TABLE OF CONTENTS

CHAPTERS
Chapter 1
Introduction 1

Chapter 2
Solid Waste Generation Analysis Update 3

Chapter 3
Source Reduction Component Update 6

Chapter 4
Recycling Component Update 11

Chapter 5
Composting Component Update 18

Chapter 6
Education and Public Information Component Update 22

Chapter 7
Special Waste Component Update 25

Chapter 8
Medium-Term Selected Programs Update 26

Chapter 9
Facility Capacity Component Update 28

Chapter 10
Funding Component Update 29

APPENDICES
Appendix A: Diversion Credit Request for Santa Barbara County

Appendix B: Diversion Credit Request for Vandenberg Air Force Base

Appendix C: Pilot Waste Collection Program (Summary of findings)

Appendix D: Compost Markets Research Summary

Appendix E: Education and Public Information Awards Summary

TABLES
Table 1.1: Status of Selected Programs 2

Table 2.1 Adjusted 1990 Waste Generation Data for Santa Barbara County 4

Table 7.1: Medium-term Planning Period Programs Selected 26
CHAPTER 1.  INTRODUCTION

In order to comply with state mandates, the County of Santa Barbara is required to submit a final Source Reduction and Recycling Element (SRRE) to the California Integrated Waste Management Board (CIWMB). In 1991, the CIWMB received the County's SRRE in two phases: the "programmatic components" (i.e., Source Reduction Component, Recycling Component, etc.) in April 1991, and the remaining components (Waste Characterization, Funding, and Integration) in August 1991. Comments on all components of the SRRE were provided by the CIWMB and these comments were subsequently incorporated into the draft by the County. The draft underwent public review through five public hearings held during May and June of 1991. The document was formally adopted by the County Board of Supervisors in February 1992.

This Addendum serves to provide a status update on the programs which were selected for implementation in the SRRE adopted by the County. It is the intention of the County that this Addendum, in conjunction with the draft adopted by the County Board of Supervisors, serves to meet the requirements of supplying the CIWMB with a complete SRRE.

On the following page, Table 1.1 summarizes the status of the source reduction, recycling, composting, and education programs which were selected in the County's SRRE. Chapter 2 describes any changes that have been made to the county's waste generation study conducted in 1990. Chapters 3 through 7 of this document provide a more detailed description of the programs which were selected in the SRRE and the current status of these programs. Chapter 8 lists the programs which were selected in the County's SRRE for implementation in the medium-term and states whether there are any anticipated changes in the County's plans for the medium term. Chapters 9 and 10 provide updates on the solid waste facilities in the county as well as funding mechanisms for implementing the solid waste management programs.
<table>
<thead>
<tr>
<th>TABLE 1.1: STATUS OF SELECTED PROGRAMS</th>
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<tbody>
<tr>
<td><strong>SOURCE REDUCTION</strong></td>
</tr>
<tr>
<td>A. Promote Backyard Composting</td>
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<tr>
<td>B. Assess &amp; Strengthen Government Procurement Policies</td>
</tr>
<tr>
<td>C. Develop/Disseminate Source Reduction Education Materials</td>
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<tr>
<td>D. Establish Awards Campaign</td>
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<tr>
<td>E. Provide Technical Assistance to Government/Business</td>
</tr>
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<td>F. Conduct Variable Can Rate Feasibility Study</td>
</tr>
<tr>
<td>G. Pilot a Recoverable Items Drop-off Area</td>
</tr>
<tr>
<td><strong>RECYCLING</strong></td>
</tr>
<tr>
<td>A. Continue Diversion of Concrete and Asphalt</td>
</tr>
<tr>
<td>B. Continue Residential Curbside Collection Programs</td>
</tr>
<tr>
<td>C. Continue Salvage Operations at Transfer Station</td>
</tr>
<tr>
<td>D. Continue Drop-off and Mobile Recycling Centers</td>
</tr>
<tr>
<td>E. Continue Seasonal Recycling Programs</td>
</tr>
<tr>
<td>F. Continue Mulching Operations at Transfer Station</td>
</tr>
<tr>
<td>G. Development of Isla Vista Drop-Off Centers</td>
</tr>
<tr>
<td>H. Expand Buyback Centers</td>
</tr>
<tr>
<td>I. Expand Commercial Source-Separated Collection</td>
</tr>
<tr>
<td>J. Expand Multi-Family Housing Collection</td>
</tr>
<tr>
<td>K. Begin Scoping Integrated Diversion Facilities</td>
</tr>
<tr>
<td>L. Conduct Collection System Study</td>
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<tr>
<td><strong>COMPOSTING</strong></td>
</tr>
<tr>
<td>A. Plan Yard Waste, Mixed Waste, Biosolids Composting</td>
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<tr>
<td>B. Develop Yard and Wood Waste Drop-off Sites</td>
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<tr>
<td>C. Develop Fee Incentives for Clean Loads</td>
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<tr>
<td>D. Develop Compost Product Market Development Program</td>
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<tr>
<td><strong>EDUCATION</strong></td>
</tr>
<tr>
<td>A. Begin General Public Information Campaign</td>
</tr>
<tr>
<td>B. Begin School Education and Outreach</td>
</tr>
<tr>
<td>B. Begin Recycling Education and Outreach Program</td>
</tr>
<tr>
<td>C. Begin Business and Institutional Education Outreach</td>
</tr>
<tr>
<td>D. Begin Consumer Education Program</td>
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CHAPTER 2. SOLID WASTE GENERATION ANALYSIS

The SRRE adopted by Santa Barbara County in 1992 included information from the Waste Generation Study that was prepared for the unincorporated areas of the county in 1990. Santa Barbara County was one of the first areas to prepare waste generation studies and the procedure has improved since this time. Due to potential inaccuracies in waste generation figures, the County may conduct an additional waste generation analysis in 1996. At this time, the only revisions that have been made to the 1990 data are the subtraction of waste generated from the City of Buellton, which was incorporated in 1991, and a requested base-year diversion credit for scrap metals.

Buellton’s Waste

At the time the Waste Generation Study for Santa Barbara County was conducted, the area that now is referred to as the City of Buellton was part of the unincorporated area. In February of 1991, Buellton became incorporated. The County has calculated a gross estimate of Buellton’s 1990 waste generation amount based on data from the waste hauler in the area and a survey of self-haulers. Results from this analysis were compared to expected figures based on population size and generation rates of neighboring communities. An annual generation rate of approximately 6,280 tons was estimated with a diversion rate of 1,778 and a disposal rate of 4,502. These totals were subtracted from the 1990 waste generation data and are illustrated in Table 2.1. The subcategories for disposal, diversion and generation were not specified because the City of Buellton has contracted with a consultant to conduct a waste generation study as well as prepare their SRRE. Santa Barbara County will receive a copy of this study when it is completed and can then make the appropriate detailed changes to figures for the unincorporated area. As soon as the changes are made, Santa Barbara County will submit the new data for 1990 waste generation to the CIWMB.
Table 2.1: 1990 Waste Generation Data for Santa Barbara County  
(adjusted for incorporation of Buellton)

<table>
<thead>
<tr>
<th>Area</th>
<th>Disposed</th>
<th>Diverted</th>
<th>Incinerated</th>
<th>Generated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unincorporated</td>
<td>239,966</td>
<td>60,415</td>
<td>1,419</td>
<td>301,800</td>
</tr>
<tr>
<td>VAFB</td>
<td>15,972</td>
<td>5,189</td>
<td>0</td>
<td>21,161</td>
</tr>
<tr>
<td>Buellton</td>
<td>4,502</td>
<td>1,778</td>
<td>0</td>
<td>6,280</td>
</tr>
<tr>
<td>Carpinteria</td>
<td>30,000</td>
<td>9,822</td>
<td>284</td>
<td>40,106</td>
</tr>
<tr>
<td>Guadalupe</td>
<td>7,815</td>
<td>1,225</td>
<td>0</td>
<td>9,040</td>
</tr>
<tr>
<td>Lompoc</td>
<td>52,110</td>
<td>7,161</td>
<td>296</td>
<td>59,567</td>
</tr>
<tr>
<td>Santa Barbara</td>
<td>84,350</td>
<td>61,668</td>
<td>2,731</td>
<td>148,749</td>
</tr>
<tr>
<td>Santa Maria</td>
<td>151,042</td>
<td>11,021</td>
<td>0</td>
<td>162,063</td>
</tr>
<tr>
<td>Solvang</td>
<td>8,247</td>
<td>386</td>
<td>0</td>
<td>8,633</td>
</tr>
</tbody>
</table>

Base-Year Diversion Credits for Restricted Wastes

In the 1990 Waste Generation Study prepared for Santa Barbara County, figures were provided for the diversion of 1) agricultural wastes including manure, 2) inert solids, and 3) scrap metals and white goods, all of which are currently considered restricted wastes. In order to claim diversion of restricted wastes, a jurisdiction must meet the following criteria:

1) Waste was diverted due to the action of a jurisdiction [Public Resource Code (PRC) Section 41781.2(c)(1)],

2) The amount of waste diverted was once disposed of in a permitted disposal facility [PRC Section 41781.2(c)(2)],

3) The jurisdiction is continuing a program diverting the restricted wastes [PRC Section 41781.2(c)(3)].

Documents were reviewed for the unincorporated areas of the County including Vandenberg Air Force Base (VAFB), which is a federal facility in the County, to determine the amount of diversion credit for which the County was eligible. Based on this review, the County of Santa Barbara, not including VAFB, requests a base-year diversion claim for scrap metals totalling 1,916 tons. Appendix A describes the process that was undertaken to determine the diversion credit request. VAFB is requesting a diversion credit for scrap metals of 2,429 tons, for a total scrap metal diversion credit request for Santa Barbara County of 4,345 tons.
In addition, VAFB is requesting a diversion credit for inerts of 3,000 tons. The original Waste Characterization Study indicated that there was no diversion of inerts at the VAFB landfill (Table 4-V of Waste Generation Study). The 1992 SRRE that was prepared for VAFB indicates that additional information on the diversion of concrete and asphalt became available (pg 5-6 of SRRE). The SRRE notes that an average of approximately 3,000 tons of asphalt and concrete per year were diverted from the VAFB landfill. Appendix B describes the process that was undertaken to determine diversion credits for Vandenberg Air Force Base.

Because the state has to approve the request for diversion credit, changes were not made to Santa Barbara County's disposal, diversion and generation tonnages for 1990. Upon approval from the state, Santa Barbara County will update its generation figures and submit the changes to the CIWMB.
CHAPTER 3  SOURCE REDUCTION COMPONENT UPDATE

Chapters 3 through 7 describe the programs that were originally selected in the SRRE prepared in 1991 and the current status of these selected programs. This chapter focuses on activities and efforts related to source reduction.

A.  Promote Backyard Composting

Selected Program: Promotion of backyard composting in the unincorporated areas of Santa Barbara County was selected because yard wastes and food wastes represent a significant percentage of the wastestream in the unincorporated areas. The County had already begun a backyard composting pilot project when this program was selected. In the SRRE, this program was selected to be continued and expanded.

Current Status: Implemented (Now Ongoing)
Based on the successful pilot program which included more than 4,000 households countywide, the County established a backyard composting campaign. The program provides residents with backyard composting/yard waste reduction informational materials, a biannual newsletter, seasonal workshops, and free composting bins to single-family households. The residents served by this program receive a 26-page guide and technical assistance. The methods promoted include aerobic and anaerobic composting, and vermicomposting.

The program is promoted through the "Do More, Use Less" waste prevention campaign which includes a 30 second television commercial, a 60 second radio commercial and a newspaper advertisement encouraging the public to participate in backyard composting and yard waste reduction activities. These elements have run as paid advertisements and public service announcements since June 1994.

B.  Assess & Strengthen County Procurement Policy

Selected Program: The assessment and strengthening of the existing County procurement policy was selected to encourage source reduction and purchase of recycled content products (RCPs). Government facilities are such large-volume purchasers that significant reduction of waste can be achieved through procurement policies. The County Board of Supervisors adopted a resolution in 1989 to stimulate a price preference for procurement of recycled content paper. County staff was required to review the first-year report on the implementation of this policy and determine what steps could be taken to strengthen the program as well as add steps that would encourage source reduction and purchasing of RCPs, such as centralizing purchasing, increasing bulk purchasing, and setting specifications which products must meet (in terms of recycled content, durability, etc.).
Current Status: Status Quo
This program has been ongoing since the adoption of the County's procurement policy in 1989. Initially, the County Public Works Department, Solid Waste and Utilities Division worked closely with County purchasing agents and staff to the Board of Supervisors to assess the program. Yearly progress reports were completed through 1992. Progress reports have not been completed since that time. Unfortunately, the Solid Waste Division can act only as an advisor and has no ability to enforce the policy. Additionally, budget cuts and other issues have made it difficult to direct attention to monitoring and enforcement of the policy. The County of Santa Barbara, in conjunction with several of its incorporated cities, has submitted a Recycling Market Development Zone (RMDZ) application to the State. Assessment of the procurement policy and greater interaction with the Purchasing Division is part of the market development strategy for the proposed Zone.

C. Develop and Disseminate Source Reduction Education Materials

Selected Program: This alternative has been selected because the County expected that source reduction levels would not increase unless waste generators understood the need for source reduction and knew what they could do to reduce the waste they generate. A significant part of source reduction education was to focus on the yard waste reduction strategy in support of the backyard composting program. Source reduction information was also to reach the general public, schools, consumers, and businesses and institutions through the countywide public information and education campaign, which was to be spearheaded by county staff.

Current Status: Implemented (Now Ongoing)
An extensive media campaign has been conducted to promote source reduction. Residents are offered a waste reduction kit, which includes literature and suggestions, a reusable string bag, and a shopping list including helpful source reduction tips. Over seven hundred residents and special interest groups have received the kit.

During the 1993 holiday season, the County expanded its annual Christmas Tree Recycling Program to include holiday waste prevention. Several local businesses participated in a discount program for residents who purchased gifts, cards, paper and other items that were made from recycled materials. In addition, the Holiday Waste Prevention Campaign included the second annual Recycled Christmas Ornament Workshop held at the Children's Creative Museum using materials provided by the Art From Scrap Imagination Mart. A second workshop was held in Santa Maria in 1993.

D. Establish an Awards Program

Selected Program: An awards program was selected as a way to increase awareness of source reduction activities in the unincorporated areas of the County, and to provide an incentive for individuals and businesses to become involved. The awards program was to be publicized in the media so that members of the general public, schools, and the commercial/industrial sector
could apply by providing information on their source reduction activities. The awards were to be coordinated through the countywide education and public information campaign.

**Current Status: Implemented (Now Ongoing)**

An annual "Green Awards" program was established in 1993 by a consortium of local agencies who combined resources to honor area businesses participating in waste reduction and other environmentally sound practices. Five awards were given the first year. In selecting the recipients, the awards committee considers measurable improvements to environmental quality, comprehensive environmental philosophy, ongoing or long-term environmental benefits, creativity and innovation in approach, and model achievements. The 1995 program featured a direct mail campaign to over 1,000 businesses, organizations and individuals. An awards luncheon was held in which the previous year winners presented the awards to the current winners. The program received extensive media coverage on local television and radio stations, and in local newspapers.

**E. Provide Technical Assistance to Government and Business**

**Selected Program:** Technical assistance to government, commercial, and industrial facilities was selected to encourage voluntary development of reduction and recycling plans. This alternative was to be designed to target the most significant waste generators and to encourage reduction of a wide range of waste types. Outreach was to be conducted as part of the broader countywide education and public information campaign.

Several approaches to this technical assistance were to be considered, including:

* direct mail and newspaper ads to promote reduction and recycling and inspire interest;

* development of brochures featuring reduction and recycling methods for four sectors: office-oriented businesses, commercial operations, restaurants/hotels/bars, and industrial and construction operations;

* informational open houses for each targeted sector where experts would answer questions and provide direction for those interested in setting up reduction and recycling programs (interested parties would learn how to assess their current waste generation practices and make changes to reduce waste, such as increasing two-sided copying, use of scrap paper and electronic mail, and decreasing single-use items); and

* consideration of a waste exchange system to facilitate reuse of materials.

**Current Status: Implemented (Now Ongoing)**

A commercial newsletter entitled *Waste Prevention News* will be mailed to businesses throughout the County in early 1996. This newsletter will include success stories about local businesses' attempts to reduce the amount of waste disposed through changing business
practices and diverting the waste to more beneficial uses. The newsletter will allow the County to create a database of businesses interested in additional technical assistance and more information on source reduction.

When calls from local businesses are received, County staff promotes the use of the California Materials Exchange Program and the new Ventura County Materials Exchange Program to obtain and exchange materials in which the business is interested. Currently staff is working to expand this information base by compiling a Recycling Directory of businesses that offer recycling services and pickups, products made with recycled content, and other information pertinent to local businesses. This directory will be printed on newsprint and will circulate in a Sunday edition of a local newspaper. The County is also coordinating with the California Integrated Waste Management Board to hold a business waste prevention and technical assistance workshop in early 1996. In addition, a local non-profit has prepared a listing of opportunities available to businesses to recycle a variety of waste and plans to distribute the information by early 1996.

F. Conduct Variable Can Rate Feasibility Study

**Selected Program:** Implementation of variable can rates was selected because this option would provide an economic incentive for residents to increase their source reduction and recycling efforts. This action would also increase the connection between the amount of waste residents generate and how much they pay for the waste collection and disposal service.

To implement this option, a study was to be conducted to determine whether the current rate structure provides enough of an incentive for residents to increase their reduction and recycling activities. If the study revealed that the existing system did not provide enough of an incentive, a new rate structure was to be designed.

**Current Status:** Implemented/Ongoing (North County); Postponed (South County)
In mid 1992, variable can rates were implemented in the North County unincorporated areas by Health Sanitation Services, the contracted hauler in that region. No study was conducted prior to initiation of the new rate structure. This variable can rate program offers residents a choice of 90, 60 or 40 gallon containers for trash service. The contracted hauler in the region found that about 10 percent of their accounts switched to smaller cans when the availability of the option was first advertised. Currently, 28 percent of their accounts have switched to smaller sized cans since automated service and the separate collection of yard waste have been initiated.

In the South County, a feasibility study has not yet been conducted because of current planning efforts for a new collection method and processing facility. As part of the planning for these changes, a pilot collection study was conducted to evaluate the best collection method(s) to interface with a processing facility. Since collection methods are expected to change once a processing facility has been identified, it was determined that it would be best to evaluate the
feasibility of a variable can rate structure when the new collection system is decided upon. The County anticipates that the variable can rate study will be conducted sometime in 1997/98. Until this time, however, residents in the unincorporated areas of the county do have the choice between the following options: one can once a week; two cans once a week; one can twice a week; or two cans twice a week. Different rates are charged for these varying levels of service to encourage customers to take actions such as reduction, recycling and composting which will result in the need for less frequent garbage pick up service.

G. Pilot a Recoverable Items Drop-off Area

Selected Program: The County selected to evaluate the feasibility of establishing a separate drop-off area for recoverable items such as mattresses, furniture, white goods and appliances, at county-operated facilities such as the South Coast Transfer Station. This alternative was selected because it would provide an opportunity, and possibly a financial incentive, to recover items that can be reused or remanufactured. The Transfer Station has historically salvaged some items, such as mattresses, but the evaluation was to determine if this operation could be expanded.

Current Status: Evaluated\Not Pursued
This program was evaluated and not pursued at the South Coast Transfer Station due to discussions that surfaced with a neighborhood focus group regarding operations at the Transfer Station. The Transfer Station site and its operations became the focus of much attention due to the proposed development of a permanent household hazardous waste collection center at the site. Consequently, a focus group of neighbors was formed and the hazardous waste collection center was developed at another site. As a result of those discussions, and identification of space constraints and inefficiencies, a site analysis is being done to propose methods to minimize the level of activity at the Transfer Station, although the facility continues to divert mattresses and white goods. In response to the prohibition on landfilling scrap metals and a healthy market for metals, private businesses in the County have established very active white goods recovery programs.
CHAPTER 4  RECYCLING COMPONENT UPDATE

This chapter describes efforts planned and implemented in the unincorporated area related to recycling.

A. Continue Diversion of Concrete and Asphalt

Selected Program: According to data in the countywide Waste Generation Study, in the 1990 base year approximately 14 percent of the Tajiguas watershed wastestream was being diverted through concrete and asphalt recycling. This was equivalent to 10 percent diversion of the combined unincorporated county wastestream. The County chose to count only five percent diversion of this material towards meeting the 1995 mandate of 25% landfill diversion, since State policy on whether diversion of such materials would count was still unresolved. The County anticipated that this level of diversion would continue and that the County would need to track policy decisions in order to make a determination at a later date as to how much inerts diversion to claim toward meeting its landfill diversion goals.

Current Status: Continued/Ongoing
As anticipated, concrete and asphalt recycling has continued and state policy regarding the viability of counting diversion of these materials in meeting the state mandates has been clarified. The County will not seek diversion credits for inert solids for the base year due to a lack of documentation of historical landfilling practices but will continue to divert inerts from being disposed. The County has charged higher rates for the disposal of construction debris for several years, which has encouraged private businesses to undertake active recycling of construction and demolition debris.

B. Continue Residential Curbside Collection Programs

Selected Program: Expansion of curbside collection on the South County was selected as an approach to increase the diversion rate of residential curbside recycling by including additional materials such as mixed paper, magazines, tin cans, and HDPE plastics. In the North County, it was recommended that effective July 1, 1991 the curbside program be expanded from every-other-week service to weekly service. Consideration was also to be given to expanding curbside programs to additional single-family residents in the more urban unincorporated County.

Current Status: Continued/Ongoing
Since the SRRE was originally prepared, the South County recycling program has expanded to include the collection of colored and clear HDPE, waste oil, and oil filters. The collection of magazines and junk mail has begun on a pilot basis in some areas and these materials may be
collected in all areas in 1996. The County is pursuing long-range planning options, including materials recovery and municipal composting programs and further expansion of the existing curbside program may be pursued in the future. Curbside collection programs continue in the North County, which has increased collection from bi-weekly to weekly.

C.  Continue Salvage Operations at Transfer Station

*Selected Program:* This alternative was selected because salvage operations can capture materials at the final point prior to landilling and they have the potential to recover significant quantities of recyclable and reusable materials.

*Current Status: Continued/Ongoing*
Salvage operations at the South Coast Transfer Station continue to operate. In 1994, approximately 5,473.5 tons of materials were salvaged from the unincorporated county wastestream (representing about 32% of the total tonnage salvaged). Below is a summary of the types of materials recovered in 1994.

<table>
<thead>
<tr>
<th>Material</th>
<th>1994 Tons Diverted</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Metals (appliances &amp; scrap)</td>
<td>1,221.6</td>
</tr>
<tr>
<td>Tires</td>
<td>(see Special Wastes section)</td>
</tr>
<tr>
<td>Mattresses (at 30 lbs each)</td>
<td>23</td>
</tr>
<tr>
<td>Wood/yard waste</td>
<td>15,860</td>
</tr>
<tr>
<td>Total</td>
<td>17,104.5</td>
</tr>
</tbody>
</table>

D.  Continue Existing Drop-off and Mobile Recycling Centers

*Selected Program:* This alternative was selected because of the ease of continuing these centers, the associated educational value, the potential increased diversion, and the cost effectiveness of the centers.

*Current Status: Continued/Ongoing*
All publicly and privately-owned drop-off centers, buyback centers, and mobile recycling centers are in operation. These programs, operated by local non-profit organizations and citizen organizations, continue to collect a variety of materials including CRV containers, non-CRV plastic and glass containers, tin cans, newsprint, cardboard, various paper grades, waste oil, and oil filters. The Summerland drop-off center, a program operated by the Summerland Citizens Association, recently relocated to property owned by Southern Pacific Railroad.

E.  Continue Seasonal Recycling Programs

*Selected Program:* The telephone book recycling program was selected to continue to operate concurrently with delivery of new telephone books each year. The Christmas tree mulching program was selected to be continued, with greater emphasis to be placed on distributing the
mulch to public and private agencies and to the local community.

Current Status: Continued/Ongoing
The telephone book recycling program has continued to operate annually during the same time that new phone directories are delivered to residents. The program increased in scope in 1995 to accommodate the addition of Pacific Bell Directories to the market. The 1994 program diverted over 120 tons of telephone books from county landfills. The program relies heavily on public support which is generated through an extensive multi-media communications campaign which includes television, radio and newspaper advertisements, billing inserts, posters, business letters, press releases, and promotional programs that include sponsors like McDonald’s of Santa Barbara and the Santa Barbara Zoo.

In 1993, the Christmas Tree Recycling Program increased in scope to focus on an overall holiday waste prevention message. The campaign also utilizes an extensive multi-media approach to gain public support and participation. The 1994/1995 program successfully diverted over 170 tons of Christmas tree mulch from being landfilled. The mulch was utilized by local parks and organizations like UCSB, the Santa Barbara Botanic Gardens and the Santa Barbara Zoological Gardens. The campaign also features a partnership with local retailers who provide discounts on items that are reusable, recyclable or created from recycled materials.

F. Continue Mulching Operations at Transfer Station

Selected Program: Mulching of yard and wood wastes was selected because these materials comprise approximately 18 percent of the unincorporated county's wastestream. It was anticipated that some of this material would be processed into a mulch product that could be used by county departments and the general public for landscaping.

Current Status: Continued/Ongoing
Yard and wood wastes continue to be mulched at the South Coast Transfer Station. Most of the materials generated were sent to a waste-to-energy facility until December 1994. Due to deflated biomass market demand, other alternatives for the mulch are being evaluated. The County completed a 30 day pilot using the mulch as alternative daily cover (ADC) at the Tajiguas Landfill. Staff response to using the material has been positive and the County has received a 6-month permit to continue to use mulch as ADC.

G. Development of Isla Vista Drop-off Centers

Selected Program: This alternative was selected for the relative ease of developing the centers, the associated educational value, the anticipated increased diversion, and the cost effectiveness of drop-off centers. Three locations were chosen for drop-off centers in Isla Vista: Trigo-Pasado Park; Ani’squo Park; and the corner of Camino del Sur and Estero Road. It was anticipated that the drop-off centers would be available to residents 24 hours a day and that they would be serviced by the Community Environmental Council weekly.
**Current Status:** Continued/Ongoing
Three centers available to residents 24 hours a day were developed. Due to scavenging and storage problems, one of the drop-off centers (Ani'squo Park) was discontinued and materials collected at the other two sites have been reduced. No new plans have been developed for recyclables collection in Isla Vista.

**H. Expand Buyback Centers**

*Selected Program:* This alternative was selected because of the relative ease of expanding these centers, the associated educational value, the potential increased diversion, and the cost effectiveness of buyback centers. The expansion of the buybacks was expected to involve increasing the quantities of materials accepted at existing facilities.

**Current Status:** Continued/Ongoing
The existing buyback centers continue to operate. Due to fluctuations in the market and the stability of the local economy, the local non-profit organizations operating these buyback centers have determined that it is inappropriate at this time to expand these existing operations.

**I. Expand Commercial Source-separated Collection**

*Selected Program:* This alternative was selected because commercial and industrial entities generate approximately 34 percent of the County's wastestream. Although there was some limited source separated collection from commercial generators (primarily corrugated cardboard, newspaper, and glass), expansion of these activities was expected to achieve significant levels of waste diversion.

**Current Status:** Continued/Ongoing
Existing commercial source-separated collection is currently conducted by private enterprise in the County. Commercial recovery programs have expanded over the past years and are expected to continue to expand due to increased efforts planned by local haulers and local non-profit organizations to target the commercial stream. Section E of Chapter 3 describes in detail the educational and outreach efforts that are underway to encourage commercial recycling.

**J. Recycling Market Development Zone**

*Selected Program:* This program became available to jurisdictions in the state after it was designed and implemented by the CIWMB in 1991. The program was selected by the county to increase local markets for recyclable materials and encourage re-use businesses. Local markets would reduce transportation distances and increase market stability.

**Current Status:** The County and four cities located within the county (Santa Barbara, Carpinteria, Santa Maria, and Lompoc) applied for and received designation from the state as
a Recycling Market Development Zone (RMDZ) in early 1995. The targeted materials are high-density polyethylene, mixed plastic, glass, mixed paper, and compost. Local incentives vary by jurisdiction and include permit assistance and fast track permitting, business outreach, fee reductions, technical assistance, loan packaging, and other incentives. The program is planned to attract new businesses and assist existing businesses to expand or convert to using secondary materials in their manufacturing process.

K. Expand Multi-family Housing Collection

Selected Program: This alternative was selected because a significant portion of the urban unincorporated residents live in duplexes, apartments and other multi-family housing units which do not receive curbside collection service. The program was to begin as a pilot in order to allow for precise tailoring of collection methods and procedures due to site and space constraints inherent in multi-family housing.

Current Status: Discontinued
The multi-family program operated under contract to the County by the Community Environmental Council was implemented as a pilot program in November 1990. The program continued operations through the end of the 1993/94 fiscal year. At that time, it was determined that the County program was not cost effective and did not divert significant tonnage. Therefore, as part of the budget process, the County-sponsored multi-family program was discontinued, although private entities have continued the program in certain areas.

L. Begin Scoping Integrated Diversion Facilities

Selected Program: Based on the evaluation of the alternatives to attain the 50 percent diversion goals mandated by AB 939, the County determined that regional processing facilities would be necessary. For maximum efficiency, each facility was to be designed in conjunction with the compost facility recommended in the composting component of the SRRE. The proposed facilities were expected to be located in three locations throughout the County; these facilities would be developed in conjunction with the incorporated cities. It was envisioned that these Integrated Diversion Facilities (IDFs) would receive commercial and residential mixed solid waste for processing. In addition, each facility would accept source separated compostable materials such as yard waste, food wastes and biosolids and would have the capability to accept source separated and commingled recyclables for processing. (See composting component section for further details)

Current Status: In the planning stages

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1 These facilities were referred to in the SRRE adopted in 1992 as the South Coast Integrated Diversion Facility (SCIDF), the Lompoc Mixed Waste Processing Facility (LMWPF), and the Santa Maria Mixed Waste Processing Facility (SMMWPF).
South Coast Facility:
The proposed South Coast Integrated Diversion Facility (SCIDF) is currently in the planning stages and is anticipated to be operational by 1998. A siting study has been completed and the County of Santa Barbara and the City of Santa Barbara are drafting a Joint Powers Agreement that will guide the facility planning. The facility will accept source-separated organics and source-separated recyclable material. Mixed solid waste will be hauled directly to the landfill.

Santa Maria Valley Facility:
The County of Santa Barbara is working with the City of Santa Maria to identify the best regional collection and processing options given the anticipated closure of the existing Santa Maria Landfill. Options under consideration are the development of a materials diversion facility in the Santa Maria Valley by the City of Santa Maria, use of a privately developed materials recovery facility in the North County, or possible redirection of the North County unincorporated wastestream to the Tjajiguas Landfill.

Lompoc Valley Facility:
The County of Santa Barbara has been coordinating with the City of Lompoc in their planning of a Lompoc composting facility. The City of Lompoc is currently conducting a systems analysis to refine their understanding of collection and processing options and they expect to move forward in scoping a facility in late 1995.

M. Conduct Collection System Study

Selected Program: The need for a collection system study was selected so that the County could evaluate different collection methods, such as wet/dry collection and co-collection, in order to enable the County to tailor a materials collection system to local conditions and to the design of planned recovery facilities. The results of the study were expected to provide the information necessary for determining a preferred collection approach. The recycling aspects of the collection study were to be integrated with selected composting programs.

Current Status: Completed
The County of Santa Barbara completed a Pilot Waste Collection Project which was a joint project of the County Solid Waste and Utilities Division, The National Audubon Society, and The Grocery Industry. The purpose of the project was to test alternative methods of residential waste separation and collection. The objectives were:

* to determine each method's effect on composting, public acceptance, cost and adaptability over time;

* to determine the quantity and quality of recyclable materials delivered by each collection method; and

* to inspire the residents' ownership of the results of the pilot project.
The project was initiated in the spring of 1993 and involved 1,177 homes in four
neighborhoods for a period ranging from nine to eleven weeks. The final report of the project
was completed in April 1994; major findings of the project can be found in Appendix C of this
document.²

² Full copies of the final report are available from Lauren DeChant or Jan Beyea, National Audubon Society at
700 Broadway, New York, NY 10003. (212) 979-3000.
CHAPTER 5  COMPOST COMPONENT UPDATE

This chapter describes efforts that are planned and/or implemented in the unincorporated area related to composting.

A. Yard Waste\Mixed Organics\Biosolids Composting

Selected Program: Based on the County of Santa Barbara's Waste Generation Study, the evaluation of composting alternatives as well as the existing local demand for compost was selected. In addition, the development of a composting facility to serve the County of Santa Barbara as well as other jurisdictions in the County was selected for possible implementation. A high level of diversion was found to be necessary for the County to meet the aggressive diversion goals set by AB 939. Composting of yard waste alone was estimated to potentially divert 5 to 15 percent of the wastestream. Adding other organic materials from the wastestream, such as food waste, was expected to increase the diversion from composting to a total of 10 to 25 percent. Composting was expected to be efficiently combined with the waste processing alternatives selected in the recycling component.

The County anticipated that three composting facilities would be needed to serve the unincorporated areas of the County, and that these composting operations would be developed as part of recycling processing facilities and in conjunction with the incorporated cities. One recycling and composting facility was expected to be needed for the South County region (Tajiguas wasteshed), another for the Santa Maria Valley (to serve the Cities of Santa Maria, Guadalupe, Solvang, and the surrounding unincorporated areas), and a third for the Lompoc Valley (to serve the City of Lompoc, the surrounding unincorporated areas, and possibly Vandenberg Air Force Base). None of these facilities were expected to be operational until the medium-term planning period.

Current Status: In the planning stages
Large-scale composting programs continue to be in the planning stages throughout the County, however, there are several small-scale mulching and composting operations that are processing primarily wood, green, and agricultural waste. The following describes the status of the large-scale facilities.

South Coast Facility:
The proposed South Coast Integrated Diversion Facility (SCIDF) is currently in the planning stages and is anticipated to be operational by 1998. A siting study is underway and the County of Santa Barbara and the City of Santa Barbara are drafting a Joint Powers Agreement that will guide the facility planning. Composting operations are expected to be part of this proposed
facility.

Santa Maria Valley Facility:
The County of Santa Barbara is working with the City of Santa Maria to identify the best regional collection and processing options given the anticipated closure of the existing Santa Maria Landfill. Options under consideration are the development of a materials diversion facility in the Santa Maria Valley by the City of Santa Maria, use of a privately developed materials recovery facility in the North County, or possible redirection of the North County unincorporated wastestream to the Tajiguas Landfill. Composting operations would be considered in the development of any proposed facility. A few small privately-operated composting operations have become permitted and are operating in the North County.

Lompoc Valley Facility:
The County of Santa Barbara has been coordinating with the City of Lompoc in their planning of a Lompoc composting facility. The City of Lompoc is currently conducting a systems analysis to refine their understanding of collection and processing options and they expect to move forward in scoping a facility in late 1995.

B. Develop Yard and Wood Waste Drop-off Sites

Selected Program: Yard and wood waste drop-off sites were selected for implementation because they are a relatively inexpensive and effective means of collecting clean, uncontaminated loads of yard and wood waste materials. Existing drop-off sites were to be continued at the South Coast Transfer Station, at the City of Carpinteria’s buyback center, and at the City of Lompoc’s landfill. These sites collect materials for fuel markets and it was expected that in the medium-term planning period the sites would divert the materials for composting facilities. Additional yard and wood waste drop-off sites were expected to be established to serve the Santa Maria and Foxen Canyon watersheds. In the medium-term planning period, the yard and wood wastes collected at these drop-offs were to be transported to the composting facilities serving these watersheds. A portion of the yard and wood wastes collected at these drop-offs would be processed into mulch and fuel products.

Current Status: Implemented (Now Ongoing)
As planned, yard and wood waste drop-off centers were established at the Santa Maria and Foxen Canyon Landfills. The materials collected were used for biomass and some co-composting through 1994, but other uses were evaluated to replace biomass due to deflated market demand.

Also as planned, yard and wood waste drop-offs were continued at the South Coast Transfer Station and the City of Lompoc Landfill. The City of Carpinteria, however, has discontinued the drop-off site at their buyback center, although a private operator has a drop-off site in Carpinteria.
C. Develop Fee Incentives for Clean Loads of Yard/Wood Waste

Selected Program: Fee incentives for clean loads of yard and wood wastes were selected to encourage commercial and residential generators to bring clean, segregated loads of yard and wood waste to the landfill drop-off sites. It was anticipated that this would increase participation rates and increase the diversion from the yard/wood waste drop-offs.

Current Status: Implemented (Now Ongoing)
A fee incentive for clean wood/yard waste loads was implemented at the Transfer Station when the County purchased a tub grinder in 1990. In 1994, a new incentive was added to the existing rate structure to include a distinction between clean wood waste and clean green waste. The fees for clean wood waste and clean green waste were again reduced in 1995.

D. Develop a Compost Product Market Development Program

Selected Program: Establishing markets for compost products was determined to be a priority since composting of organics was determined to be a key element for the County as well as for many of the incorporated cities to reach the 1995 diversion mandates. The implementation of a compost market development program was selected so that the County could ensure that any composting facilities or operations developed in the County would have adequate end use markets for the compost products generated. In addition, proposed composting operations developed by the County were to be designed to ensure that the operations will generate compost products to meet the needs of local end users.

Current Status: Completed
The County has completed several projects related to compost markets research and development from the perspective that the production of marketable compost products is dependant on several factors, such as how materials are collected and processed and what the specific needs are of local end users. One key piece of the County’s work was a Pilot Waste Collection Project which will now enable the County to select collection methods that will deliver materials to a processing facility in such a manner that compost products meeting local end use demand can be produced. The Pilot Waste Collection Project was a joint project of the County Solid Waste and Utilities Division, The National Audubon Society, and The Grocery Industry. The purpose of the project was to test alternative methods of residential waste separation and collection. The objectives were:

* to determine each method’s effect on composting, public acceptance, cost and adaptability over time;

* to determine the quantity and quality of recyclable materials delivered by each collection method; and

* to inspire the residents’ ownership of the results of the pilot project.
The project was initiated in the spring of 1993 and involved 1,177 homes in four neighborhoods for a period ranging between nine and eleven weeks. The final report of the project was completed in April 1994; major findings of the project can be found in Appendix A of this document.³

The County has also been heavily involved in evaluating potential composting technologies. A draft compost technology review was completed in November 1992. This document was updated and reformatted as a project of the US Conference of Mayors and the County of Santa Barbara. "Municipal Scale Composting: A Decision Makers Guide to Technology Selection" will be distributed nationwide as a resource for local government officials and should be available in October 1995.

Lastly, the County has completed several projects to identify compost product specifications, assess current local demand for compost products, and to identify methods for developing a larger compost market. Studies completed under contract to the CIWMB and others include *Compost Market Development: A Literature Review, Santa Barbara County Preliminary Compost Market Assessment*, and *Compost Field Experiment Guide for California Communities* (see Appendix D for details on these reports).

³ Full copies of the final report are available from Lauren DeChant or Jan Beyea, National Audubon Society at 700 Broadway, New York, NY 10003. (212) 979-3000.
A county education and public information strategy was selected and the program was planned to include the following elements: a General Public Information Campaign, a School Education and Outreach Program (including Recycling Education and Outreach, Presentations, and an Information Library), Business and Institutional Education Outreach, and a Consumer Education Program. Details on how these programs were envisioned in the 1992-adopted SRRE are provided below as well as a summary of how the programs have been implemented.

A. Selected Program: General Public Information Campaign
This program was envisioned to be a general media campaign that would be the basis from which all other recycling promotions in the County would be launched. The campaign was to center on the slogan "Recycle--It's Habitat Forming." The slogan and concept would be first established in a multi-media advertising campaign that would include 30-second television commercials that would run as public service announcements as well as use in print, radio, outdoor and point of purchase advertising, and informational brochures. The advertising campaign would establish waste reduction (source reduction, recycling, and composting) as a habit to be practiced throughout all aspects of residents' daily lives--at the curb, at the office, at home, in the backyard, and at the grocery store.

Current Status: Implemented (Now Ongoing)
The campaign initially centered on the slogan "Recycle--It's Habitat Forming," and, in 1993, evolved to include a new slogan "Do More, Use Less!" The slogans have been established in a multi-media advertising campaign that includes seven newspaper ads, three outdoor transit posters, four indoor transit posters (also used for businesses, institutions and schools), three 30-second television commercials and four 60-second radio commercials. The advertising campaign establishes waste reduction (source reduction, reuse, recycling, and composting) as a habit to be practiced throughout all aspects of residents' daily lives. Appendix E lists the various awards that the County has received for its educational efforts.

B. Selected Program: School Education and Outreach Program
This program was envisioned to include the development of motivational presentations for various grade levels, provision of curricula and videos to teachers on request, and assistance in either establishing or bolstering office paper recycling projects in the schools. School education and outreach efforts were to employ the use of the slogan and concept established in the general public media campaign whenever possible. This program was also to have several distinct elements, including the following:
A Recycling Education and Outreach Program to establish pilot recycling programs in area schools and provide classroom recycling bins, instructional bilingual bin labels, bilingual posters, and bilingual educational flyers. A press conference was to be held and an informal task force of teachers, recycling coordinators, community recycling activists, and program coordinators was to be developed.

Educational presentations in classes and distribution of pre-visit materials to the teachers interested in participating.

An Information Library that would feature an assortment of educational videos for classroom viewing, as well as curricula and activity alternatives and environmental contacts.

**Current Status: Implemented (Now Ongoing)**

The School Education and Outreach Program that has been implemented includes motivational presentations for various grade levels, provision of curricula and videos to teachers on request, and assistance in either establishing or bolstering recycling projects in the schools. School education and outreach efforts use the slogan and concept established in the general public media campaign, in addition to a recognizable character called "Re-Man." This character promotes the concepts of reduce, reuse, recycle, rethink, respond, and repair to school students.

In addition, through partial funding from the County, a local non-profit is conducting an educational program that promotes conservation and reuse through hands-on exploration with discarded materials from local businesses and manufacturers.

**Selected Program: Business and Institutional Education Outreach**

An outreach program to businesses and institutions was envisioned as a way to reach four sectors: office-oriented businesses; the commercial sector; restaurant, hotel and bars; and industrial and construction businesses. The general campaign slogan and concept would be used to bring attention to recycling, source reduction and composting methods. Direct mail and newspaper ads would be used to promote business and institutional recycling and to enlist interest. Brochures featuring recycling and source reduction methods would be developed for each sector listed above. After-work open houses would be held for each sector, where experts would be available to answer questions and help those interested in establishing recycling and source reduction programs in their businesses. A countywide business recycling task force was to be established to help other businesses in setting up recycling and source reduction programs. Press releases and press conferences would be held throughout the year to bring attention to recycling and source reduction approaches in businesses and institutions.

**Current Status: Implemented (Now Ongoing)**

This program is in the development stage and is planned to reach office-oriented businesses,
the commercial sector, restaurant/hotel/bars, and industrial and construction businesses. Using
the general public information campaign slogan and concept, the County will focus attention
on recycling, source reduction and composting methods. The County is considering using
direct mail and newspaper ads to promote business and institutional recycling and to offer
technical assistance with identifying waste diversion strategies and gaining employee support.
In addition, materials developed by the CIWMB will be distributed to each of the commercial
sectors.

At this time, a Recycling Directory, is being developed to help businesses locate the services
available for recycling and diverting waste generated by their operations. A commercial
newsletter, entitled Waste Prevention News, will be available to local businesses in early 1996.
A local non-profit organization, Art From Scrap, also provides a networking system for local
businesses to divert materials such as office furniture and equipment to needy organizations
and to direct discarded materials into the organization's Imagination Mart for students and
teachers. Additionally, the County is also coordinating with the California Integrated Waste
Management Board to hold a business waste prevention and technical assistance workshop in
early 1996.

The Community Environmental Council recently distributed a survey in an attempt to gage
how many businesses are currently recycling and what their recycling needs are. In addition,
they have prepared a directory of recycling opportunities available to businesses and the
County is planning on assisting with the distribution of these materials.

**D. Selected Program: Consumer Education Program**
The consumer education campaign was
envisioned as a way to raise awareness of the need for consumers to participate in recycling,
source reduction, and composting activities. Newspaper and radio ads would be developed,
using the slogan and concept from the general media campaign, in order to promote various
ways of reducing, reusing and recycling. In-store promotions would be used to promote
source reduction methods. Sponsorship of radio programs would be sought for ongoing
promotion of source reduction and recycling methods.

**Current Status: Implemented (Now Ongoing)**
The Consumer Education Campaign has been implemented and is aimed at raising awareness
of the need for consumers to adopt recycling, source reduction, and composting activities.
Newspaper and radio ads have been utilized, using the slogan and concept from the general
media campaign, to promote various ways of reducing, reusing and recycling. These ads
focus on campaigns such as B.Y.O.B ("bring your own bag"). Along with this campaign, a
source reduction kit was distributed to consumers with a string bag and helpful information on
source reduction tips to use while making purchases.
CHAPTER 7  SPECIAL WASTE COMPONENT UPDATE

The focus of the special waste component is to reduce the hazard posed by these wastes rather than to establish specific recycling mechanisms. Current management practices for special wastes within the unincorporated areas of the County of Santa Barbara comply with applicable regulations. Additionally, there are currently no plans to decrease the scope, phase-out, or discontinue any of the existing special waste management activities. Therefore, no new management programs need to be developed at this time to handle conditionally-permitted special wastes accepted at County facilities. When safe and effective means of recycling special wastes, such as non-friable asbestos, are developed, the alternatives will be evaluated and, if determined to be feasible, the programs will be planned, implemented, and monitored at that time.

The Household Hazardous Waste Element and its accompanying addendum describe in detail programs developed by the unincorporated area and jurisdictions within Santa Barbara County to manage household and commercial hazardous wastes.
Table 7.1 below summarizes the medium-term programs that were selected in the County of Santa Barbara SRRE adopted in 1992.

<table>
<thead>
<tr>
<th>TABLE 7.1</th>
<th>MEDIUM-TERM PLANNING PERIOD: SELECTED PROGRAMS</th>
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<tbody>
<tr>
<td><strong>SOURCE REDUCTION</strong></td>
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<tr>
<td>Continue implementation of short-term programs</td>
<td></td>
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<tr>
<td>Readjust reduction goals</td>
<td></td>
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<tr>
<td>Improve monitoring/quantifying methods</td>
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<tr>
<td><strong>RECYCLING</strong></td>
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<tr>
<td>Continue existing recycling programs</td>
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<tr>
<td>Begin operation of waste processing facilities</td>
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<tr>
<td>Expand Lompoc Valley curbside</td>
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<tr>
<td>Implement needed collection changes</td>
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<tr>
<td><strong>COMPOSTING</strong></td>
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<tr>
<td>Begin yard/wood waste composting at SCIDF</td>
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<tr>
<td>Begin operation of regional composting facilities</td>
<td></td>
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<tr>
<td>Implement needed collection changes</td>
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<tr>
<td>Evaluate mixed waste composting feasibility</td>
<td></td>
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<tr>
<td><strong>EDUCATION</strong></td>
<td></td>
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<tr>
<td>Continue implementation/evaluation of programs</td>
<td></td>
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</tbody>
</table>

With one exception, these selected programs are consistent with the County’s current plans. The County has chosen not to evaluate the feasibility of mixed waste composting based on results of research conducted regarding composting technology and potential end use markets. This decision will not alter the County’s plans for achieving mandated diversion goals because
composting in other forms, such as composting of source-separated organics, is likely to be pursued.
CHAPTER 9. FACILITY CAPACITY COMPONENT UPDATE

There have been no significant changes to the solid waste disposal facilities described in the 1992 SRRE adopted by Santa Barbara County, although modifications are either planned or are currently taking place. A more detailed discussion of solid waste facilities is provided in the County's Siting Element, which will be submitted to the state in early 1996.

There are still seven landfills in Santa Barbara County, which include Tajiguas Landfill, Foxen Canyon Landfill, Ventucopa Landfill, New Cuyama Landfill, the City of Santa Maria Landfill, the City of Lompoc Landfill, and the Vandenberg Air Force Base Landfill. The landfills in the City of Santa Maria and the City of Lompoc are discussed in the SRREs prepared by those jurisdictions.

Information regarding the Tajiguas Landfill has not changed since the 1992 SRRE was prepared, although Environmental Impact Reports are being prepared to evaluate the impacts of expanding the landfill both vertically and horizontally. Vertical expansion of the landfill would take place in late 1997 or 1998. Horizontal expansion would not be pursued until after the year 2000.

The Foxen Canyon Landfill is scheduled for closure in 1998 and will be replaced with a transfer station that will be located adjacent to the existing landfill.

The Ventucopa and New Cuyama landfills will be closed in 1995 and replaced with small volume transfer stations. The New Cuyama transfer station will be located on the property of the County's Road Yard, which is more convenient for area residents. The Ventucopa Landfill will be located adjacent to the existing landfill.

There have been no significant changes to the Vandenberg Air Force Base Landfill.

Due to the closure of the smaller-volume county-owned landfills in the near future, expansion of the Tajiguas landfill will be necessary in order to meet long-term disposal capacity needs. These needs are discussed in more detail in the Santa Barbara County Siting Element.
CHAPTER 10. FUNDING COMPONENT UPDATE

There have been no changes in the Funding Component of the SRRE adopted by the County of Santa Barbara in 1992. The County of Santa Barbara continues to use system financing instead of project financing to fund solid waste activities in the unincorporated areas of the County. The Solid Waste Enterprise Fund, maintained by the County of Santa Barbara Public Works Department, collects revenues from user-based rates, the sale of recovered materials, and state grants and financial incentives. To finance major facilities proposed to be built in the medium term, specific project financing, in the form of commercial bank loans, lines of credit, etc., may be used.
Appendix A

DIVERSION CREDIT CLAIM FOR RESTRICTED WASTES
Santa Barbara County Unincorporated Areas Not Including VAFB

In order to claim diversion of restricted wastes, a jurisdiction must meet the following criteria:

1) Waste was diverted was due to the action of a jurisdiction [Public Resource Code (PRC) Section 41781.2(c)(1)]

2) The amount of waste diverted was once disposed of in a permitted disposal facility [PRC Section 41781.2(c)(2)]

3) The jurisdiction is continuing a program diverting the restricted wastes [PRC Section 41781.2(c)(3)]

The following materials were used to determine whether Santa Barbara County could claim diversion credits for restricted wastes generated in the unincorporated area:

1) 1975 Solid Waste Management Plan for Santa Barbara County

2) 1985 Solid Waste Management Plan for Santa Barbara County

3) 1990 Waste Generation Study for Santa Barbara County

To comply with criteria #1, rates for demolition debris have been higher than normal loads of solid waste brought to the transfer station in order to discourage the disposal of demolition debris. To illustrate county-initiated programs to encourage the diversion of scrap metals, the transfer station was issued a solid waste facility permit in 1978 which describes a program to separate ferrous scrap material from the waste stream (see Attachment A). This program was expanded between 1978 and 1995 (existing program is described in Attachment B) although the specific dates on which the program was expanded are not known. In 1990, a separate rate for clean loads of metal became effective and it has remained nearly half the normal disposal fee since 1990 to encourage the public to bring this material to the transfer station where it is diverted to scrap handlers (see Attachment C). In 1975, an abandoned vehicle policy was established and since that time abandoned vehicles have been diverted to auto dismantlers (see Attachment D). No known action had been taken prior to 1990 to encourage the diversion of agricultural waste, much of which had been used as a soil supplement by farmers.

To determine compliance with criteria #2, waste generation studies prepared in 1975 and 1985 were reviewed. The waste generation studies prepared in 1975 and 1985 used very broad categories to differentiate types of waste, and the studies were prepared for the entire county, not just the unincorporated area.
The total number of metals disposed in each landfill was tabulated from the 1975 study, and the 1985 study was used to tabulate the amount of yard and agricultural waste and miscellaneous inorganics that were disposed (see Attachments E and F). These tonnages were recorded daily and were multiplied by 6 and then 52 to determine a yearly total. (18,617.6 for metals, 18,706.27 for miscellaneous inorganics which may be demolition material, and 59,280 for yard wastes). Using the 1990 study, the percentage of unincorporated waste that contributes to total waste was determined (41%). For metals, the percentage of restricted metals that contributes to all metals was determined (81%), for agricultural waste, the percentage of agricultural waste that contributes to all yard and agricultural waste was determined (18%) and these figures were applied to the 1975 or 1985 waste generation figures. This amounted to 6,182.9 for metals, 7,669.5 for miscellaneous inorganics, and 4,374.8 for agricultural waste that was disposed of in county landfills.

These figures were then compared with 1990 diversion amounts for restricted metals, inert solids, and agricultural waste (see Attachment G). 1,916 tons of restricted metals in the unincorporated area of the County were diverted in 1990. This figure is lower than the 6,182.9 tons that were disposed in 1975, therefore the quantity of metals diverted in 1990 could have been disposed in 1975. 30,938 tons of inert solids in the unincorporated area of the County were diverted in 1990. This figure is significantly higher than the 7,669.5 tons disposed in 1985, therefore these figures do not illustrate that the inert solids diverted in 1990 could have been disposed of in 1985. 12,855 tons of agricultural waste were diverted in 1990, which is significantly higher than the 4,374.8 tons of agricultural waste that were disposed in 1985.

Therefore, based on information collected to meet criteria # 1 and 2, metals are the only restricted waste for which the county, not including VAFB, can claim diversion credits. The County plans on continuing to operate its existing programs to divert scrap metals in the future.

The County of Santa Barbara requests a base-year diversion claim for scrap metals totalling 1,916 tons.
The existing Santa Barbara County Transfer Station, located at 4330 Calle Real, Santa Barbara, CA 93110, serves as a central collection point for all wastes disposed of from the Ventura-Santa Barbara County Line, 2 miles east of the City of Carpinteria to the Gaviota Pass, 31 miles west of the City of Santa Barbara. This operation was instituted in 1967. The hours of operation are 7:30 a.m. to 5:00 p.m. Monday through Saturday and is closed on New Year's Day, Fourth of July, Labor Day, Thanksgiving, and Christmas Day. The Transfer Station receives approximately 550 tons per day, the wastes being delivered by commercial collection companies and the general public. The wastes include residential, commercial, and demolition wastes of the Group 2 and 3 classification. Hazardous wastes are not received here. All such wastes received here are transported to the Tajiguas Sanitary Landfill which is located about 3 miles west of the City of Santa Barbara.

When the wastes are received at the Transfer Station, it is unloaded on the dock area where all ferrous scrap material that can be hand separated is removed and stored for resale to a scrap dealer. Skip-loaders then push the remaining into either one of the two packer chutes or the demolition chute for loading into the truck/trailer combinations for transport to the Tajiguas Sanitary Landfill.

Due to the increase in daily tonnage handled and based on the projected capacity, it is anticipated that either another compactor will be added or the present loading system will be converted to another type.

There are no documents or agencies which condition the operation and use of the facility.

And within 1,000 feet of the Transfer Station is zoned 1-E-1-0 on which other County facilities exist (Santa Barbara County General Hospital, Sheriff's Department, Detention Facility, maintenance yard).
INDINGS: (Continued)

The State Minimum standards are presently being met at this existing facility except for violation of section 17538.

The Santa Barbara County Transfer Station is consistent with the County's final version of the Solid Waste Management Plan.

Design and operation of this facility are as specified by the Report of Station Information dated September 1977, which is hereby made a part of this Finding.

This permit is consistent with the Santa Barbara County Solid Waste Management Plan. The facility is found on pages 9-1 and 9-2 of the Plan.

This permit is consistent with State Minimum Standards for Handling and Disposal.

CONDITIONS:

subsection A - Requirements

1. This facility must comply with all of the State Minimum Standards for Solid Waste Handling and Disposal.
2. This facility must comply with all federal, state, and local requirements and enactments.
3. Upon the request of the enforcement agency, additional information concerning this facility must be provided.

subsection B - Prohibitions

The following actions are prohibited at this facility:

1. Disposal of hazardous wastes.
2. Disposal of infectious wastes.
3. Disposal of septic tank pumping and sewage sludge.
4. Disposal of large dead animals.
5. Scavenging.

subsection C - Specifications

Except for those changes which are required under the "Conditions" portion of this permit, significant changes in design or operation from that described in §1 and §2 of the Findings Section is not allowed. Prior to the initiation of any changes, the enforcement agency shall be notified.

subsection D - Provisions

This permit is subject to review by the enforcement agency and may be suspended, revoked, or modified at any time for sufficient cause.

The traffic control deficiency will be abated by July 1, 1979, by acquisition of an alternate access road.
Subsection E - Self-Monitoring

The following items shall be monitored by the operator of this facility and records shall be kept and made available to the enforcement agency upon request:

1. Incidence of injury and property damage accidents, fires, explosions, earth slides, discharge of wastes not permitted in the class of site, flooding, and other unusual occurrences.

2. Number of vehicles utilizing the site per week.

3. Quantity and types of wastes received at the site per week.

4. Quantity and types of wastes salvaged per week.
STATE SOLID WASTE MANAGEMENT BOARD

Solid Waste Facility Permit

Decision #78-74

SUBJECT:

Proposed solid waste facility permit. Submitted by the Santa Barbara County Environmental Health Services as local enforcement agency.

FINDINGS:

The State Solid Waste Management Board makes the following finding of fact:

1. Proposed solid waste facility permit for the following existing facility in Santa Barbara County has been submitted to this Board for concurrence with or objection to its issuance. The proposed permit is for the following facility:

   Santa Barbara County Transfer Station 42-AA-014

2. The proposed solid waste facility permit is consistent with the applicable county solid waste management plans; and

3. The proposed solid waste facility permit is consistent with the State Minimum Standards for Solid Waste Handling and Disposal; and

4. The State Solid Waste Management Board and its staff have reviewed the proposed solid waste facility permit and concur with the form and content of the permit.

CONCLUSION:

The proposed solid waste facility permit complies with the requirements of Article 2 of Chapter 3 of Title 7.3 of the Government Code, and with the requirements of the State Solid Waste Management Board. Consequently, the State Solid Waste Management Board concurs in the issuance of the subject proposed solid waste facility permit.

CERTIFICATION

The undersigned Executive Officer of the State Solid Waste Management Board does hereby certify that the foregoing is a full, true and correct copy of a decision duly and regularly adopted at a meeting of the State Solid Waste Management Board held on May 25-26, 1978.

Dated: MAY 26, 1978

Albert A. Marino
Executive Officer
FINAL
NEGATIVE DECLARATION/INITIAL STUDY
SANTA BARBARA COUNTY
TRANSFER STATION

95-ND-05
For a Revised Solid Waste Facility Permit

Prepared for:
SANTA BARBARA COUNTY

May 1995
3.0 Project Description

recyclable materials are recovered, all remaining solid waste is pushed to a loading pit where it is loaded into County owned and operated tractor-trailer transfer rigs. [Note: The separation of recyclable materials is part of the Recycling Processing Center activities discussed in Section 3.4.2. This activity is described here for clarity.] The transfer rigs then haul the municipal solid waste to the Tajiguas Landfill, which is located 26 miles west of the City of Santa Barbara.

Table 3.4-1. Transfer Station Activities

<table>
<thead>
<tr>
<th>Existing Activities Included in 1978 Permits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waste Transfer</td>
</tr>
<tr>
<td>Salvaging</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Existing Activities Not Included in 1978 Permits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in hours of operation</td>
</tr>
<tr>
<td>Recycling Processing (including balers)</td>
</tr>
<tr>
<td>Shredder Operations</td>
</tr>
<tr>
<td>Used Motor Oil Storage</td>
</tr>
<tr>
<td>Replacement Shop Building</td>
</tr>
<tr>
<td>Household Hazardous Waste Storage</td>
</tr>
<tr>
<td>Compressed Natural Gas Fuel Facility</td>
</tr>
<tr>
<td>Latex Paint Storage (maximum 1500 gallons)</td>
</tr>
<tr>
<td>Second truck scale at the Scalehouse</td>
</tr>
<tr>
<td>Remodel of Scalehouse Building</td>
</tr>
<tr>
<td>Increase in permitted area of facility</td>
</tr>
<tr>
<td>Waste Tire Storage (maximum 1,500 tires per month)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Proposed Activities or Structures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tipping Floor Cover Structure</td>
</tr>
<tr>
<td>Removal of an existing underground 10,000-gallon diesel fuel tank</td>
</tr>
<tr>
<td>and associated fuel dispenser</td>
</tr>
<tr>
<td>Waste Tire Storage Permit (maximum 1,500 tires per month)</td>
</tr>
<tr>
<td>Grading of western hillsides for slope stability</td>
</tr>
<tr>
<td>New women’s restroom and shower with handicap access</td>
</tr>
<tr>
<td>Second men’s restroom with handicap access</td>
</tr>
</tbody>
</table>

Most municipal waste delivered to the Transfer Station is removed and hauled to the Tajiguas Landfill within 24 hours. Full trucks are occasionally parked overnight on the tipping floor away from the buildings. Since the Transfer Station is closed on Sundays and Holidays, 48-hour closure periods occur. Under these circumstances, special arrangements are made to ensure that all waste (except for recovered recyclable materials) accepted at the Transfer Station before a 2-day closure is transferred to the Tajiguas Landfill prior to closure. This practice ensures compliance with the 48-hour maximum holding time limit for solid waste.

Salvaging. The Transfer Station operates a scrap metal recovery program that recovers ferrous metals, aluminum, brass, copper, white goods, scrap tin, and other metals. These materials are separated out of the municipal solid waste stream by a contract separation crew and front end loaders. The recovered high-value metals are separated by type and stored in separate containers (e.g. 4 cubic yard bins). When the trailers are full, they are transported to various scrap metal dealers.
3.0 Project Description

controversy regarding the impacts of the Transfer Station and the compatibility of the facility with residential land uses in the vicinity. The Planning Commission continued the hearing to a later date. The SWUD subsequently withdrew the project in order to work with the neighborhood residents on project revisions, which would address their concerns.

Since 1993, several aspects of the project have been revised to meet the concerns of the nearby residents. These revisions include redesign of the proposed tipping floor cover structure and operational changes that tend to reduce the utilization of the facility. In addition, the SWUD has constructed large landscaped earthen screening berms on the adjacent closed Foothill Landfill, which block the facility from the view of residences to the east. This environmental document analyzes the Transfer Station project relative to current site conditions and as currently designed.

Many of the revisions in the project are the result of numerous meetings with representatives of the nearby residents. A "Transfer Station Five Year Plan" was prepared by the Public Works Department at the request of concerned citizens. This plan is included in the comment section.

3.4 PROJECT COMPONENTS

The project evaluated in this environmental document has been divided into three groups of Transfer Station activities. These activities are listed in Table 3.4-1 and include Transfer Station operations included in the 1978 Solid Waste Facility Permit, existing uses that are not included in the 1978 Solid Waste Facility Permit, and additional activities proposed to be added to the Transfer Station site.

The following sections describe each of the existing permitted uses, activities that are not designated in the existing Facility Permit, and the proposed Transfer Station activities.

3.4.1 Existing Permitted Uses

Existing Transfer Station structures and activities are depicted on Figure 3.4-1. The following is a description of the existing permitted uses at the Transfer Station.

Waste Transfer. Municipal solid waste is delivered by commercial refuse haulers and private self-haul vehicles to the Transfer Station. All solid waste loads entering the facility are first inspected and weighed on the gatehouse scale and tipping fees are paid. Traffic is directed by the County Load Checker to an unloading space on the reinforced concrete tipping floor. Commercial haulers are directed to the western side of the tipping floor (i.e., the western side of the loading pit) while self-haul vehicles and roll-off containers are unloaded at the eastern side. After the material from self-haul vehicles and roll-off containers is unloaded, front end loaders and contract separation crews are used to separate out recyclable materials. Once
DEPARTMENT OF PUBLIC WORKS
MARLENE F. DEMERY
Director
SOLID WASTE DISPOSAL CHARGES/COLLECTION FEES
Effective July 1, 1990

DISPOSAL CHARGES

Following is a Schedule of Disposal Charges for Solid Waste Materials at County-operated facilities.

<table>
<thead>
<tr>
<th>MATERIAL CATEGORY</th>
<th>TRANSFER STATION</th>
<th>TAJIGUAS</th>
<th>FOXEN CANYON</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Fee</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sedan/Station Wagon</td>
<td>$ 10.00</td>
<td>$ 6.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pick-up (½ Ton), Vans &amp; Utility Vehicles</td>
<td>13.00</td>
<td>13.00</td>
<td>6.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refuse Rate Per Ton</td>
<td>41.50</td>
<td>28.50</td>
<td>29.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demolition &amp; Brush Rate per Ton</td>
<td>49.50</td>
<td>28.50</td>
<td>29.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clean Brush Loads</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate Per Ton</td>
<td>24.75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum Charges</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sedan/Wagon</td>
<td>8.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pick-up/Utility Vehicles</td>
<td>10.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clean Metal Loads</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate Per Ton</td>
<td>24.75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum Charges</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sedan/Wagon</td>
<td>8.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pick-up/Utility Vehicles</td>
<td>10.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tires:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate Per Ton</td>
<td>106.00</td>
<td>106.00</td>
<td>106.00</td>
</tr>
<tr>
<td>Rate Per Tire</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>
8) IDENTIFICATION OF EXISTING AND FUTURE SOLID WASTES. (17172)
(TYPES, LOCATIONS, CHARACTERISTICS, QUANTITIES AND FLUCTUATIONS)

(B) SPECIAL WASTES - AUTOS, TIRES, BULKY ITEMS AND WASTES IN
THE FORM OF LIQUIDS, SEMI-SOLIDS, SLURRIES DISPOSED OF IN
SOLID WASTE DISPOSAL SYSTEMS. (17172b)

Abandoned Autos
County of (Unincorporated Areas)

Since January 1975, the County of Santa Barbara Building Depart-
ment has been the enforcement agency for the "Abandoned Vehicles
Act", a function formerly performed by local law enforcement agen-
cies. All abandoned vehicles are removed and hauled directly to
two salvage yards within the County. One yard is located in Santa
Barbara and serves the South County, the other yard is located in
Santa Maria and serves the North County. Recovery rates for the
first five months of the program are listed below:

<table>
<thead>
<tr>
<th>Month, 1975</th>
<th>Vehicles Recovered</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>14</td>
</tr>
<tr>
<td>February</td>
<td>18</td>
</tr>
<tr>
<td>March</td>
<td>7</td>
</tr>
<tr>
<td>April</td>
<td>9</td>
</tr>
<tr>
<td>May</td>
<td>8</td>
</tr>
<tr>
<td>TOTAL</td>
<td>56</td>
</tr>
</tbody>
</table>

Lompoc

The City of Lompoc stores abandoned and retired autos and small
trucks at the Lompoc Landfill. When the number of vehicles
reaches approximately 200, a mobile press/shredder is moved on the
site for processing. No numerical data on this operation is avail-
able. The number of autos abandoned within the City is minimal and
accumulation of vehicles takes place over long periods of time.

Santa Maria

The City of Santa Maria disposes abandoned vehicles by direct
recovery to storage and salvage at local salvage yards. The
enforcing agency is the Santa Maria Police Department.
## COMPOSITION OF SOLID WASTE

**Quantities in Tons per Day**

<table>
<thead>
<tr>
<th>Item</th>
<th>Tijuana</th>
<th>Fox Canyon</th>
<th>Ventucopa</th>
<th>Cuyama</th>
<th>Lostep</th>
<th>Santa Maria</th>
<th>Vandenberg</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper Products</td>
<td>174.030</td>
<td>10.330</td>
<td>0.048</td>
<td>0.067</td>
<td>23.913</td>
<td>70.560</td>
<td>8.700</td>
<td>287.648</td>
</tr>
<tr>
<td>Glass</td>
<td>53.930</td>
<td>12.200</td>
<td>0.015</td>
<td>0.021</td>
<td>7.411</td>
<td>10.080</td>
<td>1.100</td>
<td>75.757</td>
</tr>
<tr>
<td>Metals</td>
<td>52.800*</td>
<td>3.140</td>
<td>0.014</td>
<td>0.020</td>
<td>7.258</td>
<td>13.440</td>
<td>1.000</td>
<td>25.810</td>
</tr>
<tr>
<td>Plastics</td>
<td>18.900</td>
<td>1.120</td>
<td>0.005</td>
<td>0.007</td>
<td>2.596</td>
<td>1.680</td>
<td>1.500</td>
<td>22.776*</td>
</tr>
<tr>
<td>Rubber and Leather</td>
<td>14.460</td>
<td>0.860</td>
<td>0.004</td>
<td>0.006</td>
<td>1.986</td>
<td>4.360</td>
<td>1.100</td>
<td>12.265</td>
</tr>
<tr>
<td>Textiles</td>
<td>7.780</td>
<td>0.460</td>
<td>0.002</td>
<td>0.003</td>
<td>1.070</td>
<td>2.350</td>
<td>0.600</td>
<td>31.271</td>
</tr>
<tr>
<td>Wood</td>
<td>20.570</td>
<td>1.220</td>
<td>0.006</td>
<td>0.008</td>
<td>2.827</td>
<td>5.040</td>
<td>1.600</td>
<td>31.271</td>
</tr>
<tr>
<td>Food Wastes</td>
<td>97.860</td>
<td>5.800</td>
<td>0.027</td>
<td>0.037</td>
<td>13.446</td>
<td>13.440</td>
<td>7.600</td>
<td>156.946</td>
</tr>
<tr>
<td>Yard Wastes</td>
<td>107.310</td>
<td>6.360</td>
<td>0.030</td>
<td>0.041</td>
<td>14.745</td>
<td>20.160</td>
<td>8.300</td>
<td>37.561</td>
</tr>
<tr>
<td>Misc. Inorganic</td>
<td>8.340</td>
<td>0.490</td>
<td>0.002</td>
<td>0.003</td>
<td>1.146</td>
<td>26.880</td>
<td>0.700</td>
<td>37.561</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>555.980</td>
<td>32.980</td>
<td>0.153</td>
<td>0.213</td>
<td>76.400</td>
<td>167.99</td>
<td>32.200</td>
<td>865.916</td>
</tr>
</tbody>
</table>

Future quantities may be estimated by the following factors which are based on State Finance Department estimates:

- **1980**: c = 1.08
- **1990**: c = 1.28
- **2000**: c = 1.46

*Includes 18 tons front-end recovery, sold under open contract as scrap.*
SOLID WASTE MANAGEMENT PLAN

FINAL DRAFT
UNABRIDGED
COUNTY OF SANTA BARBARA, CALIFORNIA
MAY 1985
# VENTUCOA LANDFILL

**Composition of Solid Waste**

Quantities in Tons Per Day

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper</td>
<td>.048</td>
<td>.058</td>
<td>.058</td>
<td>.058</td>
<td>.058</td>
</tr>
<tr>
<td>Glass</td>
<td>.015</td>
<td>.018</td>
<td>.018</td>
<td>.018</td>
<td>.018</td>
</tr>
<tr>
<td>Metals</td>
<td>.014</td>
<td>.017</td>
<td>.017</td>
<td>.017</td>
<td>.017</td>
</tr>
<tr>
<td>Plastics</td>
<td>.005</td>
<td>.006</td>
<td>.006</td>
<td>.006</td>
<td>.006</td>
</tr>
<tr>
<td>Rubber &amp; Leather</td>
<td>.004</td>
<td>.005</td>
<td>.005</td>
<td>.005</td>
<td>.005</td>
</tr>
<tr>
<td>Wood</td>
<td>.006</td>
<td>.007</td>
<td>.007</td>
<td>.007</td>
<td>.007</td>
</tr>
<tr>
<td>Food Wastes</td>
<td>.027</td>
<td>.032</td>
<td>.032</td>
<td>.032</td>
<td>.032</td>
</tr>
<tr>
<td>Yard Wastes</td>
<td>.030</td>
<td>.036</td>
<td>.036</td>
<td>.036</td>
<td>.036</td>
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<tr>
<td>Total</td>
<td>.153</td>
<td>.183</td>
<td>.183</td>
<td>.183</td>
<td>.183</td>
</tr>
</tbody>
</table>

*Assumes supplemental water is not available.
NEW CUYAMA LANDFILL

Composition of Solid Waste
Estimated Quantities in Tons Per Day

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper</td>
<td>.072</td>
<td>.085</td>
<td>.085</td>
<td>.085</td>
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<tr>
<td>Glass</td>
<td>.023</td>
<td>.027</td>
<td>.027</td>
<td>.027</td>
<td>.027</td>
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<tr>
<td>Metals</td>
<td>.021</td>
<td>.024</td>
<td>.024</td>
<td>.024</td>
<td>.024</td>
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<tr>
<td>Plastics</td>
<td>.008</td>
<td>.009</td>
<td>.009</td>
<td>.009</td>
<td>.009</td>
</tr>
<tr>
<td>Rubber &amp; Leather</td>
<td>.006</td>
<td>.007</td>
<td>.007</td>
<td>.007</td>
<td>.007</td>
</tr>
<tr>
<td>Textiles</td>
<td>.003</td>
<td>.004</td>
<td>.004</td>
<td>.004</td>
<td>.004</td>
</tr>
<tr>
<td>Wood</td>
<td>.009</td>
<td>.011</td>
<td>.011</td>
<td>.011</td>
<td>.011</td>
</tr>
<tr>
<td>Food Wastes</td>
<td>.040</td>
<td>.047</td>
<td>.047</td>
<td>.047</td>
<td>.047</td>
</tr>
<tr>
<td>Yard Wastes</td>
<td>.044</td>
<td>.052</td>
<td>.052</td>
<td>.052</td>
<td>.052</td>
</tr>
<tr>
<td>Misc. Inorganic</td>
<td>.003</td>
<td>.004</td>
<td>.004</td>
<td>.004</td>
<td>.004</td>
</tr>
<tr>
<td>Total</td>
<td>.23</td>
<td>.27</td>
<td>.27</td>
<td>.27</td>
<td>.27</td>
</tr>
</tbody>
</table>

*Assumes supplemental water is not available
<table>
<thead>
<tr>
<th>Component</th>
<th>Quantity (Tons)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper Products</td>
<td>8.17</td>
<td>27.020%</td>
</tr>
<tr>
<td>Glass</td>
<td>1.03</td>
<td>3.420%</td>
</tr>
<tr>
<td>Metals</td>
<td>0.940</td>
<td>3.100%</td>
</tr>
<tr>
<td>Plastics</td>
<td>1.41</td>
<td>4.660%</td>
</tr>
<tr>
<td>Rubber and Leather</td>
<td>1.3</td>
<td>3.420%</td>
</tr>
<tr>
<td>Textiles</td>
<td>0.56</td>
<td>1.860%</td>
</tr>
<tr>
<td>Wood</td>
<td>1.500</td>
<td>4.97%</td>
</tr>
<tr>
<td>Food Wastes</td>
<td>7.140</td>
<td>23.600%</td>
</tr>
<tr>
<td>Yard Wastes</td>
<td>7.800</td>
<td>25.780%</td>
</tr>
<tr>
<td>Miscellaneous Inorganic</td>
<td>0.670</td>
<td>2.170%</td>
</tr>
<tr>
<td>Total</td>
<td>30.250</td>
<td></td>
</tr>
</tbody>
</table>
FOXEN CANYON LANDFILL

Composition of Solid Waste
Estimated Quantities in Tons Per Day

<table>
<thead>
<tr>
<th></th>
<th>1982</th>
<th>1985</th>
<th>1990</th>
<th>1994*</th>
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</thead>
<tbody>
<tr>
<td>Paper</td>
<td>15.66</td>
<td>16.77</td>
<td>18.57</td>
<td>18.80</td>
</tr>
<tr>
<td>Glass</td>
<td>4.85</td>
<td>5.19</td>
<td>5.75</td>
<td>5.82</td>
</tr>
<tr>
<td>Metals</td>
<td>4.76</td>
<td>5.10</td>
<td>5.65</td>
<td>5.71</td>
</tr>
<tr>
<td>Plastics</td>
<td>1.69</td>
<td>1.81</td>
<td>2.00</td>
<td>2.03</td>
</tr>
<tr>
<td>Rubber &amp; Leather</td>
<td>1.30</td>
<td>1.39</td>
<td>1.54</td>
<td>1.56</td>
</tr>
<tr>
<td>Textiles</td>
<td>.70</td>
<td>.75</td>
<td>.83</td>
<td>.84</td>
</tr>
<tr>
<td>Wood</td>
<td>1.85</td>
<td>1.98</td>
<td>2.19</td>
<td>2.22</td>
</tr>
<tr>
<td>Food Wastes</td>
<td>8.79</td>
<td>9.41</td>
<td>10.42</td>
<td>10.55</td>
</tr>
<tr>
<td>Yard Wastes</td>
<td>9.64</td>
<td>10.32</td>
<td>11.43</td>
<td>11.57</td>
</tr>
<tr>
<td>Misc. Inorganics</td>
<td>.76</td>
<td>.81</td>
<td>.90</td>
<td>.91</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>53</td>
<td>59</td>
<td>60</td>
</tr>
</tbody>
</table>

*Estimated closure date.
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*Assumes buildout results in stable population.
### SANTA MARIA LANDFILL

**Composition of Solid Waste**

Estimated Quantities in Tons Per Day *

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WASTE GENERATION STUDY

Prepared for the

County of Santa Barbara
City of Carpinteria
City of Guadalupe
City of Lompoc
City of Santa Barbara
City of Santa Maria
City of Solvang
Vandenberg Air Force Base

FINAL REPORT
February 1991

R.W. BECK
AND ASSOCIATES

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<td><strong>OTHER DIVERSION CATEGORIES</strong></td>
<td>7%</td>
<td>56875</td>
<td>21%</td>
<td>56877</td>
<td>100%</td>
<td></td>
<td>56877</td>
<td>100%</td>
<td></td>
<td>56877</td>
</tr>
</tbody>
</table>

- Indicates no measurable amount found during sampling. * Indicates a value less than 0.1%, or a quantity less than one ton.

R.W. Beck & Associates
Appendix B

4 Oct 95

Ms. Leslie Wells
County of Santa Barbara
Public Works Department
123 East Anapamu Street
Santa Barbara, CA 93101

Dear Leslie,

Please find enclosed the base year solid waste diversion credit claim for Vandenberg Air Force Base developed in accordance with the provisions of Public Resources Code Section 41781.2(c). I have included as attachments various documents which help substantiate these claims.

Attachment 1 is composed of documentation relating to the diversion claim for inert solids and includes the following documents:

1.a. Vandenberg AFB Source Reduction and Recycling Element, Feb 1992
1.b. Air Force Memo, Asphalt and Concrete Yards, 16 Apr 1990
1.e. County of Santa Barbara APCD Letter, 18 Jun 1990
1.g. Installation Restoration Program, RI/FS Stage 1, Jun 1989
1.h. Installation Restoration Program, Air Monitoring Plan, Feb 1989
1.i. Vandenberg AFB Sanitary Landfill Site Plan, Apr 1985
1.j. Installation Restoration Program, Phase I Records Search, Oct 1984
1.k. County of Santa Barbara, Solid Waste Facilities Permit, 6 Oct 1978
1.l. Regional Water Quality Control Board WDR Order No. 78-18, 17 April 1978
1.m. Inert Solids Historical Disposal Estimate Calculations

Document 1.a. was included since it explains why no diversion for inert solids was included in the original Waste Generation Analysis Study (Table 4-V), and also serves to document an average annual inert solids diversion of 3000 TPY. Documents 1.b. and 1.c. were included to demonstrate that asphalt and concrete rubble were diverted due to the action of Vandenberg AFB (i.e. establishing these yards) in accordance with criteria #1 (PRC Section 41781.2(c)(1)). Documents 1.d through 1.l. serve as documentation that inert solids were disposed of at this permitted facility prior to 1 Jan 1990 as required by criteria #2 (PRC 41781.2(c)(2)), while document 1.m. outlines assumptions used in the
calculation of historical disposal estimates. In accordance with criteria #3 (PRC 41781.2(c)(3)), Vandenberg AFB will continue the diversion of inert solids for recycling and reuse. Based upon this documentation, Vandenberg AFB is requesting a base year diversion claim for inert solids totaling 3000 tons.

Attachment 2 is composed of documentation relating to the diversion claim for scrap metals and includes the following documents:

2.a. Vandenberg AFB Landfill Operational Plan, Jul 1989
2.b. Annual Monitoring and Reporting Program 88-161, Apr 1991
2.c. Solid Waste Facility Permit #42-AA-012, Nov 1990
2.d. 1989 Scrap Metal Recycling and Resale Figures
2.f. Air Force Memo, Recycling Program Costs, 1 Aug 1990
2.g. Vandenberg Landfill, Draft Report of Waste Discharge, May 1993
2.h. Installation Restoration Program, Air Monitoring Plan, Feb 1989
2.i. Installation Restoration Program, Phase I Records Search, Oct 1984
2.j. Regional Water Quality Control Board WDR Order No. 78-18, 17 April 1978

Documents 2.a. through 2.f. were included to substantiate compliance with criteria #1 (PRC Section 41781.2(c)(1)) in that scrap metal was diverted from the Base landfill through the actions of the Air Force (i.e. through the establishment of the Defense Reutilization and Marketing Office (DRMO), and establishment of an additional scrap metal recycling program). Documents 2.g through 2.j. demonstrate that prior to 1 Jan 1990, scrap metal was disposed of at the Vandenberg AFB Landfill as required by criteria #2 (PRC 41781.2(c)(2)). In the absence of specific historical disposal data, substantiation of a reasonable estimate can be obtained based upon the following assumptions:

1. Prior to the development and implementation of the Defense Reutilization and Marketing Office (DRMO), scrap metals were not salvaged or recovered and were disposed of at the Base Landfill, the only means available for solid waste disposal on Vandenberg AFB.
2. There is no historical record of any waste leaving Vandenberg AFB since the inception of the Base.
3. Total waste generation has remained relatively constant over the last 20 years.

From these assumptions, Vandenberg AFB is requesting a base year diversion claim for scrap metals in the amount of 2,429 tons. Vandenberg AFB will continue to implement the DRMO turn-in program and scrap metal recycling program.
Lastly, as Attachment 3 I have included documentation relating to our ongoing public education, source reduction, and recycling efforts including an article on page 4 of the 29 September Space and Missile Times, a 16 December 1994 Memorandum outlining Vandenberg’s Affirmative Procurement Policy, and a preliminary data spreadsheet developed as the first step toward a solid waste management plan for the Military Family Housing demolition program.

I apologize for the delay in providing you with this diversion claim, however, Vandenberg AFB has proactively implemented a variety of source reduction and recycling programs and I hope to ensure that the Base receives credit for these actions. Please contact me at (805) 734-8232, Extension 6-2122, if you have any questions or concerns that I can answer relative to this issue.

Sincerely,

[Signature]

JON ERICSON
Solid Waste Compliance Programs

Attachments:
1. Inert Solids Diversion Claim Documentation
2. Scrap Metal Diversion Claim Documentation
3. Public Education, Source Reduction Programs
ATTACHMENT 1

1.a. Vandenberg AFB Source Reduction and Recycling Element, Feb 1992
1.b. Air Force Memo, Asphalt and Concrete Yards, 16 Apr 1990
1.e. County of Santa Barbara APCD Letter, 18 Jun 1990
1.g. Installation Restoration Program, RI/FS Stage 1, Jun 1989
1.h. Installation Restoration Program, Air Monitoring Plan, Feb 1989
1.i. Vandenberg AFB Sanitary Landfill Site Plan, Apr 1985
1.j. Installation Restoration Program, Phase I Records Search, Oct 1984
1.k. County of Santa Barbara, Solid Waste Facilities Permit, 6 Oct 1978
1.l. Regional Water Quality Control Board WDR Order No. 78-18, 17 April 1978
1.m. Inert Solids Historical Disposal Estimate Calculations
VANDENBERG AIR FORCE BASE

SOURCE REDUCTION AND RECYCLING ELEMENT

February 1992

Prepared by:

Public Works Department
Solid Waste Management Division
123 East Anapamu Street
Santa Barbara, CA 93101

Printed on recycled paper!
When special needs arise, the MWR office works directly with waste generators, such as contractors, organizations, and individuals, to provide twenty-four hour response for pickup.

In addition to collecting paper, aluminum cans, glass, newspaper, and cardboard are collected from these collection locations when the material is available for collection.

Commodities are sorted and baled at the MRF Center. An estimated 10 to 15 tons of waste paper per day are processed for recycling. Due to limited capabilities, quantifiable data for the other commodities collected is not available. Therefore, these materials have not been included in the total diversion figure for Vandenberg AFB.

5.2.4 Salvage

Salvage is defined as the controlled removal of solid waste materials at a permitted solid waste facility for recycling. Salvaging is prohibited at the Vandenberg AFB sanitary landfill.

MWR maintains a scrap metal lot at 33rd and California Streets on Vandenberg AFB. The location allows for the collection of household metal except automobile parts. The metal is cleaned of contaminants then turned into the Defense Reutilization Marketing Office (DRMO) for disposition.

5.2.5 Concrete Recycling

All clean asphalt debris and rubble is currently diverted from the landfill to a separate location on 35th Street near Wall Beach on Vandenberg AFB. All concrete and asphalt construction wastes that are diverted are weighed. Records are kept on file at the Vandenberg AFB sanitary landfill. An average of 3,000 tpy of asphalt and concrete are diverted. As of December 1990, approximately 500,000 tons of materials have been stockpiled.

Vandenberg AFB has purchased, and is currently installing, a rock crusher to reduce the stockpiled material to a usable product. This product will be utilized on unimproved and semi-improved roads on the base.

5.2.6 Local Market Development Activities

Economic Development Activities

At this time, Vandenberg AFB does not have a government
procurement program or any consumer incentives in place to encourage local market development activities.

Education Programs

A countywide education and public information campaign is being developed under the slogan "It's Habitat Forming." This campaign will be used to promote all existing programs and any new programs. The campaign will also promote education in schools and businesses throughout the County. It is recommended that Vandenberg AFB supplement its current base media with the appropriate materials developed by the County campaign. Current promotional activities and the "It's Habitat Forming" campaign are explained in detail in the education and public information component.

5.2.7 Diversion Estimates

The estimates of the quantity of wastes diverted by each of the recycling programs described as existing conditions is presented in Table 3-2 of the County of Santa Barbara Waste Generation Study. After publication of the waste generation study, additional information on the diversion of concrete and asphalt has become available. The estimated tonnage for this diversion has been documented with the recycling survey that R. W. Beck and Associates used to quantify the diversion from the various jurisdictions within the County of Santa Barbara. Therefore, Table 5.1 contains an updated waste diversion analysis table of those five facilities that affect the recycling component.

5.3 EVALUATION OF ALTERNATIVES

5.3.1 Evaluation Criteria

The regulations pursuant to AB 939 require that at a minimum six criteria be used to evaluate recycling alternatives. Those six criteria are and their definitions are:

* reduction effectiveness: the effectiveness of the alternative in reducing either solid waste volume, weight, percentage in weight or its volumetric equivalent.

* potential hazards: the alternative's potential for environmental or human health and/or safety impacts.
DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 1ST STRATEGIC AEROSPACE DIVISION (SAC)
VANDENBERG AIR FORCE BASE, CALIFORNIA 93437-5000

REPLY TO ATTN OF: ET

SUBJECT: Asphalt and Concrete Yards (Your Ltr, 15 Mar 90)

1. We still support the use of the two sites in question to dispose of the asphalt and concrete. Our major concern is that these sites are sometimes used for illegal dumping. Since our 9 Jan 90 inspection, both of our staffs have been diligently working this issue. The following have been agreed upon:

   a. A gate (with lock) be placed at the entrances of the two yards and a sign requesting the individual (organization) requiring dumping to call 4392 CES/DEMOH.

   b. When an individual (organization) calls, a DEMOH representative will escort the truck to the applicable site and ensure only asphalt or concrete (depending on which yard) is disposed of in that yard.

   c. Once a month, or as required, individuals will be sent down to ensure the site is free of other debris.

2. The intention of our inspection was to ensure the asphalt yard was cleaned up, it was not to close down the yard. Presently, these yards do not require permits from the State of California. The State of California does not regulate asphalt or concrete yards because they would have a difficult time obtaining a permit for all the CALTRANS "piles" along the road sides. Finally, because these sites are temporary storage areas, not landfills, it is our position that they do not have to be placed on the Vandenberg Master Plan.

3. Along the same lines, Mr Larry Carmichael suggested that we obtain (through loan/rent/purchase) a rockcrusher to produce base course from the waste concrete in the concrete yard. We estimate that this will save Vandenberg over $75,000 in base course costs alone, without even taking into consideration the amount of tonnage going into the landfill (or concrete yard). There is a 35-ton rockcrusher at Port Hueneme and two rockcrushers at Nellis AFB.

4. We hope this clears up the purposes of the inspection and our thoughts on appropriate and manageable selections. If you have any questions, I would be happy to discuss them.

ORVILLE C. ROBERTSON, Colonel, USAF
Director, Environmental Management

1 Atch
4392 ASW/DE Ltr, 15 Mar 90

Peace ... is our Profession
1. I have received the report from your inspectors on the condition of the subject areas. As you might recall, it was your recommendation that we send the asphalt and concrete rubble to these two sites rather than disposing of them at the landfill. While this reduces the amount of tonnage going into the landfill, it is quite obvious that we have a control problem that I do not have the manpower to apply to the illegal dumping. Additionally, we do not have anything from your office that officially establishes these sites on the base master plan as rubble sites nor any environmental clearance to do this.

2. Pending your approval for the sites, we are going to restrict access to the sites by constructing gates at the entrances from the paved surfaces, and we will require our users to coordinate usage with the landfill operators. We will also require our users to weigh the items that they are going to dump. We will require your formal approval within two weeks; otherwise, we will close these sites down and instruct our users to bring the rubble to the landfill.

3. If you agree with this approach, I expect that we will greatly reduce our problems at these sites. However, I know that we will still get a small amount of illegal dumping at the sites and I would not expect any write-ups from your staff for illegal dumping.

DAVID F. FINK, Colonel, USAF
Base Civil Engineer

1 Atch
AF 2419 dtd 1 Mar 90

cc: 4392 ASW/CC war ARCH

Peace ... is our Profession
VANDENBERG LANDFILL
PERMITTING PROJECT

DRAFT REPORT OF WASTE
DISCHARGE

For

THE UNITED STATES AIR FORCE
HQ 30TH SPACE WING/ENVIRONMENTAL MANAGEMENT
VANDENBERG AFB, CALIFORNIA 93437-5242

May 1993

Prepared by

ENGINEERING-SCIENCE, INC.
DESIGN • RESEARCH • PLANNING
199 SOUTH LOS ROBLES AVENUE • P.O. BOX 7056 • PASADENA • CALIFORNIA 91109
2.2 HISTORY OF LANDFILL OPERATIONS

From 1941 to 1958, the area was used as the U.S. Army Camp Cooke Dump. An aerial photograph taken in 1954 shows some disturbance to the land surface due east of Building 8510. Even though the landfill has been used continuously since 1941, specific details regarding the types of waste disposed during its early operation are unverified. The 1985 Installation Restoration Program (IRP) Phase I Report (Reynolds, Smith and Hills, Inc. and Environmental Science and Engineering, Inc., 1985) stated that fill material consisted of sanitary trash, miscellaneous waste, petroleum, oils, and lubricants, waste solvents, pesticides, transformer oil, ordnance, paint, scrap BOMARC missile waste containing about 240 pounds of thorium-magnesium alloy, scrap metal, polychlorinated biphenol (PCB)-contaminated soil, and concrete debris. Two extensive record searches conducted by VAFB found no records of operation for an older landfill, nor do the design drawings of the current landfill show any reference to a pre-existing landfill.

In 1958, Vandenberg Air Force Base was established at the former Army installation. From 1961 to 1963, waste was disposed in the area now occupied by the vehicle wash rack area. From 1963 to the late 1970’s, household waste and contractor waste (i.e., scrap plaster board, building materials, concrete, asphalt and possibly paint, thinners, and solvents) were deposited in the area of the landfill currently receiving waste.

The 1978 Solid Waste Facility Permit (SWFP) issued by EHS described a landfill that was approximately 25 acres in size. The current size of the entire landfill is 171.59 acres, of which approximately 70 acres are considered an active operational area. Also in 1978, the Regional Board issued Order Number 78-18 which established waste discharge requirements for solid waste disposal sites. In that same year, the California State Solid Waste Management Board issued Facility Permit #42-AA-102 regulating the sanitary landfill operations.

In December 1981, a subsurface dam and lined pond were installed south of the landfill (Figure 2-4). The purpose of this construction was to prevent the potential discharge of landfill leachate into Oak Canyon. To improve leachate collection potential, a collection system and sump pump were installed in September 1983 in the canyon south of the subsurface dam and pond. The collection system was installed four feet below the top of saturated canyon bottom sediments. Recovered leachate was pumped into the lined pond, and then sprayed onto Burton Mesa to the east (Figure 2-3).

A detailed review of the leachate collection system was performed by Dames & Moore and is summarized in their January 25, 1985 report. This report included a recommendation that a slurry wall be installed to help capture groundwater and leachate migrating past the previously described system. In October 1991, a slurry wall was constructed approximately 200 feet south of the leachate pond (Carmichael, 1992). The wall was constructed to prevent leachate and groundwater from migrating down the canyon. The slurry wall spans almost the entire width of Oak Canyon and extends at its base about five feet into the diatomaceous shale bedrock. The wall is located approximately 44 ft south of the leachate collection trench and sump, and is approximately 137 feet long and 2 feet thick. The wall was
June 18, 1990

Colonel Orville G. Robertson
Department of the Air Force
Headquarters 1st Strategic Aerospace Division (SAC)
Vandenberg Air Force Base, CA 93437-5000

Regarding: Review of the revised Solid Waste Air Quality Assessment
Test Report for the Sanitary Landfill located at Vandenberg
Air Force Base

Dear Colonel Robertson:

The District has reviewed the resubmitted Figure 6. The Vandenberg
Sanitary Landfill Test Report is ACCEPTED.

If you have any questions, feel free to contact me at the number given
above.

Sincerely,

Richard Hallerman
Air Quality Specialist

RH: DHB: db

cc: Mr. David Bush, AeroVironment, Inc.
    TSD Project File
    TSD Chron File
Landfill Gas Test Report For The Vandenberg Air Force Base Landfill In Santa Barbara County

1 - Summary of Test Results (See Attachment 1 - "Disposal Site Report")

2 - Disposal Site Description: The Vandenberg AFB sanitary landfill is located on Vandenberg AFB southeast of the intersection of Washington and Utah Avenues. Vandenberg AFB is approximately 55 miles northwest of Santa Barbara. The landfill and the areas directly adjacent to it encompass approximately 63 acres, of which approximately 35 acres are actively used for solid waste disposal. The maximum depth of the fill material overlaying the canyon bottom is estimated to be approximately 50 feet. There is no liner for this landfill. The landfill accepts approximately 28,000 tons of waste per year. Approximately 43% of the waste is non-hazardous materials including typical residential and commercial-type rubbish and trash. The remainder includes demolition material such as dirt, rocks, and concrete. Disposal of waste is by the cut and cover method, with 12 inches of cover daily. The ultimate life of the the landfill is conservatively estimated to be 55 years.

The Vandenberg AFB landfill has been classified as a Category I landfill for Air SWAT purposes because it has a filled surface area greater than 25 acres and there are five buildings located within 1000 feet of the disposal area.

A - Gas Collection System: None

B - Area Map: See Attachments 2 and 3

C - Surrounding Land Use:

1 - Current: Vandenberg Air Force base is a 98,400 acre USAF installation, with approximately 1,000 building and 2,080 family housing units on base supporting 22,300 people.

2 - Proposed: Unknown at this time.

3 - Monitoring System:

A - Disposal Site Map: See Attachment 4

B - Well Locations: See Attachment 5

C - Probe Descriptions: See Attachment 6 (from the Quality Assurance Plan)

D - Equipment Description: See Attachment 6 (from the Quality Assurance Plan)
SOLID WASTE DISPOSAL REPORT - ANNUAL FEE

DUE ON OR BEFORE MAR 01, 1990 FOR 1989

Mail To:
STATE BOARD OF EQUALIZATION
EXCISE TAX DIVISION
P.O. BOX 647
SACRAMENTO, CA. 95803-0647

VANDENBERG AFB;
VANDENBERG AFB LANDFILL;
US AIR FORCE;
4392 ASW/DE;
VANDENBERG AFB CA 93437

This report must be filed on or before the due date shown above by every person who operates a solid waste landfill required to have a solid waste facilities permit. You are to report all solid waste accepted at each disposal site during the above calendar year. No payment is due at this time.

I. OPERATIONS

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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<tr>
<td>1. Total tons of solid waste accepted during above calendar year.</td>
<td>30,738 Tons .0</td>
</tr>
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<td>2. Total operating days for above calendar year.</td>
<td>354 Days .0</td>
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<tr>
<td>3. Average tons of solid waste accepted per operating day.</td>
<td>45 Tons/day</td>
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<td>(Divide Line 1 by Line 2) (Round to the next whole ton)</td>
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IF THE AMOUNT ON LINE 3 IS LESS THAN 5 TONS - STOP HERE, SIGN AND DATE THE REPORT.
IF THE AMOUNT ON LINE 3 IS EQUAL TO OR GREATER THAN 5 TONS - CONTINUE TO THE NEXT SECTION.

II. DISPOSALS

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<td>30,738 Tons .0</td>
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<td>(From Line 1 above)</td>
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<tr>
<td>5. Total tons of recycled waste removed from the waste stream and not disposed of in a solid waste landfill. (Round to the next whole ton)</td>
<td>(-) 2,341 Tons .0</td>
</tr>
<tr>
<td></td>
<td>(7.6 %)</td>
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<tr>
<td>6. Total tons of inert waste removed from the waste stream and not disposed of in a solid waste landfill. (Round to the next whole ton)</td>
<td>(-) 276,525 Tons .0</td>
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<tr>
<td>7. Total tons of other waste removed from the waste stream and not disposed of in a solid waste landfill. Attach letter of explanation. (Round to the next whole ton)</td>
<td>(-) 0 Tons .0</td>
</tr>
<tr>
<td>8. TOTAL TONS OF SOLID WASTE SUBJECT TO THE FEE.</td>
<td>0 Tons .0</td>
</tr>
<tr>
<td></td>
<td>(Subtract Lines 5, 6 and 7 from Line 4)</td>
</tr>
</tbody>
</table>

I hereby certify that this report has been examined by me and to the best of my knowledge and belief is true, correct and complete.

PRINT TYPE NAME AND TITLE: CHARLES F. BARLOW, Colonel
SIGNATURE: [Signature]
PHONE NUMBER: (805) 966-5724
DATE: 5 Mar 90

Make a Copy of This Document For Your Records.
INSTALLATION RESTORATION PROGRAM
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
STAGE 1

VANDENBERG AIR FORCE Base
CALIFORNIA

BATTelle COLUMBUS DIVISION
Denver Operations
Denver West Office Park
Building 52, Suite 250
14062 Denver West Parkway
Golden, Colorado 80401

JUNE 1989

FINAL REPORT
SOLID WASTE WATER QUALITY
ASSESSMENT TEST (SWAT) FOR
VANDENBERG AFB SANITARY LANDFILL

PREPARED FOR:

HEADQUARTERS STRATEGIC AIR COMMAND
DIRECTOR, ENVIRONMENTAL MANAGEMENT
DCS/ENGINEERING AND SERVICES DIVISION
OFFUTT AIR FORCE BASE, NEBRASKA 68113

UNITED STATES AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH LABORATORY
TECHNICAL SERVICES (AFOEHL/TS)
BROOKS AIR FORCE BASE, TEXAS 78235-5501
EXECUTIVE SUMMARY

A Solid Waste Water Quality Assessment Test (SWAT) report on the active sanitary landfill at Vandenberg Air Force Base (AFB) (Figure 1) has been prepared for the California Regional Water Quality Control Board, using the format specified by the State of California. The data used in this report were taken from the Installation Restoration Program (IRP) investigations recently conducted at this site. The 35-acre sanitary landfill is situated at the head of Oak Canyon in its eastern branch, with Burton Mesa lying to the north (Figure 2). The study was complicated by the presence of an adjacent old mixed-waste landfill, located in the northern branch of Oak Canyon, which is known to contain hazardous waste.

The sanitary landfill is constructed using the cut-and-cover method. Normal domestic and residential trash are deposited at the base of the working face and are spread up the slope by the landfill equipment. Bulky items are crushed and disposed of at a separate location on the site. Cooking oils and greases are deposited in the grease pit just to the north of the landfill. Positive drainage for the landfill pads is provided to minimize the collection and infiltration of surface runoff on the landfill (Figure 3). A peripheral drainage system is in place to intercept and direct rainfall runoff around the fill area. Further down the canyon is a leachate collection system and a sump pump. The leachate collected in the sump is pumped to a holding tank and then pumped to a spray irrigation system on top of the canyon, where treatment occurs via soil percolation and aeration.

The site investigations consisted of surface water sampling, soil sampling, and groundwater sampling. A total of four surface water samples, 35 soil samples, and 26 groundwater samples were collected. These sampling locations can be seen on Figures 2, 4, and 5.

The four surface water samples were collected from three separate locations. Surface water in the area of the landfill is minimal and intermittent. Because of this, only one location could be sampled in both the spring, following the wet season, and in the fall, following the dry
requirements, the order specifically prohibits the discharge of any leachate or liquid wastes from the landfill facility to water courses.

To control the potential discharge of landfill leachate in the Oak Canyon drainage, a subsurface dam and lined pond for storing collected subsurface water was installed by the Air Force in Oak Canyon below the landfill in December 1981 (Figure 3). In July 1983, a peripheral drainage system was installed to intercept and divert rainfall runoff around the periphery of the fill area. In September 1983, a leachate collection system and sump pump were installed in Oak Canyon below the subsurface dam and lined storage pond. A small quantity of leachate and subsurface water bypassed the leachate collection system throughout the period during which the system has been in operation (Penfield & Smith Engineers, 1985).

1.3.2 Site Operation

The sanitary landfill is a Class III waste disposal unit as defined in Title 23, Chapter 3, Subchapter 15, of the California Administrative Code. The 35-acre landfill has one building located within 1,000 feet of the site perimeter, Building No. 3510 (Figure 2). This landfill has no liner. It is estimated that the site currently accepts 75 tons of solid waste per day. The solid waste is compacted into 156 cubic yards per day.

The landfill is constructed using the cut-and-cover method. Refuse is placed in lifts about 10 feet thick with 2:1 (horizontal:vertical), or flatter, side slopes. Refuse is spread in approximately 2-foot layers on a working face of less than one hundred feet. The top and sides are covered daily with about a 12-inch thickness of on-site material.

Wastes are deposited at the base of the working face and are spread up the slope by the landfill equipment. This equipment travels up and down the working face, making at least four passes over each 2-foot-thick layer of refuse. Bulky items are crushed and disposed of at a separate on-site location. Cooking grease and oils are disposed of in the grease pit to the north of the landfill (Figure 3).
Positive drainage for the landfill pads is provided to minimize the collection and infiltration of surface runoff on the landfill and particularly at the working face. The drainage system (Figure 3) also minimizes leachate volume and subsurface migration of any landfill contaminants.

All cover material is obtained on the site. Daily and intermediate covers are either of sandy or shale composition depending on the borrow area being worked at the time. It has been recommended that the shale-type material be used wherever possible and that the sandy material be stockpiled for use as topsoil. Presently, there is no gas collection system for this landfill. However, this landfill does have a subsurface drainage system and a leachate holding tank.

Leachate generated in the filled, upper section of the canyon migrates downgradient to an underground drainage system. This drainage then flows by gravity to a sump where it is pumped to a holding tank (which replaced the former leachate retention pond in 1987). From this holding tank the leachate is pumped to a spray irrigation system on the top of the canyon.

1.4 KNOWN AND SUSPECTED WASTES

The Vandenberg AFB landfill is permitted to handle non-hazardous and inert wastes as described in California Administrative Code Title 23, Chapter 3, Subchapter 15, Section 2522. Non-hazardous wastes include typical residential and commercial-type rubbish and trash. Inert wastes include demolition material such as dirt, rocks, and concrete. Non-hazardous wastes are estimated to account for 43 percent of in-place trash volumes and inert wastes represent the remaining 57 percent.

Normal domestic and residential trash is dumped directly at the working face of the landfill and then spread and compacted with a tracked vehicle. Hazardous wastes, liquid wastes, infectious wastes, septic tank pumpings, and sewage sludge are not received at this site.
INSTALLATION RESTORATION PROGRAM

AIR MONITORING AND QUALITY ASSURANCE PLAN
FOR THE VANDENBERG AIR FORCE BASE
SANITARY LANDFILL

VANDENBERG AIR FORCE BASE
CALIFORNIA

BATTELLE COLUMBUS DIVISION
Denver Operations
Building 52, Suite 250
14062 Denver West Parkway
Golden, Colorado 80401

FEBRUARY, 1989

FINAL REPORT
88 AUG 01 TO 89 FEB 02

PREPARED FOR:

HEADQUARTERS STRATEGIC AIR COMMAND
DIRECTOR, ENVIRONMENTAL MANAGEMENT
DCS/ENGINEERING AND SERVICES DIVISION
OFFUTT AIR FORCE BASE, NEBRASKA 68113

UNITED STATES AIR FORCE
OCUPATIONAL AND ENVIRONMENTAL HEALTH LABORATORY
TECHNICAL SERVICES (USAFOEHL/TS)
BROOKS AIR FORCE BASE, TEXAS 78235-5501
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<th>ESTIMATED GROUP III WASTES, UNCOMPACTED, C.Y.</th>
<th>COMMENTS</th>
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<td>FEBRUARY</td>
<td>6,551</td>
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</tr>
<tr>
<td>APRIL</td>
<td>7,535</td>
<td>4,057</td>
<td></td>
</tr>
<tr>
<td>MAY</td>
<td>6,155</td>
<td>3,314</td>
<td></td>
</tr>
<tr>
<td>JUNE</td>
<td>6,204</td>
<td>3,340</td>
<td></td>
</tr>
<tr>
<td>JULY</td>
<td>6,683</td>
<td>3,600</td>
<td></td>
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<tr>
<td>AUGUST</td>
<td>6,986</td>
<td>3,762</td>
<td></td>
</tr>
<tr>
<td>SEPTEMBER</td>
<td>5,244</td>
<td>2,824</td>
<td></td>
</tr>
<tr>
<td>OCTOBER</td>
<td>6,455</td>
<td>3,475</td>
<td>ESTIMATED</td>
</tr>
<tr>
<td>NOVEMBER</td>
<td>6,455</td>
<td>3,475</td>
<td>ESTIMATED</td>
</tr>
<tr>
<td>DECEMBER</td>
<td>5,835</td>
<td>3,142</td>
<td></td>
</tr>
<tr>
<td>TOTALS</td>
<td>77,509</td>
<td>41,726</td>
<td></td>
</tr>
</tbody>
</table>

**ANALYSIS**

**ASSUME:**

* GROUP II UNCOMPACTED DENSITY = 200 LB/CY
* GROUP II COMPACTED DENSITY = 1000 LB/CY
* GROUP III UNCOMPACTED DENSITY = 810 LB/CY
* GROUP III COMPACTED DENSITY = 1620 LB/CY

**ESTIMATE AVERAGE ANNUAL IN-PLACE VOLUME USING**

**RECORD TONNAGE AS A BASIS:**

<table>
<thead>
<tr>
<th>GROUP</th>
<th>Tonnage</th>
</tr>
</thead>
<tbody>
<tr>
<td>II</td>
<td>15,502</td>
</tr>
<tr>
<td>III</td>
<td>20,863</td>
</tr>
<tr>
<td>TOTAL</td>
<td>36,365  CY/yr</td>
</tr>
</tbody>
</table>

**ESTIMATE WASTE GENERATION USING POPULATION AS BASIS:**

- On-base day-time population is about 18,000.
- Per capita waste generation is estimated to be 8.5 lbs/day.
- Daily waste generation estimate = 153,000 lbs/day.
- Assuming an overall compacted trash density of 1000 lbs/cy.
- Average annual compacted trash-only volume - 36,000 cy/year.
VANDENBERG AFB
SANITARY LANDFILL SITE PLAN
AND LEACHATE SYSTEM REPORT

PROJECT VAB 84-0079

APRIL 1985

PENFIELD AND SMITH ENGINEERS, INC.
111 EAST VICTORIA STREET
SANTA BARBARA, CALIFORNIA 93101
(805) 963-9532
W.O. 6942-07-28
SECTION 1.0

INTRODUCTION

1.0 GENERAL

This report presents the results of a hydrogeologic survey of the Solid Waste Sanitary Landfill Site at Vandenberg Air Force Base (VAFB), California, Project Number VAB 84-0079.

The purpose of this report is to prepare recommendations to:

A. Improve landfill operation and drainage with the objective of minimizing the formation of leachate; and

B. Increase the efficiency of the existing leachate abatement system.

A comprehensive landfill site plan was developed to effectively convey surface waters off the landfill site. This site plan also presents an organized and logical approach to landfill operations. The plan, along with recommendations for efficient landfill operation, is discussed in section 2.0 of this report.

The landfill's leachate abatement system was also evaluated. A subsurface investigation was performed and an improved leachate collection system was developed. This leachate system is presented in section 3.0 of this report.

Plans for improvements to the landfill, including the site plan, drainage facilities, and the leachate collection system, are presented in Appendix D, which is bound separately.

1.1 STUDY AREA DESCRIPTION

1.1.1 Location—Vandenberg Air Force Base is located in the western part of Santa Barbara County, approximately 2 miles north of the City of Lompoc, California, as shown on the Vicinity Map on Sheet 1 of the plans.

The VAFB landfill is located southeasterly of the intersection of Washington Avenue and Utah Avenue, in the upper reaches of Oak Canyon. The main entrance to
this drainage course has been upgraded with an asphalt lined swale that was constructed as a part of the access road to the leachate collection facility.

The proposed improvement to the West Channel is shown on the plans. The upgraded channel will consist of portions of asphalt-lined channel, earth channel, and concrete-lined ditch. This upgrading of the West Drainage Channel can be completed independently of the landfill construction.

E. Miscellaneous Drainage Facilities— A number of other drainage facilities including culverts, inlet structures, and channels are also shown on the plans to provide a complete drainage system for the landfill.

2.3 LANDFILL OPERATIONS

This subsection presents a series of recommendations directed at improved landfill operation. General information on the VAFB landfill is provided first. This is followed by specific recommendations:

A. Landfill Location— The landfill is located south of the intersection of Utah Avenue and Washington Avenue on Vandenberg Air Force Base. The area surrounding the site is occupied by office and industrial-type buildings. There is a minimum buffer of 500 feet between the anticipated trash disposal areas and the nearest building.

B. Population Trends— The Base supports a resident population of approximately 8,000 persons and a daytime commuting population of approximately 10,000. The population living and working on the Base has historically been variable and depends upon the projects in progress. Currently the major project is the Space Shuttle. Operations are in the process of shifting from construction of the facilities to actual launch and maintenance. The net population, according to Base staff, is expected to remain at the present level. No new projects are anticipated.

C. Quantity of Refuse— Reliable waste generation records are unavailable for the Base landfill. Therefore, a combination of existing VAFB records and data from nearby communities, has been used to estimate the annual quantity of refuse. This information is outlined in Appendix B. Current annual trash generation is estimated at between 36,000 and 56,000 compacted cubic yards. Consultation with local waste management personnel indicates that little or no increase in per
capita waste generation is anticipated. This is probably due to an increased awareness of resource recovery. Based upon these assumed annual trash generation rates the ultimate life of the landfill ranges from 55 to 85 years.

D. Classification of Solid Wastes—The VAFB Landfill handles both Group II and Group III wastes. Group II wastes include typical residential and commercial-type rubbish and trash. Group III wastes include demolition material such as dirt, rocks, and concrete.

Group I (hazardous) type wastes should not be allowed to enter the landfill. Some special wastes should be designated for disposal at separate locations. For example, tires and other hard-to-dispose of materials might be segregated, and soil, broken concrete or asphalt might be stockpiled for later use as fill or rip-rap at the landfill.

E. Design Data—

1. Design Period:
   a. 1985-2041

2. Design Population:
   a. 1985- 18,000 persons.
   b. 2041- 18,000 persons.

3. Waste Generation:
   a. 1985- 8.5 LBS/CAP/DAY.
   b. 2041- 8.5 LBS/CAP/DAY.

4. Compaction Density: 1000 LBS/CY.


6. Total Compacted Trash Volume Per Year:
   a. 1985- 36,000 to 56,000 CY/YEAR.
   b. 2041- 36,000 to 56,000 CY/YEAR.

7. Total Volume of Cover Material Per Year:
   a. 1985- 9,000 to 14,000 CY/YEAR.
   b. 2041- 9,000 to 14,000 CY/YEAR.
INSTALLATION RESTORATION PROGRAM

PHASE I: RECORDS SEARCH

VANDENBERG AIR FORCE BASE, CALIFORNIA

PREPARED FOR:

UNITED STATES AIR FORCE
HQ AFESC/DEVP
TYNDALL AFB, FLORIDA

AND

HQ SAC/DEPV
OFFUTT AFB, NEBRASKA

SUBMITTED BY:

REYNOLDS, SMITH AND HILLS, INC.
JACKSONVILLE, FLORIDA

ENVIRONMENTAL SCIENCE AND ENGINEERING, INC.
CAIINESVILLE, FLORIDA

OCTOBER 1984
4.2 WASTE DISPOSAL METHODS AND DISPOSAL SITES IDENTIFICATION, EVALUATION, AND HAZARD ASSESSMENT

4.2.1 LANDFILLS

Twelve landfills that were used for either sanitary or debris disposal were identified at VAFB. Landfill locations are identified on Fig. 4.2-1, and a summary of important landfill details has been presented in Table 4.2-1.

Landfill No. 1 (LF-1)

LF-1 is located in the central section of the installation, directly north of LF-2, adjacent to DPDO and CES. The landfill, which is approximately 10 acres in size, was operated between 1942 and 1957. Fill material consisted of incinerator ash, unburnable slag, scrap metal, pesticides, waste POL, and UXO. Inspection of the LF-1 site showed a number of parallel ridges that resulted from the area/surface fill operation. Currently, LF-1 is completely closed, with an adequate soil cover. This site does have potential for contamination and migration of contaminants and, therefore, was ranked using the HARM process (see App. H). Conclusions and recommendations regarding this site are presented in Secs. 5.0 and 6.0, respectively.

Landfill No. 2 (LF-2)

LF-2 is located in the central section of the base, immediately south of the Utah Ave. and Pine Canyon Rd. intersection. LF-2 is approximately 140 acres in size and is situated in a natural canyon. The site was initially used for disposal in approximately 1941 and is currently the sanitary landfill for the base. Fill material consists of sanitary trash, miscellaneous waste POL, waste solvents, pesticides, transformer oil, ordnance, paint, scrap missile material, scrap metal, PCB-contaminated soil, and construction debris. Currently, LF-2 is operated as an area fill, with daily soil cover.

Surface runoff from the cantonment area is diverted to the perimeter of LF-2 along the canyon walls by open culverts and drain pipes. Leachate generated in the filled, upper section of the canyon migrates
Table 4.2-1. Descriptions of Landfills on VAFB

<table>
<thead>
<tr>
<th>Landfill No.</th>
<th>Date of Operation</th>
<th>Approximate Size (acres)</th>
<th>Type of Waste</th>
<th>Method of Operation</th>
<th>Closure Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>LF-1</td>
<td>1942-1957</td>
<td>10</td>
<td>Incinerator ash, slag, scrap metal, waste PX, ordnance, pesticides</td>
<td>Surface/ area fill</td>
<td>Closed, soil cover</td>
</tr>
<tr>
<td>LF-2</td>
<td>1941-Present</td>
<td>140</td>
<td>Sanitary fill, Bomarc missile scrap, waste PX, pesticides, solvents, transformer oil, scrap metal and concrete debris, ordnance, paint, PCB-contaminated soil</td>
<td>Area fill in natural canyon</td>
<td>Currently operated</td>
</tr>
<tr>
<td>LF-3, LF-4</td>
<td>1959-1962</td>
<td>10, 5</td>
<td>Sanitary fill, waste PX, construction debris, pesticides</td>
<td>Area fill</td>
<td>Closed, soil cover</td>
</tr>
<tr>
<td>LF-5</td>
<td>1944-1959</td>
<td>30</td>
<td>Sanitary fill, construction debris, scrap metal, PX</td>
<td>Area fill</td>
<td>Closed, soil cover</td>
</tr>
<tr>
<td>LF-6</td>
<td>1982-Present</td>
<td>5-10</td>
<td>Construction debris</td>
<td>Area/surface fill</td>
<td>Currently operated</td>
</tr>
<tr>
<td>LF-7</td>
<td>Mid-1950s</td>
<td>5-10</td>
<td>Sanitary fill (residential)</td>
<td>Area fill</td>
<td>Closed</td>
</tr>
<tr>
<td>LF-8</td>
<td>1961-1966(?)</td>
<td>6-10</td>
<td>Waste PX, ordnance, construction debris</td>
<td>Area fill</td>
<td>Closed, soil cover</td>
</tr>
<tr>
<td>LF-9</td>
<td>1950-1958</td>
<td>2</td>
<td>Sanitary fill (residential)</td>
<td>Area fill</td>
<td>Closed, soil cover</td>
</tr>
<tr>
<td>LF-10</td>
<td>1950s</td>
<td>2</td>
<td>Sanitary fill (residential)</td>
<td>Area fill</td>
<td>Closed, soil cover</td>
</tr>
<tr>
<td>LF-11</td>
<td>Mid-1940s-Late 1950s</td>
<td>5</td>
<td>Incinerator ash, slag, waste oil, solvents</td>
<td>Surface fill/dump</td>
<td>Closed, soil cover, revegetated</td>
</tr>
<tr>
<td>LF-12</td>
<td>1982-Present</td>
<td>3</td>
<td>Construction debris</td>
<td>Area fill</td>
<td>Currently operated</td>
</tr>
</tbody>
</table>

downgradient to a leachate retention pond. Additionally, a drainage sump is located farther downgradient to collect leachate that bypasses the retention pond. From this sump, leachate is pumped back to the retention pond and then pumped to the top of the canyon, where it is surficially sprayed. Field inspection of the leachate collection system and the downgradient canyon area revealed leachate moving past the collection sump and flowing down the canyon. Leachate migration down Oak Canyon may pose a potential threat to the Santa Ynez aquifer system, which serves as the potable water supply for Lompoc and VAFB. This site does have potential for contamination and migration of contaminants and, therefore, was ranked using the HARM process (see App. H). Conclusions and recommendations regarding this site are presented in Secs. 5.0 and 6.0, respectively.

Landfills No. 3 and No. 4 (LF-3 and LF-4)
LF-3 and LF-4 are located in South VAFB, off Mesa Rd. and immediately west of SLC-3W. LF-3 and LF-4 are approximately 10 and 5 acres in size, respectively. These landfills were operated between 1958 and 1964 for disposal of sanitary trash, waste POL (unknown quantity), pesticides, and construction debris. LF-3 and LF-4 were operated as area fills. No burning was conducted at either site. Currently, the area is covered with soil, although some fill is visible on the surface. The proximity of LF-3 and LF-4 to South Vandenberg Wells No. 1 and No. 3 poses a potential for potable supply contamination. LF-3 and LF-4 are located over the Lompoc Terrace Aquifer. This site does have potential for contamination and migration of contaminants and, therefore, was ranked using the HARM process (see App. H). Conclusions and recommendations regarding this site are presented in Secs. 5.0 and 6.0, respectively.

Landfill No. 5 (LF-5)
LF-5 is located south of LF-2, off 13th St., near Bldg. 6710. LF-5 is approximately 30 acres in size and is located on a branch of Oak Canyon, with drainage to the Santa Ynez River. From 1944 to 1959, LF-5 was used for disposal of sanitary trash, construction debris, and some scrap
October 6, 1978

Department of the Air Force
Headquarters 4392 D Aerospace Support Group (SAC)
Vandenberg Air Force Base, CA 93437

Attn: Robert Butler
4392 ASG/DEBE

Dear Bob:

Enclosed herein, please find a copy of the Solid Waste Facilities Permit (Decision #78-149) along with Disposal Site Standards Compliance Checklist for Vandenberg Air Force Base Landfill.

I apologize for the delay in transmittal of these documents as I was on vacation.

If you have questions, please call me at the Main Office at Ext. 454.

Very truly yours,

Diane

Diane K. Kobayashi
Environmental Health Specialist

DDK:vh

Enclosures
Established in 1967, the Vandenberg Air Force Base Landfill is an existing Class II site owned and operated by the United States Government. The 25.7 acre site is located in Section T7N, R34W, SBBBM, in the County of Santa Barbara. An approximate 25 tons of residential and industrial wastes, consisting of compatible materials such as paper, plastics, cans, bottles, cardboard, lumber, yard clippings, food wastes, and rocks are disposed of daily by the area fill method. Hazardous wastes, infectious wastes, septic tank pumpings, and sewage sludge are not received at this site. The eight foot cells are compacted with a dozer every two feet of depth. New fill is covered with two feet of soil daily. The final cover is also two feet of earth.

The hours of operation are 7:30 a.m.-4:00 p.m. seven days a week.

The life expectancy of the active quarry site, consisting of an estimated use of 15 acres, is about 13 years. This based on the following: Utilizing conservatively low average landfill depth of 20 feet yields 484,000 cubic yards of capacity. Using a compacted refuse density of 0.243 tons per cubic yard yields 117,612 tons. Utilizing an estimate of 9,000 tons per year being added to the landfill gives an estimated 13 years of life expectancy.

The inactive canyon area of 115 acres is expected to provide an additional 100 years of life expectancy.

The following documents condition the design and operation of this facility:

a. California Regional Water Quality Control Board, Central Coast Region—"Requirements for Waste Discharge" (Order No. 78-18).

b. Guidelines and policies of the United States Air Force.

(Continued)

This permit is granted solely to the operator named above, and is not transferable. Upon a change of operator, this permit is subject to revocation. Upon a significant change in design or operation from that described in this permit or in attachments thereto for the existing design and operation of a facility operating immediately prior to August 15, 1977, or from the approved intended design and operation of a facility which was not operating prior to August 15, 1977, or which herein is granted a permit modification, this permit is subject to revocation, suspension, modification or other appropriate action.

This permit does not authorize the operation of any facility contrary to the State Minimum Standards for Solid Waste Handling and Disposal. This permit cannot be considered as permission to violate existing laws, ordinances, regulations, or statutes of other government agencies.

Barbara County Health Care Services Environmental Health

[Signature]

Lawrence Hart, M.D., M.P.H.

Director

Date August 28, 1978
April 17, 1978

Mr. Edward Rodgers
C/O Base Civil Engineer
4392D CES, DEEE
Vandenberg Air Force Base, CA 93437

Attention: Mr. Robert Butler

Dear Sir:

Enclosed is a copy of Order No. 78-18, Waste Discharge Requirements for U. S. Air Force, Vandenberg Air Force Base Solid Waste Disposal Site, Santa Barbara County, which was adopted by this Board on April 14, 1978.

Very truly yours,

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, CENTRAL COAST REGION

By

KENNETH R. JONES
Executive Officer

KRJ:MLS:nd

Enclosure

cc: U. S. Environmental Protection Agency
State Department of Health, Santa Barbara
State Department of Water Resources, Los Angeles
State Department of Fish and Game, Long Beach
State Solid Waste Management Board
Santa Barbara County Health Department
Santa Barbara County Planning Department
Santa Barbara County Engineering Department
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION
1122-A Laurel Lane
San Luis Obispo, California 93401

ORDER NO. 78-18
WASTE DISCHARGE REQUIREMENTS
FOR
U. S. AIR FORCE,
VANDENBERG AIR FORCE BASE SOLID WASTE DISPOSAL SITE,
SANTA BARBARA COUNTY

The California Regional Water Quality Control Board, Central Coast Region (hereafter Board), finds that:


2. The site is located on property owned and controlled by U. S. Air Force, Vandenberg Air Force Base in Sections 1 & 2, T7N, R35W, SBB&B, as shown on the enclosed Attachment "A".

3. Current plans indicate the existing cut-and-cover operation will be continued for disposal of approximately 9,000 tons per year of Group 2 and 3 solid wastes on the 25.7 acre (10 ha) site.

4. Life expectancy of the site is estimated to be 13 years.

5. Borings in the vicinity of the site have indicated that surface soils are approximately 20 feet deep and are comprised of silty sands and sandy clays. These soils are underlain by approximately 1700 feet of shale.

6. Surface drainage is to the Santa Ynez River located 3 miles (4.8 km) to the south. There are no records available indicating that groundwater exists in the area. Domestic water supply for the base is pumped from wells in the San Antonio Creek Basin and the Lompoc Valley along the Santa Ynez River.

7. Land within 1000 feet (305 m) of the site is owned by the discharger and remains unused.

8. This disposal area meets the criteria contained in the California Administrative Code, Title 23, Chapter 3, Subchapter 15, for classification as a Class II-2 disposal site suitable to receive Group 2 and 3 wastes.

9. Present and anticipated beneficial uses of surface waters in the vicinity of the discharge include:
   a. Municipal and Domestic Supply
   b. Agricultural Supply
   c. Industrial Supply
   d. Groundwater Recharge
   e. Water Contact Recreation
   f. Non-Water Contact Recreation
   g. Wildlife Habitat
   h. Warm Fresh-water Habitat
10. Present and anticipated beneficial uses of groundwaters in the Lompoc Valley include:
   a. Municipal and Domestic Supply  b. Agricultural Supply

11. On March 14, 1975 the Board adopted a Water Quality Control Plan (Basin Plan) containing water quality objectives for the Central Coast Region. This Order implements that plan.

12. Operation of this site complies with the solid waste handling and disposal objectives established in the Santa Barbara County Solid Waste Management Plan.

13. These requirements are exempt from the provisions of the California Environmental Quality Act (Public Resources Code, Section 21000 et. seq.) in accordance with Section 15101, Chapter 3, Title 14, California Administrative Code.

14. The Board, on February 14, 1978, notified the discharger and interested agencies of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their views and recommendations.

15. The Board, in a public meeting on April 14, 1978, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, that the U. S. Air Force shall comply with the following at the Vandenberg Air Force Base Solid Waste Disposal Site:

A. Discharge Prohibition

1. Discharge of Group I waste at the site is prohibited. (See Attachment "B" for definition and examples of Group I wastes).

2. Discharge of leachate or liquid wastes to drainageways is prohibited.

3. Ponding of liquids over solid wastes is prohibited.

B. Discharge Specifications

1. Waste materials shall be confined within the designated disposal area as shown on the enclosed Attachment "A".

2. Total volume (compacted) discharged at this site shall not exceed 484,000 cubic yards (370,000 m³).

3. Wastes shall not be placed at an elevation of less than 300 feet (91 m) above mean sea level.

4. Wastes shall be covered with at least six inches (0.15M) of earth fill daily before nightfall.
5. A minimum 3 feet (0.92 m) of compacted (90%) soil cover shall be placed over all completed fill areas.

6. Disposal of Group 2 wastes shall not occur within 175 feet of the drainageway located along the west side of the site as shown on Attachment "A".

7. Disposal areas shall be protected from washout or erosion of wastes or covering material which could occur as a result of floods having a predicted frequency of once in 100 years.

8. Surface drainage from tributary areas and internal site drainage from surface or subsurface sources shall not contact or percolate through Group 2 wastes discharged at the site.

9. Water used for dust control during disposal site operations shall be limited to a minimal amount.

10. Group 2 wastes shall not be placed in ponded water resulting from any precipitation falling directly on disposal areas or from any other source.

11. Exterior surfaces of the disposal area shall be graded to promote lateral runoff of precipitation and to prevent ponding.

12. Runoff diversion channels shall be maintained at the site where necessary to prevent erosion and flooding of the site.

13. The operator shall remove and relocate any wastes which are discharged at this site in violation of this Order.

14. The discharge shall not cause degradation of any water supply.

15. The discharge shall not create a pollution as defined in Section 13050(m) of the California Water Code.

16. The discharge shall not create a nuisance, as defined in Section 13050(1) of the California Water Code.

C. Provisions

1. The discharger shall comply with the attached "Monitoring and Reporting Program" as specified by the Executive Officer.

2. The discharger shall maintain a copy of this Order at the site. It shall be available at all times to site operating personnel.

3. In the event the discharger is unable to comply with any of the conditions of this Order due to any factors, including acts of nature, the discharger shall notify the Executive Officer by telephone as soon as they or their agents have knowledge of the incident and confirm this notification in writing within two
VANDENBERG AFB

Solid Waste Disposal Site

T 7 N - R 35 W - Surf - Quad

SANTA BARBARA COUNTY

ATTACHMENT "A"
Definition and Examples of Group 1, Group 2, and Group 3 Wastes

Group 1 Wastes

Group 1 wastes consist of or contain toxic substances and substances which could significantly impair the quality of usable waters. Examples include, but are not limited to, the following:

(a) Municipal origin
   i) Saline fluids from water or waste treatment and reclamation processes.
   ii) Community incinerator ashes.
   iii) Toxic chemical toilet wastes.

(b) Industrial Origin
   i) Brines from food processing, oil well production, water treatment, industrial processes, and geothermal plants.
   ii) Other toxic or hazardous fluids from industrial operations such as spent cleaning fluids, petroleum fractions, chemicals, acids, alkalies, phenols, and spent washing fluids.
   iii) Substances from which toxic materials can leach such as process ashes, chemical mixtures, and mine tailings.
   iv) Rotary drilling muds containing toxic materials.

(c) Agricultural origin
   i) Chemicals such as pesticides or chemical fertilizers.
   ii) Discarded containers of chemicals unless adequately cleansed.

(d) Other toxic wastes such as compounds of arsenic or mercury or chemical warfare agents.

Group 2 Wastes

Group 2 wastes consist of or contain chemically or biologically decomposable material which does not include toxic substances nor those capable of significantly impairing the quality of usable waters. Examples include but are not limited to the following:

(a) Municipal and industrial origin
   i) Garbage from handling, preparation, processing, or serving of food or food products.
   ii) Rubbish such as paper, cardboard, tin cans, cloth, glass, etc.
   iii) Construction and demolition materials such as paper, cardboard, wood, metal, glass, rubber products, roofing paper, and wallpaper.
   iv) Street refuse such as sweepings, dirt, leaves, catch basin cleanings, litter, yard clippings, glass, paper, wood, and metals.
   v) Dead animals and portions thereof.
   vi) Abandoned vehicles.
vii) Sewage treatment residue such as solids from screens and grit chambers, dewatered sludge, and septic tank pumpings.

viii) Water treatment residue such as solid organic matter collected on screens and in settling tanks.

ix) Ashes from household burning.

x) Infectious materials and hospital or laboratory wastes authorized for disposal to land by official agencies charged with control of plant, animal, or human disease.

xi) Magnesium and other highly flammable or pyrophoric materials.

(b) Agricultural origin
i) Plant residues from the production of crops including, but not limited to, stalks, vines, green drops, culls, stubble, hulls, lint, seed, roots, stumps, prunings, and trimmings.

ii) Manures.

iii) Dead animals or portions thereof.

iv) Adequately cleansed pesticide containers.

Group 3 Wastes

Group 3 wastes consist entirely of nonwater soluble, nondecomposable inert solids; examples include, but are not limited to, the following:

(a) Construction and demolition wastes such as earth, rock, concrete, asphalt paving fragments, inert plastics, plasterboard, and demolition material containing minor amounts of wood and metals.

(b) Vehicle Tires.

(c) Industrial wastes such as clay products, glass, inert slags, asbestos, inert tailings, inert rubber scrap, and inert plastics.
Inert Solids Historical Disposal Estimate

Assumptions:

1. From Document 1.h., prior to 1983, an average of 20,863 uncompacted cubic yards of Group III Waste was disposed at the Landfill each year.

2. From Document 1.l., Group III waste is primarily “construction and demolition waste such as earth, rock, concrete, asphalt, paving fragments...”


4. 60% represents a conservative estimate of the pure ‘inert’ fraction of Group III Wastes

Therefore:

\[(20,863 \text{ uncomp. cubic yards/Year}) \times (810 \text{ lb/Group III uncomp. cubic yard}) \times (1 \text{ Ton/2000 lb}) \times (60\%) = 5970 \text{ Tons per Year}\]
ATTACHMENT 2

2.a. Vandenberg AFB Landfill Operational Plan, Jul 1989
2.b. Annual Monitoring and Reporting Program 88-161, Apr 1991
2.c. Solid Waste Facility Permit #42-AA-012, Nov 1990
2.d. 1989 Scrap Metal Recycling and Resale Figures
2.f. Air Force Memo, Recycling Program Costs, 1 Aug 1990
2.g. Vandenberg Landfill, Draft Report of Waste Discharge, May 1993
2.h. Installation Restoration Program, Air Monitoring Plan, Feb 1989
2.i. Installation Restoration Program, Phase I Records Search, Oct 1984
2.j. Regional Water Quality Control Board WDR Order No. 78-18, 17 April 1978
VANDENBERG AFB SANITARY LANDFILL OPERATIONAL PLAN

JULY 1989

1st STRATEGIC ENVIRONMENTAL MANAGEMENT DIRECTORATE
4392d CIVIL ENGINEERING SQUADRON

VANDENBERG AIR FORCE BASE, CALIFORNIA
VANDENBERG AFB SANITARY LANDFILL OPERATION

Atch 3
1. Purpose: The Vandenberg Air Force base sanitary landfill exists for the safe and environmentally sound disposal of permitted wastes generated at Vandenberg AFB. This document outlines the policies and procedures for the day-to-day operation of the landfill and meets the requirements of California Water Regulations, Section 2596(b).

2. Governing Permits and Regulations: The 4392d Civil Engineering Squadron operates the landfill according to this document and the following permits and regulations:


   b. California Regional Water Quality Control Board, Central Coast Region, Order Number 83-161.

   c. Air Force Pamphlet 91-8, Solid Waste Management.


   e. VAFB Regulation 85-5, Asbestos Removal and Handling.

These permits and regulations will be kept with this document in a notebook at the landfill or STRAD/ET. Future construction and configuration of the landfill and its drainage system will conform, in principle, to the construction drawings and details included in the October 1985 Penfield and Smith Engineering Review.

3. Landfill Location and Layout: The landfill is located on the eastern edge of the industrial area off of 6th Street, near Utah Avenue. A paved, two-lane road extends from the entrance gate to the general fill area. The landfill is segregated into areas for disposing of refuse by different waste categories including a grease pit, animal cemetery, asbestos disposal area, and the wood yard. The landfill also has an attendant's facility (building 9530) with a phone, potable water, an equipment storage area, and a wash rack.

4. General Operating Policies:

   a. Description of Operations: The Vandenberg AFB sanitary landfill uses the ramp method to dispose of permitted Category III wastes (Title 23, Chapter 3, Subchapter 15, California Administrative Code). The landfill site encompasses 63 acres in the basin of Oak Canyon. Over the years, refuse has been placed in cells situated to fill in the gully. Each cell contains compacted refuse and a layer of cover material on the sides and top. Construction of the cells involves using a compactor and dozers to spread and compact refuse. A scraper is used to cut and haul the diatomaceous shale cover material from the eastern slope of the site. The landfill processes approximately 175 cubic yards (compacted) or 100 tons of refuse each day using this method and has a life expectancy of five years in its existing phased lift design in accordance with the Penfield and Smith Review. The addition of lifts will extend the life about 50 years.
b. Authorized Access and Waste Materials: The landfill exists for the disposal of permitted wastes generated at Vandenberg AFB. The authorized users include: military personnel and their dependents who live on-base, DOD civilians (while on-duty), and approved contractors. No off-base generated waste will be disposed of at the landfill. County and regional permits require that the landfill accept "nonhazardous solid wastes" which are defined as:

"All putrescible and nonputrescible solid, semi-solid, 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 semi-solid wastes and other discarded solid or semi-solid waste; provided that such wastes do not contain wastes which must be managed as hazardous wastes, or wastes which contain soluable pollutants in concentrations which exceed applicable water quality objectives or could cause degradation of the waters of the state (California Administrative Code, Title 23, Section 2523)."

Although authorized by permit, the landfill will not accept car bodies, large appliances or other wastes whose bulk or quantity the landfill manager determines cannot be managed properly. All recyclable or reusable wastes from government agencies such as metal products and equipment must be turned into Base Supply with a disposal authorization letter from DRMO/SYT (building 11559). Scrap metal may be turned directly into MWR for their Resource Recycling Recovery Program. Large appliances are also not accepted by DRMO and must be disposed of locally. Government-owned furniture must also be disposed of through Base Supply and cannot be accepted by the landfill (AFR 67-23, paragraph 4-5.d).

c. Operating Schedule: The landfill is open only when an attendant is on duty. Normal operating hours are from 0730 to 1630 weekdays and 0830 to 1630 weekends. The landfill is closed on holidays. At times, the landfill may have to open at other than normal duty hours to support mission requirements. In this case, only approved organizations may use the landfill.

d. Unloading Operations: All individuals will check in with the landfill attendant prior to off-loading in order to record the type and quantity of waste, and to receive specific disposal instructions.

e. Asbestos Disposal Area: An area designated for asbestos disposal (see Figure 1) will be maintained by the landfill manager. Personnel disposing of asbestos (all types) shall coordinate with 1 STRAD/ET and the landfill manager prior to delivery to the landfill. The asbestos will be properly bagged and a six inch cover will be placed immediately after disposal. Proper drainage will always be maintained at this site.
ANNUAL REPORT
MONITORING AND REPORTING
PROGRAM NO 88-161
FOR
UNITED STATES AIR FORCE
VANDENBERG AIR FORCE BASE
CLASS III LANDFILL
SANTA BARBARA COUNTY

APRIL 1991

WESTERN SPACE AND MISSILE CENTER
ENVIRONMENTAL MANAGEMENT DIRECTORATE
TABLE 2

VANDENBERG AIR FORCE BASE
LANDFILL DATA

Jul 88 - Sep 90
(In Tons)

<table>
<thead>
<tr>
<th>QUARTER</th>
<th>GARBAGE</th>
<th>RUBBISH</th>
<th>BRUSH</th>
<th>KITCHEN WASTE</th>
<th>CONSTR.</th>
<th>OTHER**</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>JUL - SEP 88</td>
<td>1,958</td>
<td>759</td>
<td>199</td>
<td>113</td>
<td>567</td>
<td>95</td>
<td>3,691</td>
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<td>APR - JUN 88</td>
<td>1,805</td>
<td>1,007</td>
<td>273</td>
<td>100</td>
<td>427</td>
<td>102</td>
<td>3,694</td>
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<tr>
<td>JAN - MAR 88**</td>
<td>2,582</td>
<td>434</td>
<td>189</td>
<td>19</td>
<td>429</td>
<td>73</td>
<td>3,726</td>
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<tr>
<td>OCT - DEC 88**</td>
<td>2,597</td>
<td>577</td>
<td>105</td>
<td>38</td>
<td>418</td>
<td>6</td>
<td>3,838</td>
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<tr>
<td>JUL - SEP 88**</td>
<td>2,947</td>
<td>452</td>
<td>84</td>
<td>32</td>
<td>432</td>
<td>12</td>
<td>3,959</td>
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<td>APR - JUN 88**</td>
<td>2,964</td>
<td>401</td>
<td>185</td>
<td>159</td>
<td>690</td>
<td>22</td>
<td>4,421</td>
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<tr>
<td>JAN - MAR 88**</td>
<td>2,949</td>
<td>309</td>
<td>110</td>
<td>6</td>
<td>335</td>
<td>36</td>
<td>3,754</td>
</tr>
<tr>
<td>OCT - DEC 88**</td>
<td>3,344</td>
<td>492</td>
<td>236</td>
<td>10</td>
<td>284</td>
<td>23</td>
<td>4,389</td>
</tr>
<tr>
<td>JUL - SEP 88**</td>
<td>3,198</td>
<td>512</td>
<td>395</td>
<td>6</td>
<td>370</td>
<td>11</td>
<td>4,484</td>
</tr>
</tbody>
</table>

NOTES FOR TABLE 2:

* OTHER Wastes include: Grease, Asbestos, Dead Animals, and Medical Solid Waste (Autoclaved Bio-Medical Hazardous Waste). This consists of less than 1% of the total solid waste disposed of in the landfill.

** Beginning in April 1990 Vandenberg AFB began weighing all our wastes entering our landfill. Prior to that we reported the weight in cubic yards. For the purpose of this table we have converted compacted cubic yards to tons by multiplying by .250 tons/compacted cubic yard. This density was obtained from Robinson, William, P.E.; Solid Waste Handbook; John Wiley & Sons; 1986. page 45.
REPORT OF
DISPOSAL SITE INFORMATION
FIVE YEAR PLAN

VANDENBERG AIR FORCE BASE
SANITARY LANDFILL SITE

SOLID WASTE FACILITY
PERMIT # 42-AA-012

NOVEMBER 1990

ADDRESS

- Vandenberg Air Force Base, CA 93437-5000
- Located in Section T7N, R34W, SBB&M
- Santa Barbara County

BASE SOLID WASTE REPRESENTATIVE

BASE CIVIL ENGINEER
4302nd Civil Engineering Group
Vandenberg Air Force Base, CA 93437-5000

PREPARED BY:

William A. Kolakowski, Captain, USAF
Environmental Engineer
Strategic Missile Center
5. **Insects and Rodents** - Vectors are controlled by proper compaction of the solid waste and providing daily cover. The landfill manager makes periodic inspections of the entire landfill to determine whether rats or other rodents are burrowing into the landfill. The manager will also look for flies, birds, stray dogs and cats, and similar nuisances. If required, the manager will have the base Entomology Shop begin a treatment or eradication program.

6. **Fire** - Fire protection measures include portable fire extinguishers on-site, isolated areas for dumping and extinguishing burning wastes and immediate contact with base emergency services using two-way radio. A fire hydrant is located on the landfill site.

### Source Reduction & Recycling

1. **Salvaging** - Salvaging in prohibited at the landfill site.

2. **Volume (Source) Reduction** - To comply with California Assembly Bill 939, Vandenberg AFB has instituted numerous volume reduction measures. They include: wood chipping, composting, recycling, thrift shops, and household hazardous waste collection days. Other source reduction measures will be implemented to ensure compliance with AB 939.

3. **Recycling** - Vandenberg has an extremely active recycling program. A Resource Recycling and Recovery Program is run by the Morale, Wellness and Readiness (MWR) office and the main recycling activities occur at building 22300. These activities include collecting, segregating, reducing, and bailing of materials such as aluminum cans, tin, plastics, corrugated cardboard, glass and newspaper. The base also has a curbside household pickup program which picks up all the recyclable materials listed above. During calendar year 1989, Vandenberg AFB removed the following waste from the waste stream by way of recycling: corrugated cardboard - 102.12 tons; newspaper - 147.0 tons; glass - 92.4 tons; aluminum cans - 332.0 tons; ferrous metals - 160.56 tons; and non-ferrous metals - 106.0 tons.

There are recycling bins placed at the entrance of the landfill for users to place recyclable products in. These bins are transported to another location for the completion of the recycling process. All recyclable or reusable metal products and equipment from government agencies are turned in to Vandenberg Base Supply with a disposal authorization letter from DMO/SYT (building 11550). Scrap metal may be turned directly in to MWR for its Resource-Recycling and Recovery Program. Government-owned furniture is also recycled. It is turned in to Base Supply and then sold through DMO.
**Contract # 41-9154-129**

**Material:** Stainless Steel

- **Tons:** 10,000 LB
- **Date:** 22 Aug 89

---

**Contract # 41-9344-019**

**Material:** Iron/Steel

- **Tons:** 150 GT
- **Date:** 22 Aug 89

---

**Contract # 41-9344-123**

**Material:** Rubber Scrap

- **Tons:** 15,000 LS
- **Date:** 22 Aug 89

---

**Contract # 41-9280-041**

**Material:** Steel HV Pipe

- **Tons:** 5,000 LB
- **Date:** 22 Aug 89

---

**Contract # 41-9344-129**

**Material:** Copper Lead

- **Tons:** 35 GT
- **Date:** 22 Aug 89

---

**Contract # 41-9036-023**

**Material:** Copper Insulated

- **Tons:** 100,000
- **Date:** 20 Dec 89

---

**Contract # 41-9344-019**

**Material:** Iron/Steel

- **Tons:** 30 GT
- **Date:** 20 Feb 90

---

**Contract # 41-0154-092**

**Material:** Steel Light/Heavy

- **Tons:** 70 GT
- **Date:** 20 Feb 90

---

**Contract # 41-9344-125**

**Material:** Copper Boxing

- **Tons:** 20,000 LB
- **Date:** 20 Feb 90
GRANDUM FOR COLONEL SMITH

SUBJECT: Resource Recovery and Recycling Program (RRRP)

REMARKS: Suspenses #101202 and #102009 - 1 STRAD/CC, 'Need more competition. Need dates and plan...involved? Let's push hard! Who is the czar?'

1. Competition

   a. Quarterly unit competition throughout FY 90.

   b. Cardboard has been added to the aluminum, newspaper, and glass bottle competition-eligible products.

   c. 1st qtr FY 90 competition is 16 Oct - 16 Dec 1989. 1st place - $500 coupon 2nd place - $300 coupon to be used in any MWR activity

2. Dates and plan


   b. Publicize program on base closed-circuit TV channel. ECD 15 Nov 1989

   c. Publicize program in daily bulletin. ECD 15 Nov 1989

   d. Plates/tags will be placed on all items purchased with RRRP $ - 'Thanks! This item was purchased with your recycling funds.' ECD 15 Nov 1989

   e. A RRRP handbook is being developed that specifically targets newcomers. Books will be distributed at monthly newcomer's orientation and other base facilities. ECD 1 Jan 1989

3. Commanders, Chiefs, and 1st Shirts

   a. Involvement will come from RRRP competition, publicity stated above, and staff meetings.

4. Let's push hard!

   a. FY 89 - Aluminum, corrugated cardboard, glass, newspaper revenue = $65K 

      LGX metals = $133K

      total FY 89 revenue

      $198K

Atch 1 (1 of 2)
p. FY 90 - aluminum, corrugated cardboard, glass, newspaper revenue = $105K
new products being processed - high grade paper $161K
high density plastic $ 30K

$296K
+ income from LGX metals ??

c. The exact date which LGX metal income will drop into the system is vague. This is a DOD-wide problem. Will work with LGX, DRMO, AC and regional DRMO office at Hill AFB, UT to get better info

ECD Mar 1990

5. The recycling czar for Vandenberg AFB is Mr. William S. Hatting, Chief, Logistics Supply Branch, 4392 ASW/SSS, extension 6-5908.

WALTER L. BROADY, Major, USAF
Chief, Morale, Wellness and Readiness (MWR) Division

Atch 1 (2 of 2)
RECYCLING PROGRAM COSTS

Drivers of VAFB Resource Recovery and Recycling (R3P) Program

- VAFB R3P supports DoD environmental goals
  - promote environmental awareness
  - clean up VAFB environment
  - proactive recycling service to residents

- R3P provides income for MWR
  - program operation IAW AFR 215-8
  - key is that MWR not lose money in the R3P operation

- VAFB must comply with state law on Integrated Waste Management
  - IWM Act mandates waste stream reduction
    -- 25 percent by 1995, 50 percent by 2000
    -- recycling a key method for compliance

Income and Expense

- scrap metal was most successful program
  - Fiscal year 1989
    -- 67 percent of total income
    -- 20 percent of expense
  - Fiscal year 1990
    -- income was 78 percent of total (2qtr)
    -- expenses were 9.7 percent of total

- Military Family Housing and Office Paper have greatest expenses
  - Fiscal year 1989
    -- 33 percent of income
    -- 50 percent of expense
  - Fiscal year 1990
    -- 22 percent of total income (2qtr)
    -- 90.3 percent of expense
  - Manpower costs are high
    -- increase of almost 40 percent from FY89

- R3P is overall moneymaker
  - income YTD $ 122.4K
  - profits YTD $ 24.3K

- Close attention needed to balance profitability against recycling mandates

Program Benefits

- VAFB R3P fosters recycling/environmental awareness in the base community

- Program earns money for MWR programs
  - purchased over $ 130K in programs and materials in FY 89
- Profits of over $24K in FY 90
- New baler on line in August to increase income

- Program needed to meet state waste management requirements
  - MWR program offsets need for appropriated fund or contractor activity to conduct recycling program
  - Present operation gives VAFB a head start in meeting mandated waste stream reduction quotas

- Recycling program reduces landfill loading, extends life of landfill
  - Recycling diverted over 990 tons from landfill YTD, an increase of 24 percent over FY 89
VANDENBERG LANDFILL PERMITTING PROJECT

DRAFT REPORT OF WASTE DISCHARGE

For

THE UNITED STATES AIR FORCE
HQ 30TH SPACE WING/ENVIRONMENTAL MANAGEMENT
VANDENBERG AFB, CALIFORNIA 93437-5242

May 1993

Prepared by

ENGINEERING-SCIENCE, INC.
DESIGN • RESEARCH • PLANNING
199 SOUTH LOS ROBLES AVENUE • P.O. BOX 7056 • PASADENA • CALIFORNIA 91109
2.2 HISTORY OF LANDFILL OPERATIONS

From 1941 to 1958, the area was used as the U.S. Army Camp Cooke Dump. An aerial photograph taken in 1954 shows some disturbance to the land surface due east of Building 8510. Even though the landfill has been used continuously since 1941, specific details regarding the types of waste disposed during its early operation are unverified. The 1985 Installation Restoration Program (IRP) Phase I Report (Reynolds, Smith and Hills, Inc. and Environmental Science and Engineering, Inc., 1985) stated that fill material consisted of sanitary trash, miscellaneous waste petroleum, oils, and lubricants, waste solvents, pesticides, transformer oil, ordnance, paint, scrap BOMARC missile waste containing about 240 pounds of thorium-magnesium alloy, scrap metal, polychlorinated biphenol (PCB)-contaminated soil, and concrete debris. Two extensive record searches conducted by VAFB found no records of operation for an older landfill, nor do the design drawings of the current landfill show any reference to a pre-existing landfill.

In 1958, Vandenberg Air Force Base was established at the former Army installation. From 1961 to 1963, waste was disposed in the area now occupied by the vehicle wash rack area. From 1963 to the late 1970's, household waste and contractor waste (i.e., scrap plaster board, building materials, concrete, asphalt and possibly paint, thinners, and solvents) were deposited in the area of the landfill currently receiving waste.

The 1978 Solid Waste Facility Permit (SWFP) issued by EHS described a landfill that was approximately 25 acres in size. The current size of the entire landfill is 171.59 acres, of which approximately 70 acres are considered an active operational area. Also in 1978, the Regional Board issued Order Number 78-18 which established waste discharge requirements for solid waste disposal sites. In that same year, the California State Solid Waste Management Board issued Facility Permit #42-AA-102 regulating the sanitary landfill operations.

In December 1981, a subsurface dam and lined pond were installed south of the landfill (Figure 2-4). The purpose of this construction was to prevent the potential discharge of landfill leachate into Oak Canyon. To improve leachate collection potential, a collection system and sump pump were installed in September 1983 in the canyon south of the subsurface dam and pond. The collection system was installed four feet below the top of saturated canyon bottom sediments. Recovered leachate was pumped into the lined pond, and then sprayed onto Burton Mesa to the east (Figure 2-3).

A detailed review of the leachate collection system was performed by Dames & Moore and is summarized in their January 25, 1985 report. This report included a recommendation that a slurry wall be installed to help capture groundwater and leachate migrating past the previously described system. In October 1991, a slurry wall was constructed approximately 200 feet south of the leachate pond (Carmichael, 1992). The wall was constructed to prevent leachate and groundwater from migrating down the canyon. The slurry wall spans almost the entire width of Oak Canyon and extends at its base about five feet into the diatomaceous shale bedrock. The wall is located approximately 44 ft south of the leachate collection trench and sump, and is approximately 137 feet long and 2 feet thick. The wall was
INSTALLATION RESTORATION PROGRAM
AIR MONITORING AND QUALITY ASSURANCE PLAN
FOR THE VANDENBERG AIR FORCE BASE
SANITARY LANDFILL

VANDENBERG AIR FORCE BASE
CALIFORNIA

BATTELLE COLUMBUS DIVISION
Denver Operations
Building 52, Suite 250
14062 Denver West Parkway
Golden, Colorado  80401

FEBRUARY, 1989

FINAL REPORT
88 AUG 01 TO 89 FEB 02

PREPARED FOR:

HEADQUARTERS STRATEGIC AIR COMMAND
DIRECTOR, ENVIRONMENTAL MANAGEMENT
DCS/ENGINEERING AND SERVICES DIVISION
OFFUTT AIR FORCE BASE, NEBRASKA  68113

UNITED STATES AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH LABORATORY
TECHNICAL SERVICES (USAFOEHL/TS)
BROOKS AIR FORCE BASE, TEXAS  78235-5501
TABLE 1
VANDENBERG AFB 1983 LANDFILL DATA
(SOURCE REFERENCE 1)

<table>
<thead>
<tr>
<th>MONTH</th>
<th>ESTIMATED GROUP II WASTES</th>
<th>ESTIMATED GROUP III WASTES, UNCOMPACTED, C.Y.</th>
<th>COMMENTS</th>
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<tr>
<td>JANUARY</td>
<td>5,773</td>
<td>3,100</td>
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<td>FEBRUARY</td>
<td>6,551</td>
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<td>MARCH</td>
<td>7,632</td>
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<td>APRIL</td>
<td>7,535</td>
<td>4,057</td>
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<tr>
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<td>6,155</td>
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<td>JUNE</td>
<td>6,204</td>
<td>3,340</td>
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<td>JULY</td>
<td>6,683</td>
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<td>AUGUST</td>
<td>6,986</td>
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<tr>
<td>OCTOBER</td>
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<td>ESTIMATED</td>
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<td>NOVEMBER</td>
<td>6,455</td>
<td>3,475</td>
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<td>5,835</td>
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<td>TOTALS</td>
<td>77,509</td>
<td>41,726</td>
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ANALYSIS

ASSUME:

* GROUP II UNCOMPACTED DENSITY = 200 LB/CY
* GROUP II COMPACTED DENSITY = 1000 LB/CY
* GROUP III UNCOMPACTED DENSITY = 810 LB/CY
* GROUP III COMPACTED DENSITY = 1620 LB/CY

ESTIMATE AVERAGE ANNUAL IN-PLACE VOLUME USING
RECORD TONNAGE AS A BASIS:

GROUP II  15,502
GROUP III 20,863
TOTAL     36,365 CY/yr

ESTIMATE WASTE GENERATION USING POPULATION AS BASIS:

- On-base day-time population is about 18,000.
- Per capita waste generation is estimated to be 8.5 lbs/day.
- Daily waste generation estimate = 153,000 lbs/day.
- Assuming an overall compacted trash density of 1000 lbs/cy.
- Average annual compacted trash-only volume - 36,000 cy/year.
INSTALLATION RESTORATION PROGRAM

PHASE I: RECORDS SEARCH

VANDENBERG AIR FORCE BASE, CALIFORNIA

PREPARED FOR:

UNITED STATES AIR FORCE
HQ AFESC/DEVP
TYNDALL AFB, FLORIDA

AND

HQ SAC/DEPV
OFFUTT AFB, NEBRASKA

SUBMITTED BY:

REYNOLDS, SMITH AND HILLS, INC.
JACKSONVILLE, FLORIDA

ENVIRONMENTAL SCIENCE AND ENGINEERING, INC.
GAINESVILLE, FLORIDA

OCTOBER 1984
4.2 WASTE DISPOSAL METHODS AND DISPOSAL SITES IDENTIFICATION,
EVALUATION, AND HAZARD ASSESSMENT

4.2.1 LANDFILLS

Twelve landfills that were used for either sanitary or debris disposal were identified at VAFB. Landfill locations are identified on Fig. 4.2-1, and a summary of important landfill details has been presented in Table 4.2-1.

Landfill No. 1 (LF-1)

LF-1 is located in the central section of the installation, directly north of LF-2, adjacent to DPDO and CES. The landfill, which is approximately 10 acres in size, was operated between 1942 and 1957. Fill material consisted of incinerator ash, unburnable slag, scrap metal, pesticides, waste POL, and UXO. Inspection of the LF-1 site showed a number of parallel ridges that resulted from the area/surface fill operation. Currently, LF-1 is completely closed, with an adequate soil cover. This site does have potential for contamination and migration of contaminants and, therefore, was ranked using the HARM process (see App. H). Conclusions and recommendations regarding this site are presented in Secs. 5.0 and 6.0, respectively.

Landfill No. 2 (LF-2)

LF-2 is located in the central section of the base, immediately south of the Utah Ave. and Pine Canyon Rd. intersection. LF-2 is approximately 140 acres in size and is situated in a natural canyon. The site was initially used for disposal in approximately 1941 and is currently the sanitary landfill for the base. Fill material consists of sanitary trash, miscellaneous waste POL, waste solvents, pesticides, transformer oil, ordnance, paint, scrap missile material, scrap metal, PCB-contaminated soil, and construction debris. Currently, LF-2 is operated as an area fill, with daily soil cover.

Surface runoff from the cantonment area is diverted to the perimeter of LF-2 along the canyon walls by open culverts and drain pipes. Leachate generated in the filled, upper section of the canyon migrates.
Table 4.2-1. Descriptions of Landfills on VAFB

<table>
<thead>
<tr>
<th>Landfill No.</th>
<th>Date of Operation</th>
<th>Approximate Size (acres)</th>
<th>Type of Waste</th>
<th>Method of Operation</th>
<th>Closure Status</th>
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<tr>
<td>LF-1</td>
<td>1942-1957</td>
<td>10</td>
<td>Infiltrator ash, slag, scrap metal, waste PXL, ordnance, pesticides</td>
<td>Surface/area fill</td>
<td>Closed, soil cover</td>
</tr>
<tr>
<td>LF-2</td>
<td>1941?-Present</td>
<td>140</td>
<td>Sanitary fill, Bomarc missile scrap, waste PXL, pesticides, solvents, transformer oil, scrap metal and concrete debris, ordnance, paint, PCB-contaminated soil</td>
<td>Area fill in natural canyon</td>
<td>Currently operated</td>
</tr>
<tr>
<td>LF-3, LF-4</td>
<td>1959-1962</td>
<td>10, 5</td>
<td>Sanitary fill, waste PXL, construction debris, pesticides</td>
<td>Area fill</td>
<td>Closed, soil cover</td>
</tr>
<tr>
<td>LF-5</td>
<td>1944-1959</td>
<td>30</td>
<td>Sanitary fill, construction debris, scrap metal, PXL</td>
<td>Area fill</td>
<td>Closed, soil cover</td>
</tr>
<tr>
<td>LF-6</td>
<td>1982-Present</td>
<td>5-10</td>
<td>Construction debris</td>
<td>Area/surface fill</td>
<td>Currently operated</td>
</tr>
<tr>
<td>LF-7</td>
<td>Mid-1950s</td>
<td>5-10</td>
<td>Sanitary fill (residential)</td>
<td>Area fill</td>
<td>Closed</td>
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<tr>
<td>LF-8</td>
<td>1961-1966(?)</td>
<td>6-10</td>
<td>Waste PXL, ordnance, construction debris</td>
<td>Area fill</td>
<td>Closed, soil cover</td>
</tr>
<tr>
<td>LF-9</td>
<td>1950-1958</td>
<td>2</td>
<td>Sanitary fill (residential)</td>
<td>Area fill</td>
<td>Closed, soil cover</td>
</tr>
<tr>
<td>LF-10</td>
<td>1950s</td>
<td>2</td>
<td>Sanitary fill (residential)</td>
<td>Area fill</td>
<td>Closed, soil cover</td>
</tr>
<tr>
<td>LF-11</td>
<td>Mid-1940s-Late 1950s</td>
<td>5</td>
<td>Infiltrator ash, slag, waste oil, solvents</td>
<td>Surface fill/dump</td>
<td>Closed, soil cover, revegetated</td>
</tr>
<tr>
<td>LF-12</td>
<td>1982-Present</td>
<td>3</td>
<td>Construction debris</td>
<td>Area fill</td>
<td>Currently operated</td>
</tr>
</tbody>
</table>

DRAFT

downgradient to a leachate retention pond. Additionally, a drainage
sump is located farther downgradient to collect leachate that bypasses
the retention pond. From this sump, leachate is pumped back to the
retention pond and then pumped to the top of the canyon, where it is
surfactically sprayed. Field inspection of the leachate collection system
and the downgradient canyon area revealed leachate moving past the
collection sump and flowing down the canyon. Leachate migration down
Oak Canyon may pose a potential threat to the Santa Ynez aquifer system,
which serves as the potable water supply for Lompoc and VAFB. This site
does have potential for contamination and migration of contaminants and,
therefore, was ranked using the HARM process (see App. H). Conclusions
and recommendations regarding this site are presented in Secs. 5.0 and
6.0, respectively.

Landfills No. 3 and No. 4 (LF-3 and LF-4)
LF-3 and LF-4 are located in South VAFB, off Mesa Rd. and immediately
west of SLC-3W. LF-3 and LF-4 are approximately 10 and 5 acres in size,
respectively. These landfills were operated between 1958 and 1964 for
disposal of sanitary trash, waste POL (unknown quantity), pesticides,
and construction debris. LF-3 and LF-4 were operated as area fills. No
burning was conducted at either site. Currently, the area is covered
with soil, although some fill is visible on the surface. The proximity
of LF-3 and LF-4 to South Vandenberg Wells No. 1 and No. 3 poses a
potential for potable supply contamination. LF-3 and LF-4 are located
over the Lompoc Terrace Aquifer. This site does have potential for
contamination and migration of contaminants and, therefore, was ranked
using the HARM process (see App. H). Conclusions and recommendations
regarding this site are presented in Secs. 5.0 and 6.0, respectively.

Landfill No. 5 (LF-5)
LF-5 is located south of LF-2, off 13th St., near Bldg. 6710. LF-5 is
approximately 30 acres in size and is located on a branch of Oak Canyon,
with drainage to the Santa Ynez River. From 1944 to 1959, LF-5 was used
for disposal of sanitary trash, construction debris, and some scrap
Mr. Edward Rodgers  
c/o Base Civil Engineer  
4392D CES, DEEE  
Vandenberg Air Force Base, CA 93437

Attention: Mr. Robert Butler

Dear Sir:

Enclosed is a copy of Order No. 78-18, Waste Discharge Requirements for U.S. Air Force, Vandenberg Air Force Base Solid Waste Disposal Site, Santa Barbara County, which was adopted by this Board on April 14, 1978.

Very truly yours,

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, CENTRAL COAST REGION

By

KENNETH R. JONES  
Executive Officer

KRJ:MLS:nd

Enclosure

cc:  U.S. Environmental Protection Agency  
State Department of Health, Santa Barbara  
State Department of Water Resources, Los Angeles  
State Department of Fish and Game, Long Beach  
State Solid Waste Management Board  
Santa Barbara County Health Department  
Santa Barbara County Planning Department  
Santa Barbara County Engineering Department
ORDER NO. 78-18

WASTE DISCHARGE REQUIREMENTS
FOR
U.S. AIR FORCE,
VANDENBERG AIR FORCE BASE SOLID WASTE DISPOSAL SITE,
SANTA BARBARA COUNTY

The California Regional Water Quality Control Board, Central Coast Region (hereafter Board), finds that:


2. The site is located on property owned and controlled by U.S. Air Force, Vandenberg Air Force Base in Sections 1 & 2, T7N, R35W, SBB&B, as shown on the enclosed Attachment "A".

3. Current plans indicate the existing cut-and-cover operation will be continued for disposal of approximately 9,000 tons per year of Group 2 and 3 solid wastes on the 25.7 acre (10 ha) site.

4. Life expectancy of the site is estimated to be 13 years.

5. Borings in the vicinity of the site have indicated that surface soils are approximately 20 feet deep and are comprised of silty sands and sandy clays. These soils are underlain by approximately 1700 feet of shale.

6. Surface drainage is to the Santa Ynez River located 3 miles (4.8 km) to the south. There are no records available indicating that groundwater exists in the area. Domestic water supply for the base is pumped from wells in the San Antonio Creek Basin and the Lompoc Valley along the Santa Ynez River.

7. Land within 1000 feet (305 m) of the site is owned by the discharger and remains unused.

8. This disposal area meets the criteria contained in the California Administrative Code, Title 23, Chapter 3, Subchapter 15, for classification as a Class II-2 disposal site suitable to receive Group 2 and 3 wastes.

9. Present and anticipated beneficial uses of surface waters in the vicinity of the discharge include:

a. Municipal and Domestic Supply
b. Agricultural Supply
c. Industrial Supply
d. Groundwater Recharge
e. Water Contact Recreation
f. Non-Water Contact Recreation
g. Wildlife Habitat
h. Warm Fresh-water Habitat
10. Present and anticipated beneficial uses of groundwaters in the Lompoc Valley include:
   A. Municipal and Domestic Supply  
   B. Agricultural Supply

11. On March 14, 1975 the Board adopted a Water Quality Control Plan (Basin Plan) containing water quality objectives for the Central Coast Region. This Order implements that plan.

12. Operation of this site complies with the solid waste handling and disposal objectives established in the Santa Barbara County Solid Waste Management Plan.

13. These requirements are exempt from the provisions of the California Environmental Quality Act (Public Resources Code, Section 21000 et. seq.) in accordance with Section 15101, Chapter 3, Title 14, California Administrative Code.

14. The Board, on February 14, 1978, notified the discharger and interested agencies of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their views and recommendations.

15. The Board, in a public meeting on April 14, 1978, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, that the U. S. Air Force shall comply with the following at the Vandenberg Air Force Base Solid Waste Disposal Site:

A. Discharge Prohibition
   1. Discharge of Group 1 waste at the site is prohibited. (See Attachment "A" for definition and examples of Group 1 wastes).
   2. Discharge of leachate or liquid wastes to drainageways is prohibited.
   3. Ponding of liquids over solid wastes is prohibited.

B. Discharge Specifications
   1. Waste materials shall be confined within the designated disposal area as shown on the enclosed Attachment "A".
   2. Total volume (compacted) discharged at this site shall not exceed 484,000 cubic yards (370,000 m³).
   3. Wastes shall not be placed at an elevation of less than 300 feet (91 m) above mean sea level.
   4. Wastes shall be covered with at least six inches (0.15 m) of earth fill daily before nightfall.
5. A minimum 3 feet (0.92 m) of compacted (90%) soil cover shall be placed over all completed fill areas.

6. Disposal of Group 2 wastes shall not occur within 175 feet of the drainageway located along the west side of the site as shown on Attachment "A".

7. Disposal areas shall be protected from washout or erosion of wastes or covering material which could occur as a result of floods having a predicted frequency of once in 100 years.

8. Surface drainage from tributary areas and internal site drainage from surface or subsurface sources shall not contact or percolate through Group 2 wastes discharged at the site.

9. Water used for dust control during disposal site operations shall be limited to a minimal amount.

10. Group 2 wastes shall not be placed in ponded water resulting from any precipitation falling directly on disposal areas or from any other source.

11. Exterior surfaces of the disposal area shall be graded to promote lateral runoff of precipitation and to prevent ponding.

12. Runoff diversion channels shall be maintained at the site where necessary to prevent erosion and flooding of the site.

13. The operator shall remove and relocate any wastes which are discharged at this site in violation of this Order.

14. The discharge shall not cause degradation of any water supply.

15. The discharge shall not create a pollution as defined in Section 13050(m) of the California Water Code.

16. The discharge shall not create a nuisance, as defined in Section 13050(1) of the California Water Code.

C. Provisions

1. The discharger shall comply with the attached "Monitoring and Reporting Program" as specified by the Executive Officer.

2. The discharger shall maintain a copy of this Order at the site. It shall be available at all times to site operating personnel.

3. In the event the discharger is unable to comply with any of the conditions of this Order due to any factors, including acts of nature, the discharger shall notify the Executive Officer by telephone as soon as they or their agents have knowledge of the incident and confirm this notification in writing within two
VANDENBERG AFB
Solid Waste Disposal Site
T7N - R35W - SURF - QUAD
SANTA BARBARA COUNTY
ATTACHMENT "A"
ATTACHMENT "B"

Definition and Examples of Group 1, Group 2, and Group 3 Wastes

Group 1 Wastes

Group 1 wastes consist of or contain toxic substances and substances which could significantly impair the quality of usable waters. Examples include, but are not limited to, the following:

(a) Municipal origin
   i) Saline fluids from water or waste treatment and reclamation processes.
   ii) Community incinerator ashes.
   iii) Toxic chemical toilet wastes.

(b) Industrial Origin
   i) Brines from food processing, oil well production, water treatment, industrial processes, and geothermal plants.
   ii) Other toxic or hazardous fluids from industrial operations such as spent cleaning fluids, petroleum fractions, chemicals, acids, alkalis, phenols, and spent washing fluids.
   iii) Substances from which toxic materials can leach such as process ashes, chemical mixtures, and mine tailings.
   iv) Rotary drilling muds containing toxic materials.

(c) Agricultural origin
   i) Chemicals such as pesticides or chemical fertilizers.
   ii) Discarded containers of chemicals unless adequately cleansed.

(d) Other toxic wastes such as compounds of arsenic or mercury or chemical warfare agents.

Group 2 Wastes

Group 2 wastes consist of or contain chemically or biologically decomposable material which does not include toxic substances nor those capable of significantly impairing the quality of usable waters. Examples include but are not limited to the following:

(a) Municipal and industrial origin
   i) Garbage from handling, preparation, processing, or serving of food or food products.
   ii) Rubbish such as paper, cardboard, tin cans, cloth, glass, etc.
   iii) Construction and demolition materials such as paper, cardboard, wood, metal, glass, rubber products, roofing paper, and wallpaper.
   iv) Street refuse such as sweepings, dirt, leaves, catch basin cleanings, litter, yard clippings, glass, paper, wood, and metals.
   v) Dead animals and portions thereof.
   vi) Abandoned vehicles.
vii) Sewage treatment residue such as solids from screens and grit chambers, dewatered sludge, and septic tank pumpings.
viii) Water treatment residue such as solid organic matter collected on screens and in settling tanks.
ix) Ashes from household burning.
x) Infectious materials and hospital or laboratory wastes authorized for disposal to land by official agencies charged with control of plant, animal, or human disease.
xii) Magnesium and other highly flammable or pyrophoric materials.

(b) Agricultural origin
i) Plant residues from the production of crops including, but not limited to, stalks, vines, green drops, culls, stubble, hulls, lint, seed, roots, stumps, prunings, and trimmings.
ii) Manures.
iii) Dead animals or portions thereof.
iv) Adequately cleansed pesticide containers.

Group 3 Wastes

Group 3 wastes consist entirely of nonwater soluble, nondecomposable inert solids; examples include, but are not limited to, the following:

(a) Construction and demolition wastes such as earth, rock, concrete, asphalt paving fragments, inert plastics, plasterboard, and demolition material containing minor amounts of wood and metals.

(b) Vehicle Tires.

(c) Industrial wastes such as clay products, glass, inert slags, asbestos, inert tailings, inert rubber scrap, and inert plastics.
ATTACHMENT 3
MEMORANDUM FOR DISTRIBUTION E, F

FROM: CC

SUBJECT: 30th Space Wing Affirmative Procurement Program (Recycled Products) Policy Letter

1. Purpose: This document establishes the 30 SW policy and implementation guidelines for the purchase and use of recycled products. This guidance is based upon Executive Order 12873, Environmental Protection Agency (EPA) guidelines, DoD, and AFSPC Policy.

2. Policy: All 30 SW organizations will comply with this policy as well as those at the Federal, State, and DoD level.

3. Applicability and Scope: This document is effective immediately and applies to all 30 SW organizations and contractor agencies.

4. Definitions: The following definitions are used in this guidance:
   
a. Environmentally Preferable - products or services that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose. This comparison may consider raw materials acquisition, production, manufacturing, packaging, distribution, reuse, operation, maintenance, or disposal of the product or service.

   b. Life Cycle Cost - the amortized annual cost of a product, including capital costs, installation costs, operating costs, maintenance costs, and disposal costs discounted over the lifetime of the product.

   c. Postconsumer Material - a material or finished product that has served its intended use and has been discarded for disposal or recovery, having completed its life as a consumer item. "Postconsumer material" is a part of the broader category of "recovered material".

GUARDIANS OF THE HIGH FRONTIER
d. Recovered Material - waste materials and by-products which have been recovered or diverted from solid waste, but such term does not include those materials and by-products generated from, and commonly reused within, an original manufacturing process.

e. Recyclability - the ability of a product or material to be recovered from, or otherwise diverted from, the solid waste stream for the purpose of recycling.

f. Recycled Paper - recycled paper will contain at least 50% recycled content as defined in EPA’s 22 Jun 88 Guideline for Purchasing Paper and Paper Products.

5. Implementation:

a. Guidelines:

(1) All of the purchases subject to EPA guidance (paper products, lubricating oils, retread tires, concrete and cement with fly ash, and building insulation) will meet or exceed EPA guideline standards. The standards may be waived if written justification is provided that a product is not available competitively within a reasonable time frame, does not meet appropriate performance standards, or is only available at an unreasonable price. Contact 30 CONS if you need help in determining price reasonableness.

(2) All writing and copy paper will contain 50% recovered materials, including 20% postconsumer materials beginning 31 Dec 94, increasing to 30% beginning 31 Dec 98. All writing and copy paper will include less than 10% ground wood content to maintain recyclability of the paper. This requirement will be included in all new contracts and added to existing contracts when they are modified.

b. Responsibilities:

(1) Contracting:

(a) Ensure requirements for paper deliverables contain provisions that require recyclable content in accordance with the EPA guidelines.

(b) All documents and reports, including those contractually required, longer than two pages, are double sided and are consistent with minimum content standards in accordance with EPA guidelines.
(c) Ensure all newly acquired/leased copy machines are capable of using recycled paper, recycled toner cartridges, and automatically producing two-sided copies without having to reinsert paper into machines. Consider using life cycle cost analysis if copiers with two-sided capability cost more than standard copiers.

(d) Acquire only recycled cartridges for copy machines and laser printers, as allowed by warranty.

(e) Ensure all plans, drawings, statements of work (SOW), specifications, and other product descriptions, consider the following factors: elimination of virgin material requirements; use of recovered materials, reuse of product; life cycle cost; recyclability; use of environmentally preferable products; waste prevention; and ultimate disposal.

(f) Report local purchases of EPA guideline items (paper, building insulation, lubricating oil, cement and concrete, and tires) to Environmental Management. (Note: Reporting will not be initiated until tracking mechanisms are in place.)

(2) Information Management (IM):

(a) Ensure all writing and copy paper procured through IM administered contracts contain recycled material. The use of General Services Administration schedules for paper products will be maximized.

(b) Publicize and survey on a regular basis to ensure all installation documents longer than two pages are double sided and all reports (or other paper products) produced by or for 30 SW are consistent with the minimum content standards specified in 40 CFR 250.

(c) Ensure all letterhead paper contains recycled material, as detailed above, and displays the recycled material logo at the bottom of the page. Existing letterhead supplies will be exhausted before new recycled products are used.

(d) Ensure all future contracts reflect the requirement that copier machines have the capability to use recycled paper and automatically produce two-sided copies without having to reinsert paper into the machines. In addition, all toner cartridges for copier machines and laser printers should have recyclable cartridges.
(e) Publicize and survey on a regular basis to ensure orders placed through the Government Printing Office (GPO) or Defense Printing Service (DPS) specify the use of minimum content paper standards (including postconsumer recovered material standards).

(3) Supply:

(a) Provide the 1994 "Environmental Products Guide" (EPG) from the Federal Supply Service, U.S. General Services Administration, to our supply customer through:

a. Supply/Base Distribution system

b. Customer Service Office

c. Research Element/Demand Processing

d. Base Service Store (BSS)/Retail Sales

(b) Display and encourage the use of recyclable products in the BSS if/when they become available.

(c) While performing inquiries and/or research on new items, inform customers of the items available in the EPG.

(d) Include articles on Affirmative Procurement Guide (APG), EPG, and the need for the Standard Base Supply System (SBSS) and its customers to be more conscious of using recycled products, in the Chief of Supply (COS) Quarterly Newsletter.

(e) Brief APG and the EPG during Supply Training Classes.

(f) Promote APG and EPG during the monthly supply visits to our on-base organizations.

(g) Advertise the availability of recycled products in stock in the Base Bulletin.
(4) Civil Engineering:

(a) Ensure all plans, drawings, SOWs, specifications, and other product descriptions for construction projects, consider the following factors: elimination of virgin material requirements; use of recycled building products; reuse/recondition of product; life cycle cost; recyclability; use of environmentally preferable products; waste prevention; and ultimate disposal.

(b) Establish tracking mechanisms for all EPA guideline items purchased through local construction contracts.

(c) Assist environmental management office in ensuring that EPA guideline items are reported to HQ AFSPC.

(5) Transportation:

(a) Ensure all requirements for tires and lubricating oil are screened for EPA guideline compliance.

(b) Purchase retreaded tires as mandated by Executive Order 12873 and in accordance with Technical Order 00-25-246.

(c) Purchase recycled oil when available in Base Supply and when oil specifications comply with applicable Technical Orders.

(d) Ensure wood and paper products purchased for packaging and crating purposes comply with AFR 71-9, Air Force Packaging.

(e) Ensure disposal of packaging materials are in accordance with EPA guidelines.

(6) Environmental Management:

(a) Gather purchasing data from contracting, supply, and other purchasing organizations on base and report all purchases of EPA guideline items to HQ AFSPC.

(b) Provide oversight and policy dissemination of USAF directives related to affirmative procurement.
(c) Assist in finding sources for procurement of products that meet the affirmative procurement guidelines.

(7) All 30 SW Organizations:

(a) Request all paper deliverables contain recycled content.

(b) Ensure all toner cartridges for copy machines and laser printers use recycled cartridges.

(c) Promote affirmative procurement to the fullest.

6. Additional guidance from HQ AFSPC will be incorporated into this policy upon receipt and review.

LANCE W. LORD
Brig Gen, USAF
Commander
House committee kills High One

Air Force News Service
WASHINGTON — The House National Security Committee voted 50-0 Sept. 20 to reject the “High-One” proposal and replace it with a plan to sell excess government assets.

The committee also approved paying cost-of-living allowances to military retirees at the end of March when civilian retirees get their COLA.

Both actions were part of the committee’s final approval of its fiscal year 1996 budget reconciliation package, according to a Sept. 20 committee press release.

“Today the committee demonstrated that we are determined to do what is right for our men and women in uniform,” said Rep. Floyd Spence, R-S.C., house committee chairman. “We promised to find an alternative to High One, and we did,” he said.

“As a result, High One is dead, the two-year-old military retiree COLA problem has been fixed, and we have met the committee’s deficit reduction targets as part of Congress’ effort to balance the budget in seven years,” Spence said in the release.

High One would have changed the way retiree pay is calculated, reducing it anywhere from 3 percent to 9 percent. Since the proposal does not include a “grandfather” clause, it would affect everyone who entered the military before Sept. 8, 1980.

The fiscal 1993 Omnibus Budget Reconciliation Act delayed retiree COLA from January 1994 until the end of March 1994. The act also made future COLA payments—through fiscal year 1998— payable at the end of each September.

The House and Senate will work out any differences in their fiscal ’96 budget proposals at an upcoming conference. If that happens and the president signs the defense appropriations bill, retirees can expect their COLA in April 1 paychecks, said Air Force compensation officials.

The Senate Armed Services Committee agreed to replace High One with the asset sale Sept. 18. The sale would include materials such as aluminum, rubber, diamonds and cobalt.

New base contractor brings changes

By Master Sgt. Warren Juntenen
NCOIC, Services Contracting

More than 7,000 tons of trash and recyclables are collected each year on base, and starting Sunday, Vandenberg’s new contractor, Sutton’s Disposal Service, plunges into changes around base.

On Sunday, Sutton’s Disposal stops using the large brown metal dumpsters and begins using large black plastic containers for trash. The dumpsters close Sunday.

Only office refuse should be placed in the new containers. Recyclables, large bulk items, wood, concrete, gravel, sand and other bulky items should not be placed in the new trash cans. Bulk items should be placed near the trash cans for pick up on the fourth Saturday of each month in work areas. Housing areas use a different schedule.

Recycling materials include cardboard, glass (clean, green and amber), any type of paper, aluminum, plastics (with the recycling symbol and numbers 1-7), scrap metals, tires and plastic foam. Recyclables should be clean, since contaminated recyclables are more difficult and costly to sort and market.

“Green waste” consists of any lawn clippings, grass, vegetation but not sod, dirt, rocks or similar material. Tree limbs and large bushes should not be placed in green waste containers but should be left for bulk pick up. Bagging green waste is unnecessary and makes recycling difficult.

The family housing pick-up schedule remains unchanged: Recycle pick up in all housing areas, Wednesday.

Green waste pick up in main base housing, Monday; east housing and the mobile home park, Tuesday.

Bulk item pick up, second and fourth Saturday (every Saturday in January).

The base recycling center on West San Antonio Road accepts recycle drop-offs, 8 a.m. - 3 p.m., Tuesday through Friday.

The base landfill accepts drop-offs weekdays, 7:30 a.m. - 2:30 p.m.; and Saturday, 8:30 a.m. - 2:30 p.m.

Refuse pick up on federal holidays that fall on Monday will be picked up on Tuesday, in addition to the regular schedule.

Nine airmen receive Article 15s

Optometry scholarships offered

Air Force News Service
RAF PHILADELPHIA, Pa. — The Air Force is accepting applications for scholarships as part of the Armed Forces Health Professions Scholarship Program for fiscal year 1997.

Candidates receive a one-, two-, three-, or four-year scholarship in a program leading directly to a doctoral degree in optometry. Applicants must be either a current or prior service member, officer or enlisted, and be currently enrolled in or accepted for the next enrolled class of a school of optometry accredited by the Council on Optometric Education of the American Optometric Association. Applications available...
Appendix C

The Santa Barbara County Pilot Waste Collection Project

FINAL REPORT
April 1994

A joint project of
The Santa Barbara County Solid Waste Management Division
The National Audubon Society
and
The Grocery Industry

with assistance from
The City of Carpinteria
The City of Santa Barbara
Browning-Ferris Industries, Inc.
The Procter & Gamble Company
Heil Corporation
Lucky Stores, Inc.
First Brands Corporation
The Community Environmental Council
Santa Barbara Audubon Society
Executive Summary

Background

Santa Barbara County is engaged in planning and facility development to meet requirements of AB 939 — state legislation requiring 50% diversion of the County's wastestream from landfill disposal by the year 2000. Recognizing that a least-cost, integrated solid waste management system is dependent on the sum of its parts, the County began to evaluate waste collection, processing and material marketing options in 1991. A portion of that planning process was an evaluation of separation and collection methods with the potential to deliver high recovery of recyclable and compostable materials in a cost-effective manner. This information will be used to develop recommended changes for improving the existing solid waste management system.

Purpose

The purpose of the Santa Barbara Pilot Waste Collection Project was to test alternative methods of residential waste separation and collection. The objectives of the test were to determine each method's effect on composting, public acceptance, cost and adaptability over time; to determine the quantity and quality of recyclable materials delivered by each collection method; and to inspire the residents' ownership of the results of the pilot project. The project was initiated in the spring of 1993 and involved 1,177 homes in four neighborhoods for a period ranging between nine and eleven weeks. Major findings from the pilot project are summarized below.

Major Findings

RESIDENTIAL COLLECTION RECOVERY RATES
- The mandated 50% diversion rate is achievable for the residential waste stream if the best-performing system elements are selected for full-scale implementation (same day collection of curbside placed containers that clearly differentiate wet and dry waste streams), both recyclable and organic materials are recovered, and available processing technologies are used to create an efficient municipal solid waste management system. None by themselves will allow the County and Cities to comply with the diversion mandate.

- The collection recovery rate of marketable recyclables -- paper and containers made from glass, plastic and metal -- reached 21% in the best performing systems at normalized yard waste levels. Recyclable recovery rate is increased by using simple sorting and collection approaches which lead to higher compliance and fewer mistakes. More recyclable materials end up in the correct waste stream for recovery in a processing facility.

- The use of plastic-bagged paper collection in the 3- and 4-stream neighborhoods reduced the recovery of marketable, recyclable paper by 30% compared to the 2-stream, loose paper collection.
• The pilot confirmed that a compostable organic stream can be recovered in a wet/dry system with collection recovery rates averaging 42% at normalized yard waste levels. The recovery of both in-home organic materials and yard waste is necessary to achieve 50% residential diversion.

• In-home compostables (food and soiled paper) contributed an estimated 24% to the normalized recovery rates of the best-performing system. Recovery of these materials, in addition to yard waste, is required to achieve the diversion mandate for residential waste.

**COLLECTION SYSTEM**

• Based on results of the pilot project, the South Coast collection system should include same day, curbside placement of separated wet and dry streams in uniform, clearly differentiated containers. In this system, compostable materials would be placed in the wet stream collection container; recyclable materials would be placed in the dry stream collection container, either bagged or loose. Either manual or automated vehicles could be selected for collection at the discretion of individual South Coast communities. In some small areas, topography may preclude the curbside placement of waste containers.

• The collection crew affects wet and dry recovery rates when outside cans are not uniform and clearly differentiated. Without uniformity, collection errors result.

• Involvement of the waste hauler management and crew is critical to the success of a new collection system.

**PUBLIC ACCEPTANCE**

• The pilot collection project created a strong interest and response from the majority of the 1,177 Santa Barbara County single family, suburban households participating in the project. Over 60% of participants returned surveys with constructive comments and correct sorting reached levels comparable to curbside recycling. While not all residents reacted well to change, the majority of survey respondents indicated that they liked feeling that they were a part of the solution to solid waste problems and that they were helping the County and Cities design a cost-effective waste collection system for the future.

• Achieving high compliance in a source separated system requires carefully planned and continuing education, as is the case for successful curbside recycling programs.

• Some degree of resident choice should be included in the collection system design. It may be possible to provide this by expanding the choice of service options and fees available.

**COLLECTION COST**

• Collection cost is considered a key element for public acceptance. Over 65% of the Santa Barbara County household waste subscription fee is for collection cost; 35% of the household bill supports disposal and recycling activities.

• Collection cost effectiveness was built into the pilot project design by using the constraint of two vehicle passes per week in each neighborhood. The current collection system includes 3 passes per week: two for trash and one for recyclables.
- Collection stream volumes are best balanced when bagged recyclable paper and containers are collected in the dry stream and the wet waste is collected alone. Unbalanced loads led to increased costs when additional vehicle passes were required.

**ORGANIC COMPOSTING**
- Market quality compost was produced with the Community Environmental Council’s mini-composter using source separated yard and household compostable organic material collected during the pilot project.
- Visual inspection of the feedstock collected, and analysis of the finished compost product, coupled with the cooperation of residents to source separate compostable material indicates that compost produced from Santa Barbara County residential sources can be expected to result in compliance with 40 CFR Part 503 compost quality safety standards.

**Pilot Project Description**

The Pilot Waste Collection Project tested three waste separation methods (2, 3 and 4-stream waste separation) and two collection methods (manual backyard and automated curbside collection). Four neighborhoods were involved. Each collection scheme involved some type of wet-dry separation of compostables and recyclables as summarized in Figure 1. Each waste stream was collected only once per week. On two routes, wet and dry waste streams were collected on the same day; on the other two routes, the two waste streams were collected on different days. Participation in the pilot project was mandatory, but no penalties were imposed on residents who did not separate their household waste.

**Figure 1**

**Summary of Four Routes of the Pilot Waste Collection Project**

<table>
<thead>
<tr>
<th>Route</th>
<th>Type of Separation</th>
<th>Collection Location</th>
<th>Service Day</th>
<th>Type of Truck</th>
<th>Size of Waste Cans</th>
<th>Number of Cans</th>
<th>Number of Homes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2-stream: wet &amp; dry</td>
<td>Curbside</td>
<td>Same day (Th)</td>
<td>Automated</td>
<td>63 gal. carts</td>
<td>1 wet 1 dry</td>
<td>239</td>
</tr>
<tr>
<td>2</td>
<td>3-stream: wet, dry &amp; bagged paper</td>
<td>Curbside</td>
<td>Same day (Fr)</td>
<td>Automated</td>
<td>63 gal. carts</td>
<td>1 wet 1 dry</td>
<td>190</td>
</tr>
<tr>
<td>3</td>
<td>3-stream: wet, dry &amp; bagged paper</td>
<td>Backyard</td>
<td>Different day (M, Tu)</td>
<td>Manual</td>
<td>32 gal. cans</td>
<td>2 wet(*) 2 dry</td>
<td>270</td>
</tr>
<tr>
<td>4</td>
<td>4-stream: wet, dry, bagged paper &amp; bagged recyclables</td>
<td>Backyard</td>
<td>Different day (Tu, Fr)</td>
<td>Manual</td>
<td>32 gal. cans</td>
<td>2 wet(*) 2 dry</td>
<td>478</td>
</tr>
</tbody>
</table>

(*) The actual number of new "wet waste" cans provided was based on subscribed level of service. Residents used their existing 32-gallon cans for dry waste. See page 31 for more information.
Santa Barbara County Marketing Reports

California communities will have a guideline to design compost market-oriented facilities thanks to a preliminary compost market assessment study funded by the California Integrated Waste Management Board (CIWMB).

In 1992, the CIWMB contracted with the County of Santa Barbara to co-fund a three-year compost market research and development project. The contract required Santa Barbara County to develop the following reports:

Literature Review
The first report entitled, Compost Market Development: A Literature Review, identified and discussed published reports and studies relevant to compost market development efforts in the United States, with a focus on projects that have emphasized market studies during facility development. The review also identified important research needs such as the development of compost maturity standards, the evaluation of the agronomic value of compost, and the determination of the best parameters for using compost.

Market Assessment
The second report entitled, Santa Barbara County Preliminary Compost Market Assessment, discusses the results of a survey of current and potential markets for compost in the County of Santa Barbara. The purpose of the report was to provide Santa Barbara County with data that will assist in developing a composting facility for the organic fraction of its solid waste stream. The methodology developed in this study can be used by other communities in the state.

One of the most important findings of this preliminary assessment is the existence of significant potential markets for compost. However, material cost, availability, and quality are currently the primary concerns for compost use.

Field Experiment
The last report entitled, Compost Field Experiment Guide for California Communities, describes the process used to design and conduct small scale field experiments, presents the results of laboratory analysis conducted on the plant tissue of the field trial plants (lettuce and broccoli), and discusses the results of the analysis. The results indicate that the compost products used in this experiment did not induce any harmful effect on plant tissue in terms of heavy metals or organic toxicants.

The purpose of the report is to serve as a guide to enable local government to evaluate whether field experiments will meet the market development needs of their community. Greenhouse trials preceded the field experiment and a large scale field demonstration is planned for mid 1994. The report will be available in June 1994.

To order the above reports, please call the Recycling Hotline at (800)553-2962.

For further information, please call Edgar Rojas at (916)255-2585.
Prison Industry Authority Compost Research

The City of Folsom and the Prison Industry Authority (PIA) have embarked on a unique integrated source reduction and recycling program using a material recovery and a composting facility. The facility utilizes state convict labor incarcerated at the Return to Custody facility to process the City of Folsom’s waste.

In 1992, the Board contracted with the PIA office at Folsom and the University of California at Davis to conduct several studies related to technologies and markets for anaerobically-digested MSW and its by-products. In 1993, PIA and the City of Folsom opened their new material recovery facility for sorting MSW (called the California Resource Recovery Facility, CRRF). Organic waste from this facility will be used in a large-scale anaerobic digester when construction of the digester is completed.


Markets for Materials

The project features a 37,000-square-foot material recovery building with ancillary operations such as organic material size reduction equipment and storage. Anaerobic composting vessels are expected to be constructed in 1994.

The City of Folsom is responsible for marketing of all materials and uses specific strategies for each material. Marketing steps recommended for compost include joint ventures to develop CRRF markets; PIA development of a marketing promotion program; consideration of integrating compost marketing with PIA transportation; a research partnership with the biofuel industry; product certification; and identification of state land reclamation potential.

CRRF Issues

The CRRF applies an unprecedented level of labor to the sorting process, separating the entire waste stream into distinct categories, and holds particular promise in rural and remote areas where prisons are often sited. Extensive separation makes technologies such as anaerobic composting possible.

The demonstration showed that the CRRF operations were able to separate more than 50% of the waste stream into material types (30%-40% was processed into marketable types).

Anaerobic Digestion

The anaerobic composting technology offers particular advantages including capture of useful gas byproducts, humus, odor control, diversity of feedstocks.

To develop the anaerobic composting method, the Board contracted with PIA and the University of California at Davis to conduct several studies related to technologies and markets for anaerobically-digested MSW and its byproducts.

To order reports, please call the Recycling Hotline at (800)553-2962.

For further information, please call Francisco Gutterres at (916)255-2434.
Appendix E

Awards Summary

1991 16th Annual Santa Barbara Advertising Club Addy Awards
"1990 Telephone Book Recycling Campaign" Certificate of Merit

1992 17th Annual Santa Barbara Advertising Club Addy Awards
"Recycle, It's Habitat Forming Logo" Citation of Excellence

1994 19th Annual Santa Barbara Advertising Club Addy Awards
"Do More, Use Less! Television Campaign" Addy Award
"Do More, Use Less! Press Kit" Addy Award
"Do More, Use Less! Transit Campaign" Addy Award
"Holiday Waste Prevention Campaign" Addy Award
"Do More, Use Less!" Newspaper Series Citation of Excellence
"Do More, Use Less! T- Shirt Design" Citation of Excellence

Haagen Printing "Print 101 Award" Recognizing Superior Creativity, Planning and Production of Graphic Art
"Do More, Use Less! Transit Posters" October 1993 Recipient

National Academy of Television Arts & Sciences / South Western Area Emmy Awards
"Do More, Use Less! Campaign" Emmy Award / Outstanding Achievement PSA's
"Do More, Use Less! Campaign" Nominated Outstanding Achievement Composing / Arranging

1994 California Resource Recovery Association Awards
"Do More, Use Less! Program" 1994 Public Education Award

1995 20th Annual Santa Barbara Advertising Club Addy Awards
"1994 Do More, Use Less! Campaign" "Best of Show!" Award
"1994 Do More, Use Less! Campaign" Addy Award
"1994 Holiday Waste Prevention Campaign" Citation of Excellence

Ventura County Advertising Club Addy Awards
"1994 Do More, Use Less! Campaign" "Best of Video!" Award
"1994 Do More, Use Less! Campaign" Addy Award
"1994 Telephone Book Recycling Campaign" Addy Award
"1994 Holiday Waste Prevention Campaign" Citation of Excellence

1995 National Association of Counties Achievement Awards
"Do More, Use Less!" program 1995 Public Information Award