to be implemented. The Phase I cap meets the elevations standards specified in the Phase I Closure/Post-Closure Plan and the prior EIR which calls for an average cap elevation of approximately 1,000 feet above sea level. This elevation is intended to keep the cap below the surrounding terrain. The cap has been revegetated and is not visible from adjacent public roads. Daily litter clean-up on site is performed with monthly inspections by the LEA. The County also sponsors free disposal days and clean-ups of illegal dumping in the area. Fencing has been included around the transfer area to reducing littering and dumping. A full-time employee has also been hired exclusively for litter abatement.

Agricultural Resources: The Shasta County Important Farmland maps recognize this site as a permitted landfill site. The maps designate the area as "Urban/Built-Up"). Adjoining property is designated as "Grazing Land"

Air Quality: Previously identified air quality impacts include vehicular emissions, dust, and, potentially, methane gas. The mitigation measures for dust included paving an access road, wetting the onsite dirt roads, and revegetation of completed portions of the landfill.

A substantial reduction in vehicle trips to the site has lessened the severity of air quality impacts related to vehicle emissions.

The project is monitored by the Air Quality Management District and is consistent with the 1997 Air Quality Attainment Plan.

Dust, odors, and gas migration impacts remain potentially significant. Mitigation measures previously identified continue to be implemented. The site complies with applicable air quality standards. The previously identified mitigation measures remain in effect and additional mitigation has been provided which include additional paving and gas monitoring.

Biological Resources: The prior EIR identified impacts due to disruption of the existing vegetation and a decrease in the habitat available for animals at the landfill. Mitigation included revegetation of the landfill as the phases were completed and operating small portions of the site using a sub-phased, incremental approach.

Current natural diversity data base maps have been reviewed and no new species of concern have been identified which are likely to inhabit the area. The site is not within any areas identified as sensitive habitat or habitat for rare or unique species. No critical migration corridors have been identified and no local biological protection ordinances or habitat conservation plans are in effect for the site. The Phase II area consists of a steeply sloped canyon with an ephemeral stream (currently diverted around the active area) and no wetlands have been identified. The next proposed Phase II cell has been previously excavated for cover material.

The previously identified mitigation measures remain in effect. Additional mitigation has been provided which includes additional seeding on intermediate cover areas and acquisition of additional BLM land as a buffer area.

Cultural Resources: The prior EIR identified no archaeological impacts. An archaeological reconnaissance of the site was conducted and the investigation showed that no significant archaeological resources existed within the landfill site; however, there is always a potential to uncover unknown features during ongoing activities. As a mitigation measure, it was recommended that if subsurface archaeological features were uncovered during earth moving activities, the activities would be stopped until a qualified archaeologist could assess their importance. Provisions for this are included in all construction contracts.

The Phase II cell has been previously excavated for cover material. During recent acquisition of the adjoining BLM site, a BLM archeologists conducted a field investigation of the site in 1998, and found no resources.

Geology and Soils: The prior EIR identified impacts relating to the displacement of soils and the potential erosion and siltation that could occur. The mitigation measure for this impact is construction of a siltation basin. Two sedimentation basins have been constructed onsite. These basins accept surface runoff and allow the heavier particles to settle out prior to discharge in a tributary to Dry Creek.

The project is not within a fault zone as identified on Alquist-Priolo mapping. Soil testing has been conducted and soils are not considered expansive. Soils can support septic tanks; however, only one is necessary which is located near the shop building.

Grading practices have not substantially changed. The subphase approach is still utilized; however, a total of eight units are now planned for Phase II rather than the seven units that were contemplated in the 1992 EIR update.

The previously identified mitigation measures remain in effect. Additional mitigation has been provided which includes two additional sedimentation ponds (resulting in a total of four), additional seeding on intermediate cover areas, and stockpiling of top soil for use on caps.

Hazards and Hazardous Materials: The prior EIR identified that refuse buried in the landfill could come in contact with water, forming a mineralized liquid called leachate. Leachate could contaminate the groundwater and surface water if not contained. Vectors, such as flies, birds, and rodents may also result in potential health problems. Mitigation includes a leachate and contact water collection system, diversion of surface water around the site, use of landfill liner, groundwater monitoring, and surface water monitoring. Mitigation for vectors consisted of compacting waste and providing a daily cover of clean soil over the waste.

These previously identified mitigation measures continue to be implemented. Ongoing monitoring activities demonstrate compliance with State and Federal standards. Groundwater monitoring is conducted in compliance with the schedule set up by the Regional Water Quality Control Board (RWQCB) through the Waste Discharge Requirements (WDR). (The landfill has repeatedly been noted for having "outstanding" cover practices in inspections by the California Integrated Waste Management Board and the Local Enforcement Agency.)

Additional mitigation has been provided which includes improved lining materials and techniques, an improved leachate collection system, increased capacity of leachate and contact water ponds, leachate system monitoring/testing, three additional groundwater monitoring wells, improved surface water monitoring, and new, more stringent waste discharge requirements.

The site is a class III landfill and does not accept hazardous materials. There are no airports or airstrips within two miles of the landfill. There are no schools within one-quarter mile of the landfill. The project is consistent with Shasta County Fire Safe Standards including provisions for emergency evacuation.

Facilities such as piped water, water storage and hydrants are available for fire protection. Above ground fuel storage tanks include containment areas pursuant to RWQCB requirements.

Hydrology and Water Quality: The prior EIR identified impacts and mitigation to water quality associated with leachate and contact water. The site is in compliance with Waste Discharge Requirements of the California Regional Water Quality Control Board.

Surface water (an unnamed ephemeral tributary to Dry Creek) has been diverted around the working landfill area to maintain water quality.

No structures are proposed within a designated flood plain. Soils on the site have a high clay content and are relatively stable.

The amount of surface water runoff is slightly decreased due to sedimentation basins and contact water detention ponds. Surface water runoff is also increased slightly over capped portions of closed cells. The tributary to Dry Creek is not within a FEMA mapped flood plain; however, taken together or individually impacts relating to changes in surface water volumes are less than significant.

Land Use and Planning: As this is an existing activity, the project is consistent with applicable land use plans and the Siting Element of the Shasta County Integrated Waste Management Plan. Surrounding land use patterns have not changed significantly. The nearest residence adjacent to the landfill is located approximately 3,000 feet from the landfill disposal area to the south. Two canyons separate the landfill from this residence. Residences are also located to the northwest and east within 1 mile of the landfill disposal area. Residences to the west are greater than 1 mile from the landfill disposal area. The approximate distance to the house located northwest of the landfill is 4,000 feet. There is one canyon between the landfill and this home. The approximate distance to the houses located east of the landfill is 5,000 feet. A major drainage, Dry Creek, is between the landfill and these homes.

Mineral Resources: No important mineral resources have been identified at this site.

Noise: The prior EIR identified noise from landfill generated vehicular traffic and landfill operations as an impact. Previously identified mitigation consisted of noise attenuation on landfill equipment and restricting hours of operation.

There are no nearby neighbors to the landfill and no complaints have been received regarding noise associated with the landfill.

Project operations have changed to reduce the level of noise impacts below baseline levels discussed in the 1992 EIR update. Truck traffic to the landfill has been significantly reduced due to two factors. First, solid waste disposal is below 1992 projections. Second, the Redding Solid Waste Transfer Facility

became operational in 1995. All City collection trucks haul to the Transfer Facility where the waste is compacted and placed in transfer trucks with 43-foot top-load trailers before being hauled to the landfill. According to the City of Redding, this has reduced the average daily Redding truck trips from 65 to 12. Most self-haul traffic also began using this facility rather than the hauling out to the landfill. With development of the next proposed cell in Phase II, noise impacts will remain at current levels since waste volumes and daily operations will essentially remain unchanged. The recent purchase of a BLM buffer area will minimize new residences in the surrounding area.

Population and Housing: The project is not growth inducing and will not displace housing or people. More expensive, out-of-county and out-of-state disposal alternatives are available.

Public Services: As this is an existing operation, the project will not require new police, school or park services or other services. Fire protection services will be improved since water service is now provided and fire hydrants have been installed.

Recreation: There are no recreational facilities in the immediate vicinity of the project.

Transportation/Traffic: The prior EIR identified traffic impacts associated with landfill generated traffic. Previously identified mitigation consists of providing adequate access roads to the site to prevent traffic congestion, compacting refuse to reduce trips, operating the landfill on a set schedule, and using large volume refuse vehicles to reduce the number of daily truck trips.

Traffic impacts have been substantially reduced. The only problem associated with traffic congestion resulting from the landfill was unsafe left-turn movement from Clear Creek Road to the site access road. A left-turn lane has been constructed at this location.

With development of the next proposed cell in Phase II, traffic impacts will remain at current levels since waste volumes and daily operations will essentially remain unchanged.

The project is consistent with the Shasta County Fire Safe Standards for emergency access.

Utilities and Service Systems: The prior EIR identified impacts and mitigation related relating to wastewater treatment of leachate and contact water, and storm water drainage facilities. Adequate water service is currently provided to the site and there is no off-site waste treatment provider. The project complies with all federal, state, and local regulations relating to solid waste.

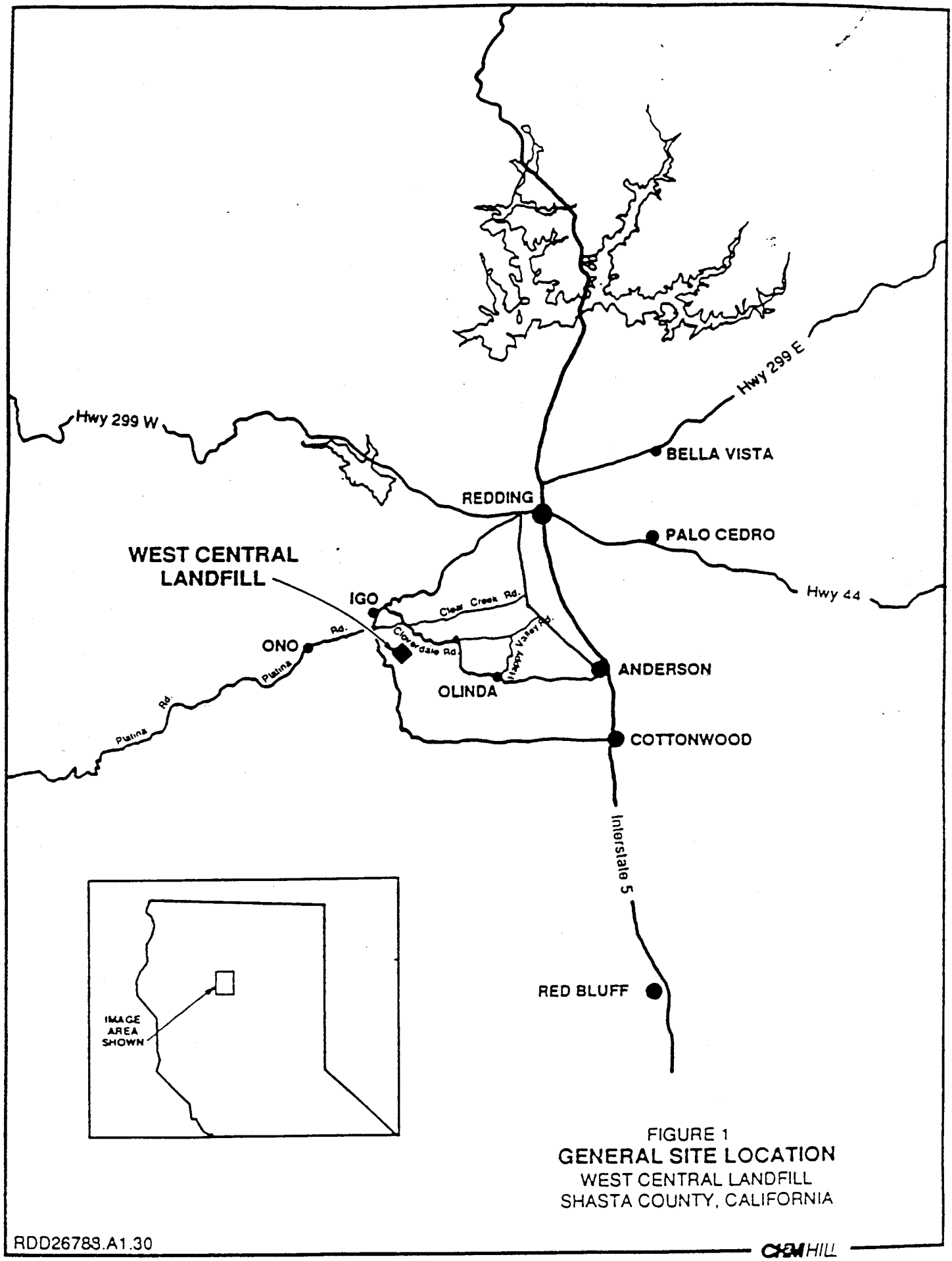

FIGURE 1
GENERAL SITE LOCATION
WEST CENTRAL LANDFILL
SHASTA COUNTY, CALIFORNIA

RDD26788.A1.30

CH2M HILL

WEST CENTRAL LANDFILL EIR

LIST OF AGENCIES

Jim Cook
Shasta County
Department of Resource Management
1855 Placer Street, Suite #103
Redding, CA 96001

U.S. Fish & Wildlife Services
U.S. Department of the Interior
3310 El Camino Avenue, Suite #130
Sacramento, CA 95821

Brad Hubbard
U.S. Army Corps of Engineers
1325 "J" Street
Sacramento, CA 95814-2922

City of Shasta Lake
Planning Department
P.O. Box 777
Shasta Lake, CA 96019

Department of Transportation
Caltrans District 2
P.O. Box 496073
Redding, CA 96049-6073

Western Shasta Resource
Conservation District
3294 Bechelli Lane
Redding, CA 96002

California Regional Water
Quality Control Board
415 Knollcrest Drive
Redding, CA 96002

Mike Kussow
Shasta County
Department of Resource Management
Air Quality Management Division
1855 Placer Street, Suite #101
Redding, CA 96001

Jack Miller
State of California
Department of Fish & Game
601 Locust Street
Redding, CA 96001

State Historic Preservation Officer
Office of Historic Preservation
Department of Parks & Recreation
P.O. Box 942896
Sacramento, CA 94296-0001

Carla Serio
Shasta County
Department of Resource Management
Environmental Health Division
1855 Placer Street, Suite 201
Redding, CA 96001

Bonny Lilly
California Integrated Waste
Management Board
8800 Cal Center Drive
Sacramento, CA 95826

Planning Manager
City of Anderson
Planning Department
1887 Howard Street
Anderson, CA 96007

Jim Hamilton
City of Redding
Planning Department
777 Cypress Avenue
Redding, CA 96001

California Integrated Waste Management Board

Linda Moulton-Patterson, Chair
1001 I Street • Sacramento, California 95814 • (916) 341-6000
Mailing Address: P. O. Box 4025, Sacramento, CA 95812-4025
www.ciwmb.ca.gov

Winston H. Hickox
Secretary for Environmental Protection

Gray Davis
Governor

Post-it® Fax Note 7671	Date 12-21-01	# of pages ▶ 4
To Daniel Little	From John Loane	
Co./Dept. Public Works	Co. CIWMB	
Phone # (530) 245-6819	Phone # (916) 341-6327	
Fax # (530) 225-5667	Fax # (916) 319-7213	

December 21, 2001

Daniel Little, Senior Transportation Planner
Department of Public Works
Shasta County
1855 Placer Street
Redding, California 96001

Subject: **SCH #2001112020** – Notice of Preparation of a Draft Environmental Impact Report (EIR) which is intended to supercede and update all prior environmental documents (EDs) for the ongoing operations at the West Central Landfill (WCLF), SWIS No. 45-AA-0043, Shasta County.

Dear Mr. Little:

Environmental Review Section (ERS) staff of the California Integrated Waste Management Board (IWMB or Board) have reviewed the document cited above. Thank you for allowing the IWMB to comment on the NOP within the designated public review period ending December 21, 2001. Following is a description of the proposed project based on ERS staff's understanding of the project as described in the NOP and clarified during phone conversations with you; 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, Board staff requests that any significant differences be clarified and included in the Draft EIR.

Proposed Project Description

The WCLF is a permitted Class III solid waste disposal site located at 14095 Clear Creek Road in the Igo area of Shasta County. The facility has served the western portion of Shasta County since 1982. The site has been developed in two phases. Phase I was operated from 1982 through 1991, and covers approximately 20 acres. Phase II began receiving waste in the summer of 1991. The phase II portion of the landfill is being developed in subphases over a period of 20 to 25 years. The Phase II cell has been previously excavated for cover material.

Other changes at the WCLF to be included in the Draft EIR are: the recent acquisition of adjoining Bureau of Land Management (BLM) land for use as a buffer area, eight units are now planned for Phase II rather than seven units, construction of two additional sedimentation ponds, installation of three additional groundwater monitoring wells, and the stockpiling of top soil for use on landfill caps. Ponds, access roads, a maintenance building, and associated facilities cover about 80 acres of the WCLF facility. The WCLF receives about 120,000 tons of municipal solid waste (MSW) annually.

The initial EIR for the WCLF was certified on April 22, 1980 (SCH #91123013). The EIR considered the existing landfill site - including the Phase 1 and 2 'footprints' – and several other alternative sites as required under the California Environmental Quality Act (CEQA). After completion of Phase 1, the EIR was updated by an addendum approved February 25, 1992 (SCH #91123013). A second EIR Addendum was prepared and adopted in March 1999 for continued operation of Phase 2. Although development plans and operations for the WCLF are unchanged, the environmental documentation has become fragmented and somewhat outdated due to changing regulatory requirements. This new, updated EIR would supercede and update all prior EDs.

According to the lead agency, there is no new proposal(s) in this Draft EIR for which a revision of Solid Waste Facility Permit (SWFP) No. 45-AA-0043 will be proposed or required.

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 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 Solid Waste Facility Permit (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.

Solid Waste Facility Permit Requirements

The issuance or revision of a SWFP is a determination to be made by the LEA for the handling, transformation, processing and/or disposal of MSW. It is recommended that the LEA be consulted about all solid waste aspects of the proposed project in the Draft EIR. The LEA for Shasta County is the Department of Resource Management's Division of Environmental Health.

Title 27, California Code of Regulations (CCR), Section 21675(a) requires that the LEA perform a permit review every five years over the life of the facility. If there are future (planned or specific) expansion/development/additions/changes to the project, as proposed in this DEIR, this may warrant further CEQA analysis and review due to potentially significant changes in this project impact analysis and assessment.

Since the IWMB will be a responsible agency involved in the discretionary approval process for the issuance or revision of the WCLF's SWFP, ERS staff may need to perform an environmental analysis for any new proposals at the WCLF using this Draft EIR as required in the CEQA Guidelines, CCR Section 15096.

Conclusion

Following is a link to CEQA information germane to landfill facility design and operations for those seeking a SWFP from the IWMB. You can access the complete checklist of information over the Internet using the following URL:
http://www.ciwmb.ca.gov/PermitToolbox/CheckItems/CEQA/default.htm#Guidelines

ERS staff requests that the proposed Draft EIR be circulated through the State Clearinghouse and that the IWMB be informed of any public hearing(s) regarding the project proposal. Board staff have no further comments on the project as proposed at this time. Thank you for the opportunity to comment on the NOP in the early phases of project planning. 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
Permitting and Enforcement Division
California Integrated Waste Management Board

Attachment

cc: Reinhard Hollwein, IWMS, P & I Branch
Mary Madison-Johnson, Region 1 P & I Supervisor
Sue O'Leary, ERS Supervisor
Permitting & Enforcement Division
IWMB

Shasta County LEA
Department of Resource Management
Division of Environmental Health
1855 Placer St
Redding, CA 96001

Katie Shulte Joung
State Clearinghouse
P.O. Box 3044
Sacramento, CA 95812-3044

CITY OF REDDING

DEVELOPMENT SERVICES DEPARTMENT
777 Cypress Avenue, Redding, CA 96001-2718
P.O. Box 496071, Redding, CA 96049-6071
530.225.4020 FAX 530.225.4495
e-mail: jhamilton@ci.redding.ca.us

December 27, 2001
L-010-075-575

Dan Little
Shasta County Department of Public Works
1855 Placer Street
Redding, CA 96001

Subject: West Central Landfill Environmental Impact Report

Dear Dan:

City staff has reviewed the Notice of Preparation (NOP) for the West Central Landfill. Two traffic-related issues have been identified that are not included in the NOP:

1. Clear Creek Road was not constructed for the amount of heavy truck traffic now using the road to access the landfill. There should be some analysis of the condition of the road and the maintenance needs to maintain adequate access to the landfill.

2. The amount of truck movements at the Clear Creek Road/State Route 273 intersection contributes to the delays and congestion at that intersection. The need for a traffic signal and the responsibility of the landfill operation to contribute to that signal should be addressed.

Thank you for the opportunity to comment on the NOP. If you have any questions, please call me at 225-4025.

Sincerely,

John Keaney

John Keaney
Planning Manager

JK:sm
LTR01\B1227L-DL.wpd

State of California - The Resources Agency
GRAY DAVIS, *Governor*

DEPARTMENT OF FISH AND GAME
http://www.dfg.ca.gov
601 Locust Street
Redding, California 96001
(530) 225-2300

Flex your POWER

November 30, 2001

Mr. Dan Little
Shasta County Department of Public Works
1855 Placer Street
Redding, California 96001

Dear Mr. Little:

Ongoing Operations at the West Central Landfill, Shasta County

The Department of Fish and Game (DFG) has reviewed the subject notice of preparation, State Clearinghouse #2001112020. The project is the ongoing development of Phase II at the West Central Landfill covering 100 acres. The DFG offers the following comments on the project in our role as a responsible agency under the California Environmental Quality Act (CEQA).

On page 4, under "Biological Resources," the document states "The Phase II area consists of a steeply sloped canyon with an ephemeral stream (currently diverted around the active area) and no wetlands have been identified." If the project will require modifications to the stream's bed and bank, diversion or obstruction of the stream's flow and/or use material from the streambed, the County will need to notify the DFG under Fish and Game Code Division 2, Chapter 6, §1601 and a streambed alteration agreement (Agreement) may be required prior to the start of any stream modification activities. This Agreement would include mutually agreed-to conditions to protect fish and wildlife resources, habitat and water quality. These conditions would be determined by the DFG and the County following a site inspection and would be site-specific. In issuing this Agreement, the DFG would be acting as a "Responsible Agency" under CEQA and would be required by Guidelines §15096 to review the document certified by the lead agency approving the project and to make certain findings concerning its potential to cause significant adverse environmental effects.

Thank you for the opportunity to comment on this project. If you have any questions regarding this information, please contact Environmental Scientist Bob Williams at (530) 225-2365.

Sincerely,

Donald Koch

DONALD B. KOCH
Regional Manager

cc: See page two

Conserving California's Wildlife Since 1870

cc: Messrs. Craig Martz and Bob Williams
Fish and Game Patrol Lieutenant Don Jacobs
and Fish and Game Warden Mike Matirko
Department of Fish and Game
601 Locust Street
Redding, California 96001

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DISTRICT DIRECTOR
1657 RIVERSIDE DRIVE
P.O. BOX 496073
REDDING, CA 96049-6073
PHONE (530) 225-3369
FAX (530) 225-3020

IGR/CEQA Review
Sha-273-11.83
West Central Landfill EIR
Notice of Preparation
SCH# 2001112020

November 27, 2001

Dan Little, Senior Transportation Planner
Shasta County Dept. of Public Works
1855 Placer Street
Redding, CA 96001

Dear Mr. Little:

Caltrans District 2 has reviewed the Notice of Preparation for the preparation of an Environmental Impact Report (EIR) assessing ongoing landfill activities, located at 14095 Clear Creek Road near the community of Igo.

We look forward to reviewing the Traffic/Circulation section of the EIR discussing the amount of vehicles that currently use the site and the quantity of vehicles which use the Clear Creek Road/State Route 273 intersection. The EIR should also identify any other traffic routes which receive landfill traffic, such as whether trucks use the Oxyoke Road/State Route 273 intersection.

As stated in the project information, the prior EIR identified that mitigation to prevent traffic congestion be provided. Although the development of the City of Redding transfer facility has reduced vehicle trips, the landfill will continue to generate cumulative traffic to State Route 273, including the Clear Creek Road intersection. Our main concern is that the Clear Creek Road intersection currently meets seven of the 11 warrants for signalization. The Oxyoke Road intersection also meets signalization warrants. We recommend that the EIR identify that the County work with the City of Redding and Caltrans to prioritize the signalization of the Clear Creek Road intersection. As indicated previously, the EIR may also identify whether, or the amount of, landfill traffic that utilizes the Oxyoke Road intersection and whether participation with the City of Anderson and Caltrans should also be prioritized.

Thank you for providing us the opportunity to review this project. If you have any questions, or if the scope of this project changes, please call me at 225-3369.

Sincerely,

ARCELINO GONZALEZ
Local Development Review
District 2

SHASTA COUNTY

DEPARTMENT OF RESOURCE MANAGEMENT
1855 Placer Street, Redding, CA 96001

Russ Mull, R.E.H.S., A.I.C.P.
Director

James W. Cook
Assistant Director

December 21, 2001

RECEIVED
DEC 21 2001
DEPT. OF PUBLIC WORKS

Dan Little, Senior Planner
Shasta County Department of
Public Works
1855 Placer Street
Redding, CA 96001

WEST CENTRAL LANDFILL ENVIRONMENTAL IMPACT REPORT (EIR)

The Shasta County Environmental Health Division (SCEHD) has reviewed the Notice of Preparation of a Draft EIR for Ongoing Operations and Permitting at the West Central Landfill; there are no additional comments that are being recommended for further review during the EIR process.

Revisions of the Solid Waste Facility Permit (SWFP) will not be needed for ongoing operations within the permitted boundaries and current operations. Should expansion outside permitted boundaries or significant changes take place, then an application for a SWFP must be submitted to SCEHD in compliance with applicable laws and regulations.

Thank you for your consideration. Please contact me should you have any questions or concerns.

Sincerely,

Carla Serio, R.E.H.S.
Waste Management Specialist

CS/pw
DLD21.WPD

Appendix E

Biological Reconnaissance Report

Under
Separate
Attachment

Appendix F

Cultural Resources Report

ARCHAEOLOGICAL RECONNAISSANCE OF SHASTA COUNTY'S WEST CENTRAL LANDFILL ON CLEAR CREEK ROAD, NEAR IGO, SHASTA COUNTY, CALIFORNIA

NOTE: This report contains sensitive information concerning archaeological sites and site locations. Please do not include the site records and locations maps in publicly available documents

PREPARED FOR: Shasta County Department of Public Works
1855 Placer St.
Redding, California 96001

PREPARED BY: Trudy Vaughan
Coyote & Fox Enterprises
12272 Roca Lane
Redding, California 96003

October 2002

TABLE OF CONTENTS

ARCHAEOLOGICAL RECONNAISSANCE OF SHASTA COUNTY'S WEST CENTRAL LANDFILL ON CLEAR CREEK ROAD, NEAR IGO, SHASTA COUNTY, CALIFORNIA

INTRODUCTION

An archaeological reconnaissance was conducted in September and October 2002 on approximately 1,160 acres within the county's West Central Landfill on Clear Creek Road, southeast of the town of Igo, Shasta County, California (Figure 1: Project Vicinity Map). Shasta County Department of Public Works (SCDPW) is preparing an Environmental Impact Report (EIR) for ongoing operations of the landfill. Operation of the landfill constitutes an undertaking which could adversely affect cultural resources which might be located within the project area; and, thus, the archaeological survey was conducted in order to locate and evaluate any cultural resources, in compliance with the California Environmental Quality Act (CEQA).

The archaeological work described in this report was completed by Coyote & Fox Enterprises of Redding (CFE), under contract with SCDPW. CFE is an archaeological consulting firm which has conducted work throughout northern California since 1983; and all field work followed the guidelines of the State Historic Preservation Office (SHPO) and is in conformity with accepted professional standards. Field work was completed by this author, owner of CFE; Staff Archaeologist Polly Tickner; and Charles Crackel.

PROJECT DESCRIPTION AND ENVIRONMENTAL BACKGROUND

The project area is located in Township 30 North, Range 6 West, portions of Sections 2, 3, and 4, and in Township 31 North, Range 6 West, portions of Sections 34 and 35. (Figure 2: Project Location Map). The area is bounded on the north by Clear Creek Road, on the west by Gas Point Road, on the east by Cloverdale Road, and on the south by the Section line.

The West-Central Landfill property is owned by Shasta County, and it is operated jointly by the county and the City of Redding. As stated in the Draft EIR, the County's underlying objective at the landfill is to provide a cost-effective facility for disposal of nonhazardous solid waste, with sufficient capacity to handle current and projected volumes for the reasonably foreseeable future. The EIR is focused on identifying potential significant effects on the environment attributable to ongoing and future operations at the West Central Landfill; and it also addresses issues of concern to the County and issues known to be of concern to the public and regulatory agencies. Work must be conducted in a manner that protects public health and safety and the environment, in accordance with state and federal laws and regulations. State and county agencies involved include the Local Enforcement Agency of the County Environmental Health Division, the California Integrated Waste Management Board, the Regional Water Quality Control Board, the Shasta County Air Quality Management District, and the California Department of Fish and Game.

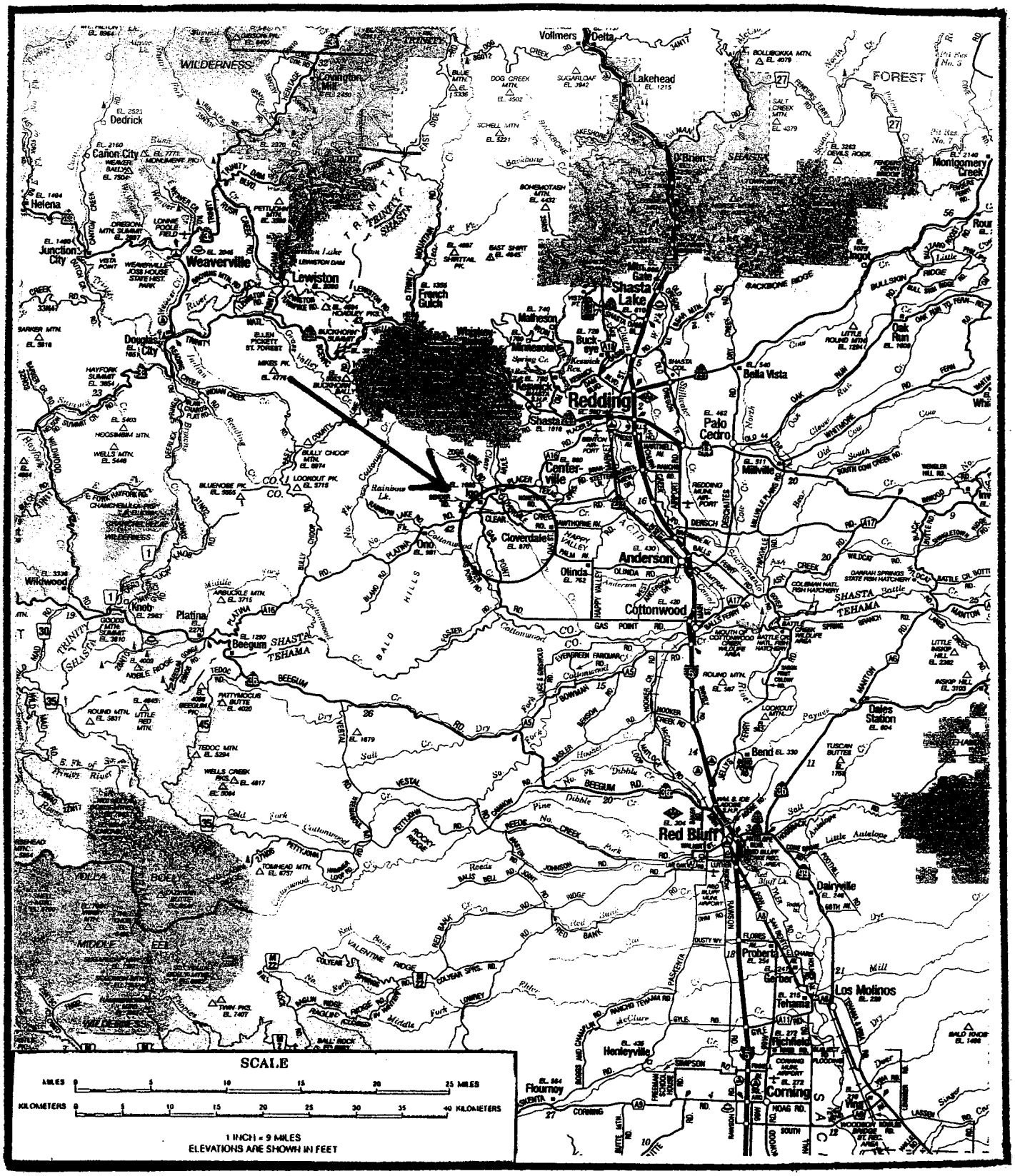

FIGURE 1: Project Vicinity Map

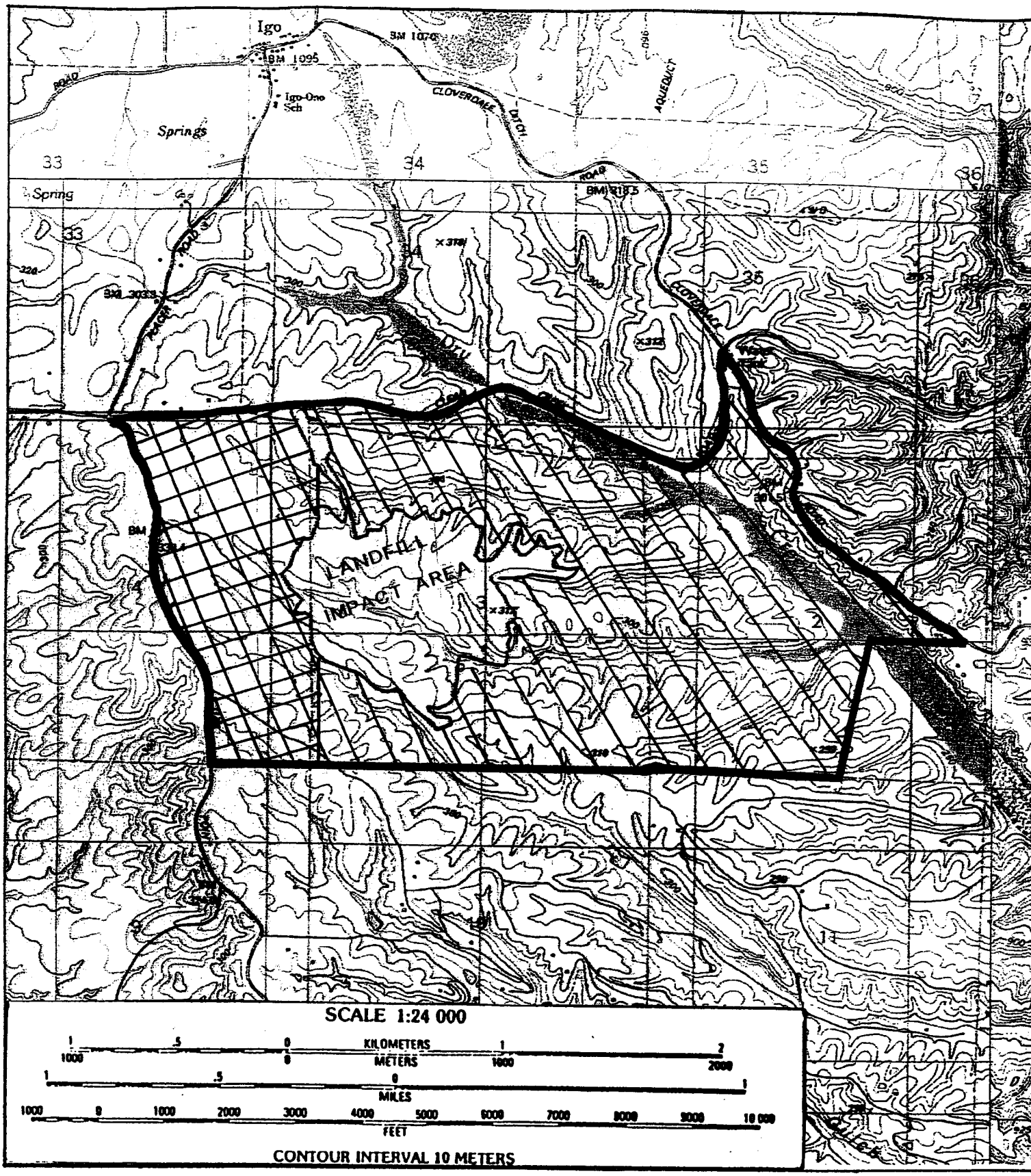

FIGURE 2: Project Location Map and Archaeological Coverage
USGS Ono, Calif., 7.5' (1981)

Previous coverage not resurveyed

2002 Survey

Elevation within the project area ranges from approximately 850 feet to 1,100 feet above mean sea level. The topography of the area consists primarily of broad, gently sloping, east-trending ridges separated by intermittent drainages which flow generally easterly to Dry Creek. Dry Creek flows southeasterly across the northeast portion of the project area and did not have water at the time of this survey. Vegetation within the project area consists of a light overstory of grey pine, blue oak, and live oak and an understory of primarily manzanita, which sometimes occurs in dense patches. Other species include buckbrush (ceanothus), poison oak, and various annuals and grasses; and along the creeks are willow, cottonwood, blackberry, and other riparian species. The landfill supports a healthy bear population. The area is laced with well-used bear trails, and numerous bear beds were noted in the thicker brush.

Almost the entire area has been impacted by mining activity which occurred intermittently from the 1850s into the 1940s (see Historical Background below). The more recent mining activity impacted and destroyed much of the evidence of the earlier mining efforts. The most recent impacts to the area are from construction and maintenance of the landfill, with the primary impact area shown in Figure 2. This area was defined by walking its circumference and tracking with a GPS unit. This area encompasses approximately 235 acres and includes the area of current landfill operations, the area of past landfill operations that has been reclaimed, areas bladed for future operations and fuel breaks, and where county structures and facilities are located. Within this area are a few undisturbed strips and islands with stands of blue oak.

In addition to this impact area, there are numerous roads, many of which are shown in Figure 3. Some of these are recently bladed and are more than 15 feet wide, while others are older and narrower and have grasses growing in them. Over the past 20+ years, many of the ridge tops have been scraped and cleared of brush with a dozer, and several earthen dams have been constructed. The locations of these contemporary dams are shown in Figure 3, and this construction activity partially leveled and spread many of the historic tailings piles in the creeks.

ARCHAEOLOGICAL BACKGROUND

Prior to fieldwork, a review of archaeological records was conducted at the Northeast Center of the California Historical Resources Information System at California State University, Chico (NE/CHRIS). This included a review of maps and records for archaeological sites in this portion of Shasta County, as well as the following documents: National Register of Historic Places - Listed Properties and Determined Eligible Properties by National Park Service (1990 and supplements through 9/02), California Register of Historical Resources (2000 and updates), California Points of Historical Interest (1992), California Historical Landmarks (1996 and updates), and the NE/CHRIS Historic Property Data File for Shasta County.

Records indicate that portions of the project area have been previously surveyed for cultural resources as a result of four archaeological surveys.

(1) In 1979, Ark II conducted an archaeological survey for the proposed Igo/Ono Landfill within the proposed impact area across the center of the W½ of Section 2 and the E½ of Section 3 (Dotta 1979). No site records were prepared, but three historic features were noted: shallow remnants of two water conveyance ditches and an historic trash scatter tentatively identified as a small mining camp.

(2) In 1989, CFE conducted an archaeological survey of 40 acres within a portion of the E½ of Section 4 for the Phase II landfill expansion which involved acquisition of federal land managed by the Bureau of Land Management, Redding Field Office (BLM) (Vaughan 1989). Two historic sites were recorded as a result of this survey: CA-SHA-1766-H and -1767-H, both identified as historic debris scatters. Both of these sites were determined ineligible for inclusion on the National Register of Historic Places (NRHP). Also noted were several isolated historic artifacts and features including small segments of ditches, cans and bottles, and an old car body of unknown age.

(3) In 1990, CFE conducted additional archaeological survey on 280 acres in the E½ of Section 4 for the proposed landfill expansion (Vaughan 1991). This was also on BLM land at the time of the survey, and it has since been acquired by SCDPW. Three historic sites were recorded and several isolated features were noted. The sites are: CA-SHA-1862-H, an earthen berm reservoir believed to have been constructed by Chinese miners, with an associated ditch system, and two debris scatters; CA-SHA-1863-H, an historic debris scatter believed to date to the 1930s/1940s; and CA-SHA-1864-H, a complex of several historic debris scatters, a ditch segment, and a mining prospect pit. These three sites were determined ineligible for inclusion on the NRHP.

(4) In February 2002, CFE conducted an archaeological survey on 160 acres for the proposed Northern California Veterans Cemetery (Vaughan 2002). This project in the SE¼ of Section 4 overlaps on to the landfill property. As a result of this survey, three historic sites were recorded, and several isolated artifact and feature locations were noted. The three sites and four of the historic isolates are within the landfill property. CA-SHA-3280-H and -3281-H are both historic debris scatters; and CA-SHA-3282-H is a water conveyance ditch system. These sites were also determined ineligible for inclusion on the NRHP.

During this latter survey, an attempt was made to relocate the two sites previously recorded in 1989 in order to determine if they were within the project area. CA-SHA-1766-H was relocated and an updated record prepared. CA-SHA-1767 could not be found and is thought to have been destroyed by landfill operations.

In addition to the above surveys, other archaeological work has been conducted within the project vicinity (Hamusek et al. 1990, Johnson and Theodoratus 1984, Ritter 1986, and Tordoff and Seldner 1987). This work is primarily related to historic mining activity and, specifically, the use of the area by the Chinese (see Historical Background below).

Based on the above discussion, the likelihood of encountering additional historic sites and isolated historic features associated with mining activity within the previously unsurveyed area was considered high, while archaeological sensitivity for prehistoric sites was considered low.

ETHNOGRAPHIC BACKGROUND

The project area lies within the ethnographic territory of the Wintu, and ethnographic accounts of Wintu culture come primarily from three references: DuBois (1935), Kroeber (1925), and LaPena (1978). The following is summarized from these references.

The Wintu were intensive hunters and gatherers who inhabited the northern end of the Sacramento Valley, as well as the mountainous areas to the north and west. Whistler (1977) has

suggested that the ancestral Wintu migrated to the Sacramento Valley area from southwestern Oregon, possibly via the Sacramento River canyon. The Wintu territory was divided into a number of political subdivisions centering upon rivers and major tributaries; and these groups commonly interacted with each other through economic networks, social activities, and kinship ties.

Wintu villages consisted of a scattering of semi-subterranean, conical, bark slab-covered houses, with each typically housing a family of three to seven people. Major villages along the rivers were inhabited during the winter, while temporary camps were established in the foothills during the warmer months for food gathering forays. Hunting and fishing tasks fell to the men, while women gathered plants and prepared foods. The Wintu made full use of the abundant natural resources of their territory, and children grew up learning the uses of these resources.

Several species of large and small mammals were hunted, including deer, bear, rabbits, and birds. Salmon and steelhead were caught during semiannual runs; and suckers, although considered inferior, were fished in all streams and creeks. Mussels from the river were gathered, and grasshoppers and other insects were utilized when available. Plant foods that were utilized include several species of acorns, buckeye, hazel nuts, grey pine and sugar pine nuts, manzanita berries, many other types of berries, and a wide variety of bulbs and seeds.

> A wide variety of items were made for specialized tasks of Wintu life like traps, snares, nets, arrows, ropes, and baskets. Wintu women were skilled basketmakers and wove intricately-designed baskets for use in storage, cooking, and other purposes.
>
> Trading was common between the Wintu and their neighbors. They exchanged food and material goods for other items, or purchased them with clam shell beads. A well-developed trail system created a web of commerce with the outside world, and some trade items came from great distances and had passed through many different tribal hands before arriving at Wintu villages. . . .
>
> Reverence to geography is a part of Wintu identity, and knowledgeable Wintu still participate in this perception of power of place. Wintu religion cannot be separated from daily life and is intricately bound to the landscape. Rocks or rock outcrops, springs, pools, caves, and, most notably, mountains, possess spiritual qualities respected by Wintu people; and many are interconnected through Wintu oral history. The landscape, as part of the Wintu sacred domain, still plays an important part in their cultural identity today (Bureau of Land Management 1992).

HISTORICAL BACKGROUND

The project area lies south and east of the town of Igo, and the town of Ono is approximately four miles west of Igo. There are several explanations of the names for Igo and Ono, one being the story of a son wanting to go to work with his father and saying, "I go, I go," to which his father responds, "Oh, no." The other version is a conversation between a Chinaman and a white miner. The Chinamen says "Oh, no" when asked to leave his claim, but when a gun is pointed at him, he says, "I go." The Igo school house was built in 1872, and the original building has been moved to the Shasta County Fairgrounds and is owned by Shasta Historical Society. The Igo post office was established in 1873 (Smith 1999:108).

Piety Hill was another early mining community in the area located approximately ¼ mile east of Igo along today's Cloverdale Road. There are also two versions as to how this town got its name. One is that it was named after a resident's home town in Piety Hill, Michigan, and the other is that it was based on the "regular religious and political (mostly religious) discussions held by its pious early residents" (Smith 1999:169). Circa 1860, the town claimed 1,500 residents, 600 of whom were Chinese. In 1866, the white residents moved across Conger Gulch and established the town of Igo, and the plan was to hydraulically mine the town site of Piety Hill because it lay on top of an ancient river channel. This mining operation never took place, however, because hydraulic mining was outlawed; and the Chinese remained in Piety Hill which became almost exclusively a Chinatown (Smith 1999:169).

There was strong animosity by the Euroamerican miners towards the Chinese who arrived from China in large numbers to mine for gold. In 1852, the number of Chinese in California was estimated at 12,000, and the town of Shasta had one of the largest Chinese populations in the state. On February 5, 1859, miners and residents in the Horsetown, Middletown, and Texas Springs regions held a meeting in Shasta in order to determine a course of action which would prohibit Orientals from mining in their sections. They resolved to drive the Chinese from the mines, "peacefully if we can, forcibly if we must." Many of the Chinese took the miners' threat seriously, for on March 5, 1859, the *Shasta Courier* newspaper reported, "The Chinese very promptly packed up their goods, dug up their purses of gold dust, many of them containing thousands of dollars, and obeyed marching orders" (Peterson 1965). Many Chinese remained, however, despite the open hostilities towards their presence. By 1886 the Chinese were virtually barred altogether from many areas of Shasta County, but they continued to live in the Piety Hill area until after 1900.

Mining was the primary historic activity in the project area and the surrounding vicinity; and the historical background for this area has been presented in several reports including Hamusek et al. (1990), Johnson and Theodoratus (1984), Ritter (1986), and Tordoff and Seldner (1987). These reports emphasize the Chinese occupation in the area, with Hamusek et al. (1990:28-37) providing a good summary of mining techniques and history. Excerpts from this report are presented below.

The earliest miners to arrive in the area found rich deposits of gold which was easily acquired with the use of a shovel, pick and pan. While the majority of these miners worked in the gravel and sand bars on Clear Creek between Reading Bar and Muletown Bar, others preferred to mine the dry gulches where the gold was more coarse. Much of this dry diggings work occurred in the Horsetown and Dry Creek gulches. The miners soon learned to build rockers, long toms, and sluice boxes, which greatly increased the amount of gravel one man could wash.

> Methods of mining also changed in many places to include more efficient ways of moving gravel. One such method was known as ground sluicing. Ground sluicing was a method of working auriferous gravel in a ditch in order to lessen the time and labor involved in working the deeper gold deposits. To make use of this technique, the miner dug a small gully down the hillside which he intended to wash. He then extended a supply ditch or flume to the top of the hill. This supply ditch would later be used to carry water and its accompanying soil down the gully. Trusting to rocks and other obstructions to serve as natural riffles, the miner would then stand on the banks of his artificial watercourse and shovel masses of earth down into it. At intervals of a few weeks or month, the miner would use a long tom or board sluice to "clean up" the fine debris that had accumulated behind the obstructions in the gully. This fine debris

> contained, in concentrated form, all the gold which had been collected with this method (Hamusek et al. 1990:32).

By the close of the 1870s, mining remained the major economic activity in Shasta County, and it became even more intensified as mining companies took over from individual miners and various hydraulic and lode mining techniques were developed. This project area, however, did not lend itself to hydraulic mining, and lode mining was generally limited to a few prospect pits and trenches. In general, throughout the area, placer mining (mining with the use of water to separate gold from gravel deposits) was by far the most popular method, since quartz or lode mining required expensive equipment, heavy financial investments, and sophisticated technology.

Circa 1900, as the placer deposits within the area began to show signs of depletion, many of the early miners and settlers shifted their attentions to agricultural activities since soil and climate conditions were favorable for the raising of crops and stock. Along with this increase in agriculture, there was also a decrease and/or shifting of population centers. Many of the previously established gold mining settlements were abandoned altogether, and towns such as Redding began to prosper and grow.

There was undoubtedly a resurgence of mining activity in the project area during the Depression of the 1930s. Individuals and families filed claims on which they could live and mine, and others were undoubtedly squatters with no official claim. The last episode of intensive placer mining activity in this project area, however, was with the use of dredgers. Dredgers operated by floating in water just deep enough to hold them, their buckets scooped up gravel which was jiggled, screened, and washed to separate the rock from the gold and sand, and the waste was pumped out the rear into rock piles (tailings) still evident today. Although no specific reference was found for Dry Creek, the Clear Creek Dredging Company (CCDC) operated on both Clear Creek and Cottonwood Creek to the north and south of Dry Creek, and this company, quite likely, is responsible for the dredger tailings within the project area. CCDC operated a dragline dredge on Clear Creek in 1940 and 1941, with a second dragline dredge on Cottonwood Creek in 1941 and 1942 (Lydon and O'Brien 1974:57). The following description of the Cottonwood Creek operation illustrates the size of the equipment and its impact on the landscape, and Figure 3 shows a typical dragline dredge and washing plant.

> At this location, the gravel was about 14 feet deep . . . It was tested by shafts and churn-drill holes sunk to bedrock and the gold was washed and panned from measured amounts of gravel. About 2,500 cubic yards of gravel were mined each 24 hours by a Northwest dragline equipped with a 1½-cubic-yard bucket. Gravel was washed in a Bodinson-built plant, which rested on five steel pontoons making a hull 30 feet wide and 40 feet long. The trommel was 54" in diameter and 28 feet long with 16 feet of 5/8" diameter holes. A stacker belt 50 feet long handled the trommel oversize. Seven cross sluices and two downstream sluices 26" wide on each side of the trommel, all fitted with Hungarian riffles, recovered gold from the trommel undersize. A pump driven by a diesel engine supplied 600 gallons of water per minute from a sump 600 feet west of and 50 feet lower than the washing plant.

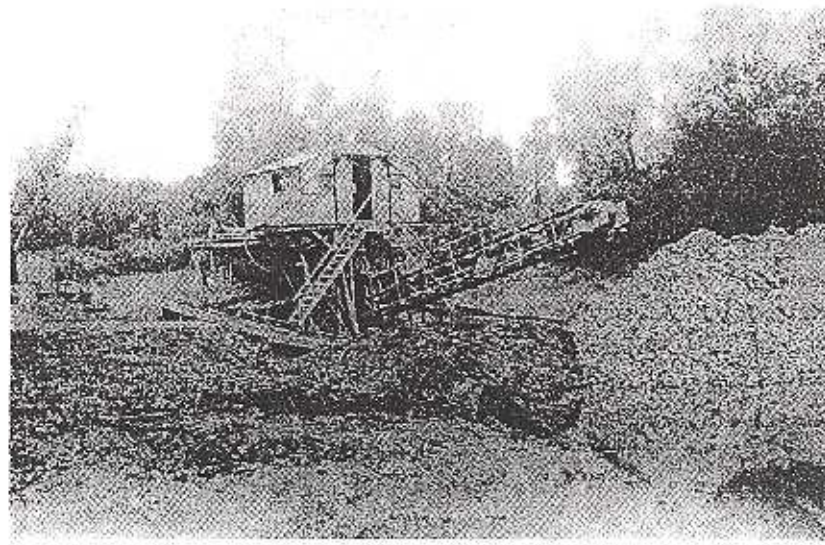

FIGURE 3: Typical dragline dredge and washing plant, circa 1945 (Lydon and O'Brien 1974:59)

METHODOLOGY AND RESULTS

The areas previously surveyed by CFE in the western one-third of the project parcel were not resurveyed for this project. The previously-recorded sites, however, were re-visited and site record updates were prepared. Two of these previously-recorded sites (CA-SHA-1767-H and -3281-H) could not be relocated and are determined to have been destroyed by either landfill activities or off-road vehicle recreation. Dotta's 1979 survey, however, was not considered to have been sufficient to have documented all of the historic mining features in the area; and this area was resurveyed as part of this project.

A pedestrian reconnaissance was conducted in September and October 2002 to resurvey the Dotta area and to survey the previously unsurveyed area of landfill property, with the exception of the landfill impact area shown in Figure 2. In areas of less than 10% slope, the survey was conducted in meandering transects spaced at approximately 20 meter intervals; and on steeper slopes, transects were spaced at 30 to 50 meter intervals. Ground visibility was generally good, with approximately 50% of the area being almost bare or with only light grasses; and the manzanita, while dense in some areas, was mature enough to allow access and view the ground below. Visibility was hampered in some areas along the creeks by dense riparian vegetation, primarily blackberry; but, despite the constraints, this archaeological survey is considered to have been thorough enough to have located any archaeological sites that may be present within the study area.

As a result of this survey, six of the previously recorded sites were relocated, and three new historic archaeological sites were recorded. The site documentation forms are attached as an appendix, including updates stating that CA-SHA-1767-H and -3281-H could not be relocated. These are the appropriate State of California Department of Parks and Recreation (DPR) forms. All cultural resource locations are shown in the appendix on the Site Map for the first site, Landfill 02-1, pages 11 and 12. This historic mining complex encompasses the entire landfill property. The nine sites are described briefly below.

NEW SITES

(1) Landfill 02-1, identified as the Landfill Mining Complex, is a large site encompassing the entire landfill property. During the survey of the property, extensive dredger tailings and smaller placer mine tailings were noted, as well as a few historic debris concentrations and many isolated artifacts and features. With the exception of one small camp site (see Landfill 02-2 below), none of these artifacts or features warranted individual site recording, yet many of them appeared related to each other and/or to the mining history of the area. This author determined that an appropriate way to document these would be to incorporate them all into one historic mining site. Also included in this site boundary are all of the previously-recorded sites within the landfill property.

(2) Landfill 02-2 is a small historic camp site named BODINSO Stove because the name Bodinso is written on the piece of sheet metal used to make the camp stove. The site is situated on a small ridge between two intermittent drainages above Dry Creek, and the site area measures approximately 45 feet NE/SW x 30 feet NW/SE. There is a small rock pile that is thought to have been a fireplace; and, in addition to the stove, artifacts noted include assorted cans and metal sheets, two glass bottle bases, and a few deteriorated milled board fragments. This site is estimated to date to the 1940s.

(3) Landfill 02-3 is a segment of the Happy Valley Ditch, which is also noted on USGS topographic maps as the Happy Valley Irrigation Canal. This segment measures approximately 1.6 mile long and runs general parallel and west of Cloverdale Road. This ditch may have originally been the 22-mile long historic Hardscrabble Mine ditch operated by the Dry Creek Tunnel and Fluming Company which operated from 1853 to 1880 at Piety Hill.

PREVIOUSLY-RECORDED SITES

(1) CA-SHA-1766-H (Lunchbox Camp) is an historic debris scatter consisting of cans and bottle fragments which is located on a small ridge between two seasonal drainages. The site measures approximately 65 feet North/South x 50 feet East/West, and it is dated circa 1920, based on the artifact assemblage.

(2) CA-SHA-1862-H (Landfill Reservoir Site) is located on a broad open ridge and consists of an earthen berm reservoir with an associated ditch system and an historic debris scatter. The site measures approximately 540 feet N/S x 510 feet E/W. The reservoir is believed to be of Chinese origin, and the site is dated to the late 1800s.

(3) CA-SHA-1864-H (Landfill Site B) is composed of several historic debris loci and a mining ditch. The site is situated on a broad south-trending ridge and measures approximately 650 feet N/S x 250 feet E/W. The historic debris scatters date from the 1930s possibly through the 1950s, based on the artifact assemblages. The ditch, however, probably dates to the late 1800s and is associated with the above reservoir site.

(4) CA-SHA-3280-H (Vets Purex Camp) is a concentration of historic debris consisting of assorted can and bottle fragment, window glass, and an amber Purex Bleach bottle fragment. The site is located on a broad level ridge and measures approximately 20 feet diameter. It dates circa 1940s, based on the Purex bottle fragment.

(5) CA-SHA-3281 (Vets Stove Leg) is a concentration of historic debris consisting of can and bottle fragments situated on a large flat. It measures approximately 60 feet diameter and dates circa 1940, based on the artifact assemblage.

(6) CA-SHA-3282 (Cemetery Ditches) is a water conveyance system, consisting of several ditch segments and associated pits in an area that extends approximately two-thirds of a mile north/south. This site dates to the mid- to late 1800s, based on the reservoirs and other ditches in the area.

HISTORIC SITE EVALUATIONS

Significant historic properties are those prehistoric sites and historic sites, districts, buildings, structures, and objects, as well as properties with traditional religious or cultural importance to Native Americans, which are listed, or are eligible for listing, on the NRHP. The following evaluation of the above six historic sites is based on the NRHP eligibility criteria established in the Code of Federal Regulations (CFR) under 36 CFR 60:

> The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of State and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and
>
> (a) That are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> (b) That are associated with the lives of persons significant in our past; or
>
> (c) That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
>
> (d) That have yielded, or may be likely to yield, information important in prehistory or history.

The following evaluation also assesses the sites for their potential for listing on the California Register. The criteria for listing historical resources on the California Register are consistent with those developed for the NRHP, but they have been modified for State use in order to include a range of historical resources which better reflect the history of California. These criteria are detailed in Chapter 11.5, Part 4852 (b), of Assembly Bill 2881; and they include the same seven areas of integrity and the same four criteria as the NRHP, with criterion A relating specifically to California and/or local and regional history.

The archaeological survey of the project area resulted in the recordation of nine historic sites associated with habitation and/or mining activity and dating possibly from the latter half of the 1800s to the early 1950s. The six previously-recorded sites have all been determined ineligible for inclusion on the NRHP; and concurrence from SHPO is assumed, since SHPO did not respond to the cultural resource reports when they were submitted from the appropriate federal lead agencies. None of these sites is considered eligible to the California Register, primarily due to lack of integrity.

Also, as discussed below, none of the three newly-recorded sites is considered eligible for inclusion on the NRHP or the California Register.

Landfill 02-1 (Landfill Mining Complex). This very large historic site is defined by the property boundary rather than by the extent of historic mining features, as these features probably extend in all directions in this heavily mined area. Prior to the more recent impacts from landfill operations, this area might have been considered a significant mining landscape, but this site now can not be considered NRHP or California Register eligible due to lack of integrity. Also, none of the recorded sites within this boundary have been determined ineligible for inclusion on the NRHP or the California Register. The mining features (tailings, water conveyance ditches, dams, prospect pits and trenches, and associated debris scatters) are all common features; and, while numerous, these have no unique or distinctive characteristics. The site recording process is believed to have retrieved the information potential associated with this site, and further investigations are not likely to yield important historical information.

Landfill 02-2 (BODINSO Stove) retains integrity of location, but lacks integrity of design, setting, materials, workmanship, feeling, and association. Research has not identified the occupants of this site, so these individuals probably were not persons who might be considered important under criterion B. Nor is criterion C applicable, as there are relatively few artifacts and very limited structural remains. Relative to criterion D, the site recording process is believed to have retrieved the information potential of this site, and further investigations are not likely to yield information important to the history of this area.

Landfill 02-3 (Happy Valley Ditch). This segment of the ditch retains good integrity of location, design, materials, and workmanship, but the integrity of setting, feeling, and association are gone because it now runs adjacent to Cloverdale Road. Although more research is needed to determine if this is the original Hardscrabble Mine Ditch, this ditch might be considered eligible to the NRHP and/or the California Register under criterion A for its significance to the mining history of the area. The remainder of the ditch needs to be documented and evaluated to make this determination. This segment, however, would, most likely, not be a contributing element to the eligibility of this ditch, due its lack of integrity.

CONCLUSIONS AND RECOMMENDATIONS

This report with the documentation of the historic sites satisfies the requirements for archaeological reconnaissance under CEQA. As discussed above, none of the historic sites are considered eligible for inclusion on the NRHP or the California Register. If, however, any additional archaeological discoveries (human skeletal remains, culturally modified lithic materials, structural features, or historic artifacts) are encountered during ground disturbing activities, all such activities should halt within a 100-foot radius of the discovery, and a qualified archaeologist should be contacted to determine the nature of the find, evaluate its significance, and, if necessary, suggest preservation or mitigation measures.

A copy of this report with the DPR forms has been sent to NE/CHRIS to provide documentation that this area has received an archaeological reconnaissance.

REFERENCES CITED

Bureau of Land Management
1992 The Wintu Indians and Their Heritage. Brochure produced by Bureau of Land Management, Redding, and the California Native American Heritage Commission, Sacramento.

Dotta, James
1979 Archaeological Reconnaissance of the Proposed Igo/Ono Landfill Project Shasta County, California. ARK II Anthropological Resource Management. Submitted to Shasta County Department of Public Works, Redding.

DuBois, Cora
1935 *Wintu Ethnography*. University of California Publications in American Archaeology and Ethnology, Vol.36: 1-148. Berkeley.

Hamusek, Blossom, Makoto Kowta, and William Dreyer
1990 The West Redding Foothills Survey Project in the Upper Sacramento Valley, Shasta County, California. Archaeological Research Program, California State University, Chico. Submitted to Bureau of Land Management, Redding Resource Area.

Johnson, Jerald J., and Dorothea J. Theodoratus
1984 Dutch Gulch Lake Intensive Cultural Resources Survey. z..Report prepared for U. S. Army Corps of Engineers, Sacramento.

Kroeber, A. L.
1925 *Handbook of the Indians of California*. Dover Publications, Inc., New York.

LaPena, Frank R.
1978 Wintu. In *California*, edited by R. F. Heizer, pp 324-340. Handbook of North American Indians, Volume 8, W. C. Sturtevant, general editor. Smithsonian Institution, Washington D.C.

Lydon, Philip A., and J. C. O'Brien
1974 *Mines and Mineral Resources of Shasta County California*. County Report 6, California Division of Mines and Geology, Sacramento.

Peterson, Edward
1965 *In the Shadow of the Mountain, A Short History of Shasta County, California*. Self-published, Cottonwood.

Ritter, Eric W.
1986 The Historic Archaeology of a Chinese Mining Venture Near Igo in Northern California. Redding: Bureau of Land Management, Redding Resource Area.

Smith, Dottie
1999 *The Dictionary of Early Shasta County History, 2nd Edition.* Self-published, Cottonwood.

Tordoff, Judith D., and Dana McGowan Seldner
1987 Dutch Gulch Lake Excavation at Thirteen Historic Sites in the Cottonwood Mining District. z..Report prepared for U. S. Army Corps of Engineers, Sacramento.

Vaughan, Trudy
1989 Historical Archaeological Survey for Phase II Expansion of West-Central Landfill Near Igo, Shasta County, California. Coyote & Fox Enterprises. Submitted to Shasta County Department of Public Works, Redding.

2002 Archaeological Reconnaissance for the Proposed Northern California Veterans Cemetery near Igo, Shasta County, California. Coyote & Fox Enterprises. Submitted to ENPLAN, Redding.

Vaughan, T., and D. McGann
1991 Archaeological Reconnaissance for the West-Central Landfill Expansion Project (General Improvements), Shasta County, California. Coyote & Fox Enterprises. Submitted to Shasta County Department of Public Works, Redding.

Whistler, Kenneth W.
1977 Wintun Prehistory: An Interpretation Based on Linguistic Reconstruction of Plant and Animal Nomenclature. In *Proceedings of the Third Annual Meeting of the Berkeley Linguistic Society.*

Appendix G
ADC Approval

SHASTA COUNTY

DEPARTMENT OF RESOURCE MANAGEMENT
1855 Placer Street, Redding, CA 96001

Russ Mull, R.E.H.S., A.I.C.P.
Director

James W. Cook, A.I.C.P.
Assistant Director

July 9, 2003

Dan Little, Senior Planner
Shasta County Department of Public Works
1855 Placer Street
Redding, CA 96001

WEST CENTRAL LANDFILL DRAFT ENVIRONMENTAL IMPACT REPORT (DEIR) COMMENT RESPONSE

The Shasta County Environmental Health Division (EHD) herein is responding to your request to clarify alternative daily cover (ADC) usage and approval at the West Central Landfill. This response is to comments received from the California Integrated Waste Management Board (CIWMB) dated April 18, 2003, regarding the February 2003 DEIR, SCH#2001112020, for the operation of the Richard W. Curry West Central Landfill (WCL) in Shasta County.

The Shasta County Department of Resource Management's Environmental Health Division is the designated Solid Waste Local Enforcement Agency (LEA) in Shasta County. EHD conducts at least monthly inspections at WCL.

Currently, tarps and chipped green waste are used as ADC. WCL staff has notified EHD prior to commencing ADC operations, first for chipped green waste, then for use of a tarp. This site is suitable to use both as ADC. Operations meet standards set forth in Title 27 CCR Section 20690. No violations have been noted regarding ADC. The tarp is only used between Monday and Saturday. From Saturday afternoon until Monday morning, the standard six inches of cover soil is used. Quarterly reports from the operator report quantities of chipped green waste are used as ADC at WCL.

Thank you for your consideration. Please contact me should you have any questions or concerns.

Sincerely,

Carla Serio, R.E.H.S.
Waste Management Specialist

CS/pw
DLJUL9-03.WPD

Appendix H

Notice of Availability and Distribution List

NOTICE OF AVAILABILITY FOR PUBLIC REIVEW: DRAFT ENVIRONMENTAL IMPACT REPORT

NOTICE IS HEREBY GIVEN that a Draft Environmental Impact Report (DEIR) has been completed by the Shasta County Department of Public Works for long-term operation of the Richard W. Curry West Central Landfill (Landfill). The DEIR is now available for public review and comment.

The DEIR considers environmental affects and mitigation measures associated with ongoing operation of the Landfill as currently permitted by the California Integrated Waste Management Board. The Landfill, owned by Shasta County and operated by the City of Redding, has been accepting municipal solid waste since 1982. The Landfill is located near the community of Igo at 14095 Clear Creek Road. The site has been developed in two phases. Phase 1 was operated from 1982 to 1991 and covers approximately 20 acres. Phase 2 consists of several sub-phases scheduled for continued development through 2017.

Although no changes in Landfill operations, waste stream, or the disposal area footprint are proposed, EIR updates are prepared to stay more current with regulatory changes and any changes in environmental conditions. Updates coincide with five-year permit reviews by the Waste Board. The next five-year permit review is due in 2004. Impacts evaluated in the DEIR include aesthetics, air quality, biological resources, cultural resources, land use, geology, noise, public health/safety, water resources, and traffic.

The DEIR is available for review at the following locations:

- Shasta County Department of Public Works,
  1855 Placer Street, Redding, CA 96001, (530) 245-6819
- Shasta County Library, Redding Branch,
  1855 Shasta Street, Redding, CA 96001, (530) 225-5754
- Shasta County Library, Anderson Branch,
  3200 West Center Street, Anderson, CA 96007, (530) 365-7685
- Eastern Shasta County Regional Library,
  37038 Siskiyou, Burney, CA 96013, (530) 335-4317

The DEIR should also be available on the Web at *www.co.shasta.ca.us/Departments/PublicWorks.*

All interested parties are encouraged to submit written comments regarding the proposed DEIR to Pat Minturn, Director, Shasta County Department of Public Works at the above address. The comment period begins March 6, 2003. **Comments must be submitted to the Department of Public Works, in writing, by April 28, 2003.**

Please note that any court challenge of the DEIR may be limited only to those issues raised in written correspondence provided by this notice.

Copies of the project plans and all reference documents associated with the DEIR are also available for review through the Shasta County Department of Public Works. For questions or additional information, please contact Dan Little, Senior Planner, (530) 245-6819. Please bring this information to the attention of anyone else who may be interested in this notice.

Patrick J. Minturn
Director of Public Works

Below is the distribution list for the Draft Environmental Impact Report for continued operation of the West Central Landfill:

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Director of Public Works

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Deputy Dir. Engineering

Al Cathey - **1 copy/NOA**
Supervising Engineer
Traffic/Solid Waste Division

Larry Gibson - **1 copy/NOA**
Landfill Supervisor
777 Cypress Avenue
Redding, CA 96001

Molly Wilson - **1 copy/NOA**
Supervisor District 4

David Kehoe - **1 copy/NOA**
Supervisor District 1

Clerk of Board - **1 copy/NOA**
Doug Latimer

Larry Miralles - **1 copy/NOA**
City Redding, Solid Waste
777 Cypress Avenue
Redding, CA 96001

Appendix I

Notice of Public Meeting and Distribution List

Notice of Public Meeting
for Draft Environmental Impact Report

Project Information

The Shasta County Department of Public Works has prepared a draft EIR Update for Ongoing Operations of the West Central Landfill. The project is located in the Igo area off Clear Creek Road and is commonly known as the site of the West Central Landfill. A public meeting has been scheduled for May 29, at 5:30 p.m. to 7:00 p.m. at the Igo-Ono School, 6429 Placer Road. The meeting will be informal and consist of an open-forum where the public can review maps, plans, and other related EIR information. This meeting format allows individuals to discuss specific concerns with staff one-to-one. Individuals may arrive any time between 5:30 p.m. and 7:00 p.m. The DEIR is available for public review at the Shasta County Department of Public Works office, the Redding Library, the Burney Library and the Shasta County Department of Public Works website at http://www.co.shasta.ca.us/Departments/PublicWorks. For more information, contact Dan Little, Senior Planner, Shasta County Department of Public Works, 1855 Placer Street, Redding CA 96001, (530) 245-6819, dlittle@co.shasta.ca.us.

The attached public notice was mailed to the following on May 16, 2003.

Ronald & Joan Holmes
P.O. Box 128
14515 Small Farms Road
Igo, CA 96047

Arnold Erickson
P.O. Box 311
Igo, CA 96047

Resident
3188 Harlan Drive
Redding, CA 96003

Resident
P.O. Box 991838
Redding, CA 96049

Resident
Box 5235
Summit City, CA 96089

Resident
16509 Powerline Road
Redding, CA 96001

Resident
9189 Irish Creek Lane
Redding, CA 96001

Resident
1075 Trinity St. #121
Redding, CA 96001

Resident
3695 Seneca Street
Redding, CA 96001

Celeste Droshier
P.O. Box 207
Shasta Lake, CA 96019

Irwin Fust
Board of Supervisors

Katie Bowman
Regional Water Quality
Control Board
415 Knollcrest Drive
Suite 100
Redding, CA 96002

Carla Serio
Department of Resource Mngt.
Environmental Health Division

Patrick Minturn, Director
Shasta County Dept. of
Public Works

Scott Wahl, Deputy Director
Shasta County Dept. of
Public Works

Al Cathey, Supervising Engineer
Traffic Division
Shasta County Dept. of
Public Works

Bill Ramsdell, Sr. Planner
Shasta County Dept. of
Public Works

Dan Kovacich, Deputy Director
Shasta County Dept. of
Public Works