

# Preferred System Configuration

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Figure 4-1 presents the preferred system configuration for the SWA regional garden refuse processing facility and supporting programs and infrastructure. The preferred system configuration builds upon the existing conditions and includes garden refuse processing at a new, in-County facility. Garden refuse collection, primary processing and transfer facilities, and end product markets are also summarized as necessary to define the preferred system. Detailed information on the existing system conditions was developed by the project team as part of the contracted scope of services for this project and is contained in Appendix 4A.

Information in this section is presented as follows:

- **Preferred System Definition**—Collection, delivery, primary processing/transfer, secondary processing, and end product markets
- **Design Basis for Preferred System**—Design elements, conceptual site layout, and technologies
- **Site Permit and Regulatory Requirements**—Current permit requirements and regulatory issues
- **Recommendations**—Next steps for Phase Two—Structuring and Designing the Project

## 4.1 Preferred System Definition

This section summarizes garden refuse existing conditions and recommendations for the preferred system configuration. The preferred system configuration incorporates many existing system elements and is divided into the following functions:

- Collection and Delivery to Primary Processing/Transfer Facilities
- Primary Processing/Transfer and Secondary Processing Facilities
- Product Markets
- System Sustainability and Adaptability

### 4.1.1 Collection and Delivery to Primary Processing/Transfer Facilities

Currently, residential garden refuse is collected within the SWA jurisdictions by the jurisdictions themselves or by contracted collectors and delivered to several different primary processing/transfer locations. Source separation practices and collection methods for each jurisdiction are presented in Appendix 4B.

Figures 4-2 through 4-4 depict the current garden refuse collection areas and flow paths for each SWA member. Figure 4-2 shows that the County collects residential garden refuse within the City of Citrus Heights and delivers it to NARS. Figure 4-3 shows the garden refuse source areas for the City of Sacramento and the primary processing/transfer facility

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used to serve each source area. Figure 4-4 shows the garden refuse source areas for unincorporated areas of Sacramento County and the primary processing/transfer facility used to serve each source area.

#### 4.1.2 Primary Processing/Transfer and Secondary Processing Facilities

Figure 4-5 shows the destinations, approximate volumes, and end uses of garden refuse streams leaving the primary processing/transfer locations. Under the existing conditions, material delivered to primary processing/transfer locations is processed and/or transferred as described below.

**Material Received at NARS.** Garden refuse taken to NARS is loaded into semi-trailer trucks and hauled by Grover Landscaping, Inc. (Grover) to its facility in Vernalis, Stanislaus County, California, where it is composted. The one-way distance to this site is approximately 87 miles.

**Material Received at SATS.** Currently the City of Sacramento is the only SWA member using the SATS facility for garden refuse receiving and transfer. Garden refuse taken to SATS is transferred without processing to Grover in Vernalis where it is composted. The one-way distance from SATS is approximately 80 miles.

**Material Received at Recycle America.** Garden refuse delivered to Recycle America is screened and chipped and is sent to various end users/secondary processors based on the best market rate available for the material. A portion of the garden refuse is sent to Yolo County Central Landfill (YCCL) for use as Alternative Daily Cover (ADC), and other portions are sent to biomass plants for fuel used to produce electricity. Specific percentages of the different products and end uses are not available. The one-way distance to YCCL is about 20 miles; the biomass plants are within a 50-mile distance from the Recycle America site.

**Material Received at Elder Creek.** A small portion of the garden refuse collected in unincorporated areas of Sacramento County is collected by Central Valley Waste Services (CVWS) and taken to Elder Creek. From there, it is transferred to Scott's Composting Facility (Scott's) for composting. Scott's is located east of Stockton, in Linden. The distance between Elder Creek and Scott's is approximately 53 miles.

**Material Received at Kiefer Landfill.** About one third of the material collected by the County in unincorporated areas of Sacramento County is delivered to Kiefer Landfill. Garden refuse taken to Kiefer Landfill is processed and used as ADC at the site.

#### Preferred System Flow of Garden Refuse

For the preferred system, material quantities delivered to primary processing/transfer facilities will remain unchanged. From the primary processing/transfer facilities, only material currently delivered to NARS and SATS will be sent to the new facility.

A summary of the tonnages processed at the primary processing/transfer and secondary processing facilities under both the existing and the preferred system configuration is shown in Table 4-1. Shaded items indicate changes from the current system. As shown in Table 4-2, material quantities currently committed by each SWA member agency to the new regional facility total 101,400 tons per year (tpy).

**TABLE 4-1**

Garden Refuse Facilities and Material Flow  
*Sacramento Regional SWA Garden Refuse Processing Facility Development*

Facility	City of Citrus Heights		City of Sacramento		County of Sacramento	
	Existing Conditions	Preferred System	Existing Conditions	Preferred System	Existing Conditions	Preferred System
<b>Primary Processing/Transfer Location</b>						
NARS	8,400 tpy	8,400 tpy	15,800 tpy	15,800 tpy	53,000 tpy	53,000 tpy
SATS			26,800 tpy	26,800 tpy		
Kiefer Landfill <sup>a</sup>					31,500 tpy	31,500 tpy
Elder Creek					2,400 tpy	2,400 tpy
Recycle America <sup>b</sup>			37,500 tpy	37,500 tpy		
<b>Secondary Processing</b>						
Grover Landscape Services	<b>8,400 tpy</b>		<b>42,600 tpy</b>		<b>53,000 tpy</b>	
Scott's					2,400 tpy	2,400 tpy
Other / Undefined <sup>b</sup>			<b>37,500 tpy</b>	<b>40,900 tpy</b>		
<b>SWA Regional Garden Refuse Processing facility</b>		<b>8,400 tpy</b>		<b>40,000 tpy</b>		<b>53,000 tpy</b>

<sup>a</sup> Kiefer Landfill processes the material delivered and uses as ADC; therefore, this tonnage is not reflected under "Secondary Processing" part of table.

<sup>b</sup> Recycle America sends material for secondary processing under private contract.

**TABLE 4-2**

Material Quantities Committed to the New Facility  
*Sacramento Regional SWA Garden Refuse Processing Facility Development*

Entity	Quantity Committed
City of Citrus Heights	8,400 tpy
City of Sacramento	40,000 tpy
County of Sacramento	53,000 tpy
<b>Total</b>	<b>101,400 tpy</b>

### 4.1.3 Product Markets

This section presents the following:

- Current products produced from SWA member garden refuse
- Products expected from the proposed SWA regional garden refuse processing facility
- Competing products in the current market

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Under both the existing system and the preferred system configuration, private operators are responsible for product sales and marketing. As with the existing system, it is reasonable to expect the regional SWA facility operator to make a variety of products. Types of products and markets for these products will be defined and pursued by the private operator of the facility.

### Garden Refuse-Derived Products

Products derived from SWA member agency garden refuse currently consist of:

- finished compost
- mulch
- biomass fuel
- alternative daily cover (ADC) for landfills

Full definitions of each of these products are presented in Appendix 4C. The market demand for processed garden refuse in its various end product forms is discussed later in this section. For the most part, the main products are finished compost and ADC. Mulch is both a product of shredding self-hauled woody material (not a focus of this report), and screening material for the composting process. Biomass fuel is primarily a product of self-hauled woody material, but is also produced from larger, more woody material in the residential garden refuse stream. Table 4-3 presents a summary of the current garden refuse-derived products as they relate to the different processing locations.

**TABLE 4-3**

Existing System Garden Refuse-Derived Products and Markets, by Processing Facility  
*Sacramento Regional SWA Garden Refuse Processing Facility Development*

Source Facility (Primary Processing/Transfer)	Material Destination (Secondary Processing) <sup>a</sup>	Products	Markets
NARS	Grover	Finished compost, mulch, biomass fuel <sup>a</sup>	Agricultural markets, landscape contractors, nurseries, biomass markets
SATS	Grover	Finished compost, mulch, biomass fuel <sup>a</sup>	Agricultural markets, landscape contractors, nurseries, biomass markets
Elder Creek	Scott's	Bagged compost products and blends	Retail lawn and garden centers
Recycle America	Not available	ADC	Yolo County Central Landfill
		Biomass fuel <sup>a</sup>	Biomass markets
		Compost feedstock and mulch	Compost and mulch markets
Kiefer	Kiefer	ADC	Kiefer

<sup>a</sup> Under the agreements between the individual SWA members and current processors (Grover and Recycle America), the processors can transform (i.e., destroy or incinerate) no more than 10 percent by weight of the garden refuse, so no more than 10 percent by weight can be used for biomass fuel without written approval from each contracted member agency.

Generally, the new SWA regional garden refuse processing facility is expected to produce a similar range of products. It is expected that compost will be the primary product, but mulch, biomass fuel, and ADC will likely also be produced.

### **Competing Products and Current Markets**

Compost and mulch typically are marketed as forms of landscape and agricultural organic matter. Other competing products are natural peat, mined wetland soils, composted biosolids, and various forms of manure (composted or dried, various animal sources). The market for compost and competing products includes but is not limited to:

- urban residential consumers
- commercial landscapers
- public works projects
- erosion control projects
- land re-vegetation projects
- agriculture users
- horticulture users
- viticulture users
- water conservation projects
- constructed wetlands

Organic matter is a high-volume, low-unit price commodity that typically is sold and delivered to users close to the supplier. Many of the users are repeat customers so quality and consistency are at least as important as cost. If customers get overly dry, overly wet, or contaminated product (weed seeds, plastic, rocks, etc.), they will often not purchase from that source the following year. The project team conducted a local market analysis for compost material among landscapers and nurseries in Sacramento County. Details of this analysis are presented in Appendix 4C.

The main conclusions from this analysis were:

1. A regional garden refuse processing facility will increase the supply of compost within Sacramento County, will reduce the haul distance material must travel back to local markets, and will increase the opportunity for in-County sales.
2. Local compost vendors indicated that they have had no problem obtaining compost; however, many of the vendors did not seem to understand the different levels of compost quality possible. One vendor stated that Grover and at times a facility operated by Norcal are the only garden refuse processing facilities in the area producing high quality compost. Vendors frequently switch suppliers for a variety of reasons, including problems with supply.
3. There does appear to be a demand for additional locally available high-quality compost.
4. Several local compost suppliers currently purchase compost from Grover, so it is likely that at least some of the current garden-refuse derived products end up being sold in Sacramento County.

#### 4.1.4 System Sustainability and Adaptability

Historically, failure of a garden refuse processing operation frequently results from high cost (of operation and product), poor or inconsistent product quality, and/or inadequate nuisance control (mainly odor). These factors contribute to system sustainability. In addition, the new regional garden refuse processing facility must adapt to a changing marketplace and regulatory climate in order to compete. Information presented in this section is important for planning purposes and to understand sustainability and adaptability concerns for a new regional facility. Topics include:

- Input Material Issues for Regional Facility—currently 101,400 tons per year has been proposed to be committed
- Local Secondary Processing Facilities in the Planning Stages
- Private Partner Initiatives

In addition to the topics discussed in this section, regulatory and feedstock trends will affect the sustainability and adaptability of a future garden refuse processing facility. Regulatory trends are discussed in Section 4.3.1; feedstock trends are discussed in Appendix 4C.

##### Input Material Issues for Regional Facility

Currently 101,400 tpy has been committed to the regional facility by SWA member agencies. Due to economies of scale, significant cost per ton savings would be realized by increasing the input to the regional facility (detailed cost information on economies of scale is presented in Section 5). Potential sources of additional input material include:

- Additional garden refuse from SWA members
- Garden refuse from non-SWA jurisdictions within the County
- Garden refuse from nearby out-of-County jurisdictions
- Self-haul material
- Alternative additive materials

Information on garden refuse from non-SWA, in-County jurisdictions and nearby out-of-County jurisdictions is provided in Table 4-4. Self-hauled material delivered to primary processing/transfer locations by residential and commercial generators comprises a significant but unpredictable source of garden refuse. Because of this unpredictability and the fact that self-hauled material is primarily woody material, the SWA has not included this material in the estimate of potentially reliable materials for the regional facility.

**TABLE 4-4**

Potential Garden Refuse Streams from Non-SWA Jurisdictions  
Sacramento Regional SWA Garden Refuse Processing Facility Development

Jurisdiction	Location	Tonnages Produced and Current Destinations
City of Folsom	In-County	2,400 tpy residential garden refuse pilot program currently hauled to Kiefer. Expected tonnage at full implementation of 10,000 tpy
City of Galt	In-County	3,500 tpy residential program. Collected by California Waste Recovery Systems (CWRS) and taken to Scott's

**TABLE 4-4**  
 Potential Garden Refuse Streams from Non-SWA Jurisdictions  
*Sacramento Regional SWA Garden Refuse Processing Facility Development*

Jurisdiction	Location	Tonnages Produced and Current Destinations
City of Isleton	In-County	300 tpy residential program, collected by Central Valley Waste Services, taken to the CVWS transfer station in Lodi
City of Elk Grove	In-County	12,000 tpy residential program, collected by CVWS, taken to Elder Creek for transfer, and Scott's for composting
City of Davis	Out-of-County	10,000 tpy residential program, collected by Davis Waste Removal, hauled to a transfer area in South Davis, and transferred to Scott's
City of West Sacramento	Out-of-County	3,500 tpy residential program, collected by Waste Management, hauled to Recycle America
<b>Total</b>		<b>31,700 tons per year available</b>

Source: SWA, 2002

### Nearby Processing Facilities in Planning Stages

Other private secondary processing facilities may be developed in the Sacramento regional area as recently indicated to SWA staff. These potential facilities may impact the sustainability of a new SWA facility should there be competition for feedstock.

- Grover Landscape Services acquired a garden refuse processing facility in Zamora, in Yolo County.
- Waste Management Recycle America has indicated that it plans to develop a garden refuse processing facility off of Twin Cities Road, in Sacramento County.

### Private Partner Initiatives

The private partner selected to operate the facility will likely bring unique ideas to increase profitability and sustainability of the facility. It is important that the SWA/Vendor Contract provide conditions and incentives for mutually beneficial innovative development. Among other things, the private partner may have ideas on additional feedstocks, alternative technologies, and environmental management to improve on the site performance and economics.

## 4.2 Design Basis for Preferred System

The consultant team developed this design basis for a facility that would serve the garden refuse processing needs of the SWA members in a cost-effective manner while effectively minimizing environmental and nuisance issues. Topics covered in this section consist of:

- **Design Elements:** Factors and assumptions used to size and develop the layout and components of the regional garden refuse processing facility
- **Conceptual Site Layout:** Conceptual site layout presentation and discussion of how the P3 structure will impact site development, layout, and operation

- **Technologies:** Possible garden refuse processing technologies

### 4.2.1 Design Elements

The design elements are presented as a list of assumptions (Table 4-5) that were used to develop the conceptual site layout. These assumptions will be applicable to the facility design once a site is selected. Detailed design element assumptions are presented in Appendix 4D.

**TABLE 4-5**  
Design Basis  
*Sacramento Regional SWA Garden Refuse Processing Facility Development*

Parameter	Assumption	Notes
Facility Location	Unincorporated Sacramento County	
Facility Size	142,000 tpy 43 acres	Case 1 with a peaking factor of 1.4 was used to develop the scale of the facility
Throughput Scenarios	Case 1 = 101,400 tpy Case 2 = 173,000 tpy Case 3 = 199,000 tpy	Year 1, currently proposed tonnages from SWA members Year 1, all garden refuse from SWA members, except Elder Creek tonnage Year 1, Case 2 + 25 percent of tonnages from non-SWA in-County jurisdictions and select out-of-County jurisdictions
Peaking factor	1.4	Based on monthly tonnages from SWA members. Peak months are November and December.
Private partner(s)	1	Indicated by SWA
Facility Staff	2 from SWA 13 from private operator	Full time employees during peak month
Technology	Windrow	
Input Basis	260 days/year	
Feedstocks	Garden refuse	
Product Yield		
Compost	Approximately 1 cy compost per ton of garden refuse processed	Will vary slightly with screen size used
Overs	Typically recirculated within the facility	
ADC	0 – 1/10 ton per ton input	
Power requirement	12kW	See discussion in Section 4.2.2
Water Requirement	30,000 gpd	See discussion in Section 4.2.2

As shown in Table 4-5, the acreage planned for the facility given the assumptions on initial tonnage and peaking factor is 43 acres. However, the SWA could seek additional tonnage for the initial commitment to achieve economies of scale (further discussed in Section 5). In addition, the garden refuse stream is predicted to grow over time as the population in the facility's service area grows. Calculations of the garden refuse volume due to both acquiring additional tonnage from SWA and non-SWA entities and population growth in the year 2020 show that the regional facility could be taking as much as 299,000 tons per year. If windrow technology continued to be the preferred system for composting in 2020, then the facility would need 125 acres including the drainage systems and perimeter landscaping. If the facility processed this tonnage using other technologies as described in Section 4.2.3, such as aerated static pile, the acreage requirements could be greatly reduced.

### 4.2.2 Conceptual Site Layout

The site layout shown on Figure 4-6 is based on Case 1 tonnage and a peaking factor of 1.4. The site is sized and arranged for simplicity and based on throughput and guidelines listed in Section 4.2.1. This is a "conceptual" layout only and may change significantly based on site-specific concerns. Generally the site layout includes areas for the following functions:

- Scale house
- Grinding/feedstock prep
- Windrow composting
- Product screening
- Product storage – includes areas for finished compost, overs, and residuals
- Administration and maintenance shop
- Vehicle queuing and routing
- Stormwater collection and management
- Landscaped entrance

Supporting infrastructure for these facility functional elements includes power, water, sewer, communications, site surfacing and drainage, and dust and odor control. Appendix 4D provides a brief description of the individual functional areas shown in the conceptual layout.

Table 4-6 lists the proposed responsibilities of the public and private partners for facility development and operation given the P3 structure presented in Table 3-1. In general, facility development and system operation components have been assigned to the public or private-sector entity most capable of managing them efficiently and effectively.

### 4.2.3 Technologies

The windrow method is currently used to compost garden refuse from SWA member agencies. This method is the most commonly used low-technology, large-scale garden refuse composting method in the California Central Valley. At this conceptual stage of project development, SWA staff have indicated a preference for basing the proposed design on using the windrow method; therefore, the design basis uses the windrow method. The windrow method and other technologies most suited for garden refuse processing at the regional processing facility are presented in Table 4-7. Discussion on alternative technology is presented in Appendix 4E. Table 4-7 is not all-inclusive of organics processing options, but lists those currently considered viable for the proposed regional facility. Actual technologies used at the facility may depend on the operator.

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**TABLE 4-6**  
Public and Private Partner Operational Roles and Responsibilities  
*Sacramento Regional SWA Garden Refuse Processing Facility Development*

<b>Function</b>	<b>Lead</b>
Scale House/Entrance Facilities	SWA
Input Material Quality	SWA Members
Grinding	Private Partner
Feedstock Prep	Private Partner
Windrow Composting	Private Partner
Product Screening	Private Partner
Product Storage	Private Partner
Product Sales	Private Partner
Administration	SWA/Private Partner
Facility Maintenance	Private Partner
Site Utilities	
Basic Utilities/Site Development	SWA
Specific Extension of Utilities	Private Partner
Environmental Controls (Dust, Odor, Stormwater, etc.)	
Major Permit Holder and Enforcement	SWA
Operating Responsibility	Private Partner

**TABLE 4-7**  
Comparison of Garden Refuse Processing Technologies  
*Sacramento Regional SWA Garden Refuse Processing Facility Development*

<b>Technology</b>	<b>Benefits</b>	<b>Disadvantages</b>
<i>Windrow</i> —long, open-air pile, frequently turned for aeration	Low up-front capital cost, simple, portable	Greater land requirement, less nuisance control, air emissions may trigger additional permitting, higher fuel costs
<i>Aerated Static Pile</i> —large piles with forced aeration	Smaller area requirement, better nuisance control, better moisture control, potentially portable	More complex system, greater up-front capital costs, higher power requirement
<i>Chipping and Grinding</i> —size reduction and direct use	Low up-front capital and O&M costs, very little processing required, portable	Product is low-quality mulch not suitable for retail markets, poor weed seed control, potential nuisance odors, air emissions may trigger additional permitting
<i>Un-aerated Static Pile</i> —large piles with no aeration	Low up-front capital and O&M costs, simple, portable	Uneven composting, longer residence time, less nuisance control, inconsistent product, air emissions may trigger additional permitting, increased risk of spontaneous ignition
<i>In-Vessel</i> —completely enclosed environmentally controlled containers	Generally greatest environmental and nuisance control, good for odorous feedstocks	Greater area requirement and generally highest cost, corrosion issues and multiple moving parts

## 4.3 Site Permitting and Regulatory Requirements

### 4.3.1 Permits and Regulatory Requirements

The following section describes the major permits required for the proposed regional processing facility, along with regulatory trends within the state.

#### Required Permits

Table 4-8 provides an overview of the major permits required and the entity that should be responsible for obtaining the permit. It is in the SWA's best interest to hold the major permits, so that it has direct control over operations to prevent nuisance issues or take over operating the facility if necessary. However, potential private sector operators should have input on the major permitting documents, as discussed in Section 3 of this report.

**TABLE 4-8**

Major Permits Required and Recommended Permit Holders for Regional Compost Facility  
Sacramento Regional SWA Garden Refuse Processing Facility Development

Agency	Permit	Description	Recommended Permit Holder
County Planning Commission/Board of Supervisors	Land use entitlement	It is assumed that the site will be located in the unincorporated area of the County, and thus that the County would issue any necessary land-use entitlement.	County
California Integrated Waste Management Board / Sacramento County Department of Environmental Health	Solid Waste Facility Permit (SWFP)/ Compostable Materials Handling Permit	This permit is submitted to and issued by the Local Enforcement Agency (the Sacramento County Department of Environmental Health), the permit is concurred upon by the California Integrated Waste Management Board	SWA
Central Valley Regional Water Quality Control Board	Waste Discharge Requirements	Requires submittal of Report of Waste Discharge to identify and describe compliance with Title 27	SWA
Sacramento Metropolitan Air Pollution Control District	Permits to Operate	Larger processing equipment will require permits to operate. Typically obtained by the equipment owner.	Private Partner
State Water Resources Control Board	National Pollutant Discharge Elimination System	Requires Stormwater Pollution Prevention and Monitoring Plan	SWA
Sacramento Cities/County Solid Waste Advisory Committee	Non-Disposal Facility Element	Facility must be identified in the Non-Disposal Facility Element.	SWA member agencies

The California Environmental Quality Act (CEQA) process is not included in this table because it is not a permit, but an environmental process. An outcome of the CEQA process will be land use entitlements which will be held by the jurisdiction in which the facility is located. Because the major permits and land use entitlements will be publicly held, a

traditional conditional use permit (CUP) may not be required if the facility is located within the unincorporated area of the county.

### Significant Permitting Issues

Detailed descriptions of the permitting process and requirements for each permit are included in Appendix 4F. The following permitting issues need to be considered as the facility planning and development process proceeds.

- Site selection will significantly affect permit requirements for the regional facility.
  - CEQA issues applicable to the regional facility should be identified prior to and considered as a part of the site selection process. A full Environmental Impact Report is anticipated to be required for the project. It will be necessary to complete the CEQA process to obtain the major site permits.
  - Additional site-specific mitigation, monitoring, and control measures may be required depending on the resources and receptors potentially affected at a given site.
  - Additional permits may be required depending on the site selected (e.g., wetlands mitigation, U.S. Army Corps of Engineers approvals, etc.).
- Past experience has shown the following issues to be most significant to communities surrounding garden refuse processing facilities
  - Odor: Odor is the number one reason why garden refuse processing facilities fail (or move). Recently adopted State regulations require a stand-alone, site-specific, Odor Impact Minimization Plan to be prepared.
  - Traffic, Noise and Dust: These impacts and mitigation efforts are expected to be considered as a part of the CEQA process. Noise, dust and other nuisance issues are also addressed in the Solid Waste Facility Permit (SWFP).
- The CEQA environmental review process is the most lengthy and involved, both in time and effort.
- Information required for the different permit applications and the CEQA process overlaps to a significant degree. For example, site information developed for the CEQA and SWFP applications may be used for other permits as well.

### Regulatory Trends

Regulations have generally tended toward increased permitting requirements and site controls for garden refuse processing facilities over the last decade. Currently identified trends that may impact the regional facility (identified by regulatory body) include the following:

- **California Integrated Waste Management Board (CIWMB), Section 17852(a)(10)(A)(2).** Chipping and grinding operations currently supplying ADC and biomass fuel are subject to new California Integrated Waste Management Board, Title 14 regulations, effective April 5, 2003 that require 48-hour turnaround from material receipt to

product/residuals leaving the facility. This rule limits the accumulations and storage of organic material at such facilities. It is expected to either divert some material to permitted garden refuse processing facilities or compel chip and grind operations to apply for garden refuse processing permits. The new CIWMB regulations also require comprehensive odor plans, which significantly changes the ways in which compost facility operators manage odor complaints. These regulations apply to chipping and grinding facilities; the new SWA facility will be regulated under a full SWFP, so these will not apply.

- **Central Valley Regional Water Quality Control Board (CVRWQCB), Report of Waste Discharge.** In the past, a waiver of Waste Discharge for green waste composting facilities was available, as the CVRWQCB had identified green waste composting as a minimal threat to water quality. That waiver has now expired. A new waiver process is being developed at the State Water Resources Control Board, but is not complete at this date. It is likely that the new waiver process will be substantially similar to the old waiver, which required a stormwater retention basin designed for a 25-year, 24-hour storm. Site-specific conditions may affect this, however.
- **South Coast Air Quality Management District Rule 1133.** Recently adopted (and emerging) regulations by the South Coast Air Quality Management District (SCAQMD) may also affect the proposed processing facility. Although at this time, SCAQMD Rule 1133 primarily affects biosolids and manure composting, portions of the Rule affecting green waste composting are being drafted. Rule 1133 primarily focuses on control of volatile organic compounds (VOCs) and ammonia. For new facilities, the new rule requires that the active composting process be enclosed and that the curing process be negatively aerated. Off-gases from both processes then would be vented to a control device such as a biofilter that achieves at least 80 percent removal of ammonia and of VOCs. Technically, these requirements only relate to operations within the SCAQMD jurisdiction (Los Angeles, Orange, San Bernardino and Riverside Counties); however, the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) may propose a similar rule in the future, and it is possible that the Sacramento Metropolitan Air District may raise the issue, as it is a responsible agency considering a proposed new processing facility in Sacramento County.

## 4.3.2 Sacramento Valley Regional Concerns

### Population Growth

The population for the County is expected to be grow rapidly in some suburban areas and more slowly in the central metropolitan areas. The California Council of Governments projects that the City of Elk Grove will experience a 69 percent increase in population this decade and a 36 percent increase from 2010 to 2020. Likewise, the City of Sacramento is expected to experience a 19 percent increase in this decade and another 8 percent increase from 2010 to 2020. Using a blended growth rate (median between Elk Grove and Sacramento) from 2000 to 2020 yields a twenty-year population increase of 20 percent. This population growth creates higher demand and expectations for infrastructure, land value, and environmental performance of public service facilities like a new processing facility.

## Non-Attainment for Ozone

The Sacramento Federal Non-Attainment Area for Ozone includes all of Sacramento and Yolo Counties, and portions of El Dorado, Placer, Sutter and Solano Counties. The local clean air plan (also called the State Implementation Plan, or SIP), was adopted in 1994. At that time, the region could not show that it would meet the federal standard by 1999. In exchange for moving the deadline to 2005, the region accepted a designation of “severe non-attainment,” with additional emission requirements on stationary sources, in exchange for extra time to meet the standard.

Reduced mobile emissions (including waste collection, self haul, transfer, and product delivery) will produce the most progress toward the control of ozone. The current 2005 summer emission inventory projection shows 72 percent of the ozone-forming emissions will come from mobile sources. Stationary/area sources contribute 28 percent of the inventory. These includes power plants, consumer products, coating and cleaning solvents, and industrial operations (including recycling, chipping and grinding, ADC production, composting, etc.).

Sacramento County is a part of a larger area encompassing many Central Valley counties that is classified federally as a severe non-attainment area. This may influence CEQA requirements concerning mitigation of air quality impacts.

## 4.4 Recommendations

A coordinated regional project for garden refuse recycling can facilitate reliable, economical, and environmentally sustainable services for the SWA member agencies. Current regulatory trends are generally converging to increase the demand for composting services, and to increase environmental controls on garden refuse processing facilities. It will be important for the facility to be flexible in terms of composting technology used in order to meet future regulatory constraints. Important decisions will need to be made and milestones reached by the SWA as this project moves forward:

- Refine the design basis as the project is further defined.
- Be prepared to incorporate mitigation measures into the project as new requirements emerge.
- Solicit additional tonnage of feedstock material commitments to the facility.
- Determine what additional functions, if any, the regional facility will provide. For example: publicly available meeting space, educational program/area, tours, demonstration garden. Additional functions will increase the capital and operating costs for the facility.
- Conduct additional market analysis to determine the demand for a high quality finished compost product.
- Provide a market for finished recycled organic products and help increase the market for recycled organics through demonstrations, development of specifications and price preferences.

- Use the P3 structure to benefit the SWA members by allowing rapid changes in technology, tonnages processed, or feedstock as technology and the market warrant. Permitting the site for flexibility will be critical.