CHAPTER 4

DESCRIPTION OF EXISTING FACILITIES

Treatment Plants and Conveyance System

Solids Processing and Biosolids Management Practices

CHAPTER 4 DESCRIPTION OF EXISTING FACILITIES

4.1 TREATMENT PLANTS AND CONVEYANCE SYSTEM

4.1.1 DESCRIPTION OF JOS WASTEWATER TREATMENT PLANTS AND EFFLUENT MANAGEMENT

Joint Water Pollution Control Plant

The JWPCP is located at 24501 South Figueroa Street in the City of Carson and has a site area of approximately 310 acres. The JWPCP currently provides screening, grit removal, and advanced primary treatment (polymer is added prior to primary sedimentation to improve process efficiency), and provides secondary treatment to 200 mgd of primary effluent. The JWPCP also provides solids processing for the entire JOS. A schematic of the JWPCP is shown in Figure 4.1-1. The design capacity of JWPCP advanced primary treatment facilities is 400 mgd with an NPDES permitted capacity of 385 mgd. A pure oxygen activated sludge process provides secondary treatment to 200 mgd of the wastewater. Secondary effluent is combined with the primary effluent and chlorinated prior to discharge.

All effluent (328 mgd average flow in 1993) is discharged to the Pacific Ocean through two ocean outfalls at a point approximately two miles off Whites Point (Palos Verdes Peninsula) and at a depth of approximately 200-feet. A third shorter ocean outfall is used only during heavy rains for hydraulic relief, when necessary, and the fourth (shortest) ocean outfall serves as a standby. A conceptual diagram of the Districts' effluent management system is shown in Figure 4.1-2.

All sewage solids produced in the JOS are processed at the JWPCP. Primary solids and thickened waste activated sludge (using dissolved air floatation) are anaerobically digested and dewatered. Dewatered digested biosolids are hauled offsite for composting, land application and/or landfilling. Composted biosolids are sold as soil conditioner. A summary of the design criteria for the existing JWPCP unit processes is given in Table 4.1-1.

San Jose Creek Water Reclamation Plant

The SJCWRP is located at 1965 South Workman Mill Road adjacent to the City of Industry and occupies a site area of approximately 39 acres. The existing plant was built in three stages: SJCWRP East (Stages I and II) has capacity to treat 62.5 mgd, and SJCWRP West (Stage III) has capacity to treat 37.5 mgd. Current treatment at both units consists of primary sedimentation, secondary treatment via a conventional air activated sludge process and clarification, tertiary treatment consisting of coagulation and filtration, followed by chlorination and dechlorination. Filtration at SJCWRP East utilizes inert dual media filters and at SJCWRP West utilizes inert deep bed monomedia filters. No solids processing facilities are provided at the plant (a schematic for a typical JOS WRP is shown in

Table 4.1-1
SUMMARY OF DESIGN CRITERIA FOR EXISTING JWPCP UNIT PROCESSES

Design Element	Criteria	Design Element	Criteria	Design Element	Criteria
Plant Flow		Chlorination		Ocean Outfall	
Average (mgd)*	400	Average (Maximum) dose (mg/l)	24 (50)	No. 1	Not In Service
Peak Sanitary (mgd)	540	Average Use (lb/day)	80,000	No. 2	
Peak Storm (mgd)	630	Peak Sanitary Use (lb/day)	215,000	Inside Diameter (inches)	72
Influent		WAS Thickening		Total (Diffuser) Length (feet)	7,048 (648)
Number of Pumps	9	Number of Tanks	4	Capacity (mgd)	106
Capacity Per Pump (mgd)	5 @ 57.6	Avg. Flow Rate (gpm)	2,800	No. 3	
	4 @ 78.0	Avg. Overflow Rate (gpd/ft^2)	1.5	Inside Diameter (inches)	90
Capacity Gravity Sewer (mgd)	265	Avg. Solids Load (ton/day)	125	Total (Diffuser) Length (feet)	10,300 (2,400)
Bar Screens		Anaerobic Digestion		Capacity (mgd)	175
Number	9	Combined Feed Rate (mgd)	4.3	No. 4	
Aerated Grit Chambers		Number of Rectangular Digesters	24	Inside Diameter (inches)	120
Number	6	Number of Circular Digesters	17	Total (Diffuser) Length (feet)	11,880 (4,440)
Detention Time (min.)	5	Total Digester Capacity (ft^3)	10,900,000	Capacity (mgd)	349
Primary Treatment		Detention Time (days)	18		
Capacity (mgd)	400	Avg VS loading (lb VS/ft^3 day)	0.10		
Number of Sedimentation Tanks	52	Temperature (°F)	95		
Avg. Overflow Rate (gpd/sq. ft.)	1,250-1,690	Solids Dewatering			
Detention Time (hrs.)	1.3	Digested Solids Flow, (gpm)	3,000		
Secondary Treatment		Centrate Solids Return Flow (gpm)	600		
Capacity (mgd)	200	Number of Scroll Centrifuges	36		
Number of Influent Pumps	3	Feed Rate per Centrifuge (gpm)	120		
Capacity per Pump (mgd)	135	Polymer Dose (lb/ton)	7		
Biological Reactors		Biosolids Storage			
Number of Trains	4	Number of Silos	12		
Avg. Daily Flow per Train (mgd)	50.0	Capacity per Silo (Tons)	510		
Peak Daily Flow per Train (mgd)	67.5	Days of Storage	4		
Avg. Detention Time (w/R) (hrs.)	1.80	Power Generation			
Avg. Detention time (hrs.)	2.50	Digester Gas Production (MMSCFD)	8.0		
Oxygen Generation		Number of Gas Turbines	3		
Number of Cryogenic Plants	2	Number of Steam Turbines	1		
Oxygen Capacity/Plant (Ton/Day)	150	Net Power Produced (MW)	14.8		
Oxygen Purity, (%)	98	Effluent Pumping			
Number Liquid Oxygen Storage Tanks	3	Primary Effluent Pumps	5		
Capacity/Tank, (Ton)	215	Capacity per Pump (mgd)	122		
Final Sedimentation Tanks		Secondary Effluent Pumps	3		
Number	104	Capacity per Pump (mgd)	135		
Avg. Overflow Rate (gpd/sq. ft.)	548.0	Emergency Pumps	2		
Peak Sanitary Overflow Rate (gpd/sq. ft.)	740.0	Capacity per Pump (mgd)	50		
Avg. Detention Time (w/R) (hrs.)	3.27				
Peak Sanitary Detention Time (w/R) (hrs.)	2.42				

- *Current NPDES permitted capacity is 385 mgd.*

Figure 4.1-3). All solids removed at the SJCWRP are returned to the JO "H" Trunk Sewer (see Figure 4.1-4 for location of sewer) for conveyance to the JWPCP for processing. A summary of the design criteria for the existing SJCWRP is given in Table 4.1-2.

Reclaimed water produced at the SJCWRP may be discharged to the San Gabriel River via two discharge points above the tidal prism. At the first discharge point reclaimed water from SJCWRP West flows into an unlined portion of the San Gabriel River. Reclaimed water discharged to the unlined portion of the river is generally used for groundwater recharge. The second discharge point allows reclaimed water from SJCWRP East to flow into San Jose Creek (unlined), which is tributary to the unlined San Gabriel River. Both SJCWRP East and West can also discharge through an outfall pipeline which is approximately 12 miles long, into a lined portion of the San Gabriel River. From that point, the reclaimed water eventually flows to the Pacific Ocean. Reclaimed water used for groundwater recharge and/or discharged to lined channels is partially dechlorinated; reclaimed water which is reused directly is not dechlorinated. All reclaimed water generated at the SJCWRP is available for reuse, but generally not all is reused (Figure 4.1-2).

The majority of the reclaimed water produced at the SJCWRP that is reused is purchased by the Water Replenishment District for groundwater recharge and spread at groundwater recharge facilities operated by the Los Angeles County Department of Public Works. Small amounts of reclaimed water from the SJCWRP are currently used for local irrigation and/or industrial needs. The remainder of the reclaimed water is discharged to the lined portion of the San Gabriel River or, occasionally, to the Rio Hondo, which flows to the Los Angeles River which ultimately flows to the ocean.

Los Coyotes Water Reclamation Plant

The LCWRP is located at 16515 Piuma Avenue in the City of Cerritos and has a site area of approximately 34 acres. Current treatment at the LCWRP consists of primary sedimentation, secondary treatment via a conventional activated sludge process and clarification, tertiary treatment consisting of coagulation and inert dual media filtration, followed by chlorination and dechlorination (Figure 4.1-3). LCWRP effluent which is reused directly is not dechlorinated. No facilities are provided at the plant for solids processing. All solids removed are returned to the JO "F" Trunk Sewer (see Figure 4.1-4 for location of sewer) for conveyance to the JWPCP for processing. A summary of the design criteria for the existing LCWRP is given in Table 4.1-2.

Reclaimed water produced at the LCWRP is relatively underutilized (Figure 4.1-2). In 1993, for example, 3 of the 33 mgd of reclaimed water produced at the LCWRP was reused. LCWRP effluent which is not reused is partially dechlorinated and discharged to the lined channel of the San Gabriel River above the tidal prism at a point 1,230-feet upstream of the Artesia Freeway. The remainder of the reclaimed water produced at the LCWRP is sold to the Cities of Cerritos, Lakewood and Bellflower, and to the Central Basin Municipal

Table 4.1-2
SUMMARY OF DESIGN CRITERIA FOR THE EXISTING JOS WATER RECLAMATION PLANTS

Design Element	Criteria					
	PWRP	LBWRP Stage I and II	SJCWRP Stages I & II (East)	SJCWRP Stage III (West)	WNWRP	LCWRP
Plant Flows						
Average [mgd]	13.0	25.0	62.5	37.5	15.0	37.5
Peak Sanitary [mgd]	19.0	34.0	90.0	55.0	20.0	60.0
Peak Storm [mgd]	26.0	60.0	125	75.0	24.0	80.0
Equalized Waste Filter Backwash [mgd]	0.9	1.6	3.2	2.3	0.8	1.6
Influent Pumps						
Number	N/A	4	4	4	2	6
Capacity Per Pump [mgd]		2 @ 7.9 2 @ 38.9	40.0	31.7	24*	2 @ 17.0 4 @ 42.0
Primary Sedimentation Tanks						
Number	3	4	8	5	2	4
Avg. Overflow Rate [gpd/sq.ft.]	2,167	1,042	1,302	1,250	1,250	1,563
Peak Sanitary Overflow Rate [gpd/sq.ft.]	3,167	1,417	1,875	1,833	1,667	2,500
Avg. Detention Time [hrs.]	0.83	2.07	1.65	1.72	1.72	1.38
Peak Sanitary Detention Time [hrs.]	0.57	1.52	1.15	1.18	1.29	0.86
Aeration Tanks						
Number	3	8	20	12	3	12
Avg. Aeration Time (w/33%R)[hrs.]	3.46	4.32	4.36	4.18	3.64	4.36
Avg. Aeration Time [hrs.]	4.53	5.61	5.82	5.49	4.85	5.82
Process Air Compressors						
Number	3	4	5	3	3	5
Capacity Per Compressor [scfm]	13,300	2 @ 20,000 2 @ 10,000	3 @ 44,000 2 @ 20,000	40,100	2 @ 12,000 1 @ 5,500	3 @ 20,000 2 @ 60,000
Final Sedimentation Tanks						
Number	5	12	30	18	5	18
Avg. Overflow Rate [gpd/sq.ft.]	1,028	703	730	736	1,000	724
Peak Sanitary Overflow Rate [gpd/sq.ft.]	1,473	953	1,036	1,060	1,333	1,141
Avg. Detention Time (w/33%R)[hrs]	1.33	1.92	1.87	1.86	1.35	1.88
Peak Sanitary Detention Time (w/33%R)[hrs]	0.92	1.42	1.31	1.28	1.01	1.19
Filters						
Number	8	10	20	14	6	12
Avg. Surface Loading Rate [gpm/sq.ft.]	2.35	3.40	3.82	3.30	3.58	3.79
Peak Sanitary Surface Loading Rate (w. 1 Filter O/S)[gpm/sq.ft.]	3.85	5.14	5.70	5.12	5.65	6.51
Filter Effluent/Backwash Pumps						
Number	5	6	5	5	3	5
Capacity Per Pump [mgd]	(Eff.) 3 @ 14.0* (B.W.) 2 @ 14.4	2 @ 10.8 2 @ 12.5 2 @ 14.4	2 @ 32.9 1 @ 19.9 1 @ 31.7 1 @ 17.6	3 @ 33.1 2 @ 19.5	12.5*	3 @ 20.0* 2 @ 30.0
Filter Waste Backwash Recovery Tanks						
Number	1	1	1	1	1	1
Effective Volume [gal]	201,960	224,400	136,925	138,700	224,400	137,000
Chlorine Contact Tanks						
Number	3	3	4	4	2	2
Avg. Detention Time [hrs.]	2.30	2.48	1.49	2.32	1.99	2.68
Peak Sanitary Detention Time [hrs.]	1.60	1.82	1.04	1.58	1.49	1.68

N/A—not applicable

* *Pump Capacities to be Achieved in the Near Future.*

Water District, which is developing a regional reclaimed water distribution network to serve eight nearby cities. These entities use reclaimed water for landscape irrigation and industrial uses.

Long Beach Water Reclamation Plant

The LBWRP is located at 7400 East Willow Street in the City of Long Beach and has a site area of approximately 17 acres. Current treatment at the LBWRP consists of primary sedimentation, secondary treatment via a conventional activated sludge process and clarification, tertiary treatment consisting of coagulation and inert dual media filtration, followed by chlorination and dechlorination (Figure 4.1-3). No facilities are provided for solids processing at the plant. All solids removed are returned to the JO "C" Trunk Sewer (see Figure 4.1-4 for location of sewer) for conveyance to the JWPCP for processing. A summary of the design criteria for the existing LBWRP is given in Table 4.1-2.

The right to all reclaimed water produced at the LBWRP was granted to the City of Long Beach as part of the purchase agreement for the plant property. This water is not currently fully utilized: less than three mgd of the reclaimed water produced at the LBWRP was reused in 1993 for irrigation and recreational impoundments (Figure 4.1-2). The quantity of water reused is increasing, however, as the City is expanding their distribution network which will deliver reclaimed water throughout Long Beach. Until more of the project is completed, most of the reclaimed water from the LBWRP will continue to be fully dechlorinated and discharged to Coyote Creek at a point about 2,200-feet upstream of its confluence with the San Gabriel River within the tidal prism.

Whittier Narrows Water Reclamation Plant

The WNWRP is located at 301 North Rosemead Boulevard near the City of South El Monte and has a site area of approximately 27 acres. Current treatment at the WNWRP consists of primary sedimentation, secondary treatment via a conventional activated sludge process and clarification, tertiary treatment consisting of coagulation and inert dual media filtration, followed by chlorination and dechlorination (Figure 4.1-3). All solids removed are returned to the JO "B" Trunk Sewer (see Figure 4.1-4 for location of sewer) for conveyance to the JWPCP for processing. A summary of the design criteria for the existing WNWRP is given in Table 4.1-2.

Nearly all of the reclaimed water produced at the WNWRP (over 95 percent) is reused (Figure 4.1-2). In 1993, it was used almost exclusively by the Water Replenishment District for groundwater recharge (at facilities operated by the Los Angeles County Department of Public Works), excepting 0.03 mgd which was used by a local nursery. All reclaimed water from the WNWRP is typically reused, but during periods of high storm flows or runoff, some reclaimed water occasionally must be disposed of by diversion to the lined portion of the Rio Hondo below the Rio Hondo Spreading Grounds.

Pomona Water Reclamation Plant

The PWRP is located at 295 Humane Way in the City of Pomona and has a site area of approximately 14 acres. Current treatment at the PWRP consists of primary sedimentation, secondary treatment via a conventional activated sludge process and clarification, tertiary treatment consisting of coagulation and inert deep bed monomedia filtration, followed by chlorination and dechlorination (Figure 4.1-3). All solids removed are returned to the District 21 Outfall Trunk Sewer (see Figure 4.1-4 for location of sewer) for conveyance to the JWPCP for processing. A summary of the design criteria for the existing PWRP is given in Table 4.1-2.

More than half of the reclaimed water produced at the PWRP (7 mgd in 1993) is supplied to local distribution systems operated by the Pomona Water Department and the Walnut Valley Water District (Figure 4.1-2). The remainder of the reclaimed water, which is discharged into San Jose Creek following partial dechlorination, is also reused. The San Jose Creek is unlined and the water percolates into the groundwater. In this way, nearly 100 percent of the effluent from the PWRP is reused.

4.1.2 DESCRIPTION OF JOS WASTEWATER CONVEYANCE SYSTEM

The Districts own, operate, and maintain an interconnected network of trunk sewers which conveys wastewater to JOS treatment facilities. The Districts' trunk sewer system conceptually forms the backbone of the conveyance system. The JOS trunk sewer system includes Joint Outfall (JO) trunk sewers, which are typically large trunk sewers with diameters as large as 144-inches, and the District trunk sewers, which generally feed the larger JO trunk sewers.

The JO trunk sewers form the core of the JOS sewer system and are owned, operated and maintained by the Joint Outfall Districts pursuant to the Joint Outfall Agreement discussed in Chapter 1. These sewers are, therefore, part of the JOS. The function of most JO trunk sewers is to collect wastewater from Districts' trunk sewers (described below) and/or local laterals and convey it downstream to the WRPs and/or to the JWPCP. A breakdown of the JO trunk sewers and their corresponding lengths are shown in Table 4.1-3. The JO trunk sewers are shown in Figure 4.1-5.

Districts' trunk sewers, on the other hand, are generally smaller diameter sewers which are owned, operated, and maintained by the individual Districts and are not a part of the JOS. The purpose of most of these sewers is to collect wastewater from local sewers and/or laterals (described below) and convey it to a larger JO trunk sewer which will then transport it to a treatment plant. All JO and individual District trunk sewers are shown in Figure ES-1.

The local lines (laterals) that feed into the Districts' trunk sewers are generally owned by local jurisdictions and/or Los Angeles County. These laterals are operated and maintained by either the local jurisdiction in which they are located or the Consolidated Sewer Maintenance District of the

Los Angeles County Department of Public Works. These laterals are not a part of the Districts' trunk sewer network.

The lengths of sewers owned by the Districts (JO sewers and Districts' trunk sewers) and owned by the local jurisdictions in each District are summarized in Table 4.1-4.

Table 4.1-3
LENGTH OF JOINT OUTFALL TRUNK SEWERS

Joint Outfall Trunk Sewers	Length (Miles)
JO "A"	13.93
JO "A-1A"	81.49
JO "B"	76.03
JO "C"	33.20
JO "D"	16.72
JO "E"	8.67
JO "F"	23.97
JO "G"	6.09
JO "H"	81.08
JO "J"	26.55
TOTAL	367.73

Table 4.1-4
LENGTH OF DISTRICTS' TRUNK SEWERS AND LOCAL LATERALS BROKEN OUT BY DISTRICTS

District No.	Districts' Trunk Sewers (Miles)	Local Laterals (Miles)
1	78.04	728
2	120.92	1,168
3	29.62	914
5	124.22	1,074
8	34.25	279
15	61.27	1040
16	31.51	625
17	5.36	110
18	66.33	717
19	13.99	173
21	56.19	731
22	76.36	651
23	0.00	20
29	2.50	30
SBC	20.92	256
SUBTOTAL	721.48	7,939
JOINT OUTFALL TRUNKS	367.73	NA
TOTAL	1,089	7,939

4.2 SOLIDS PROCESSING AND BIOSOLIDS MANAGEMENT PRACTICES

4.2.1 PROCESSING

All solids produced in the JOS are processed at the JWPCP. Primary and waste activated sludge solids from the WRPs are returned to the JO trunk sewers which convey the solids to the JWPCP, where most solids are captured for further processing. Primary solids, mixed with thickened waste activated sludge, are anaerobically digested. Digesters are maintained at approximately 95°F and their contents are mixed to facilitate efficient digestion. The average detention time of solids in the digesters is approximately 18 days. Digested solids are dewatered in centrifuges with polymer added as a coagulant to improve the efficiency of the dewatering process. The average cake produced is approximately 25 percent solids. The residual solids in this form are called "biosolids" and may be reused in a number of ways. Biosolids are trucked offsite for disposal and/or reuse via landfilling, composting or land application.

Digester gas, which contains approximately 65 percent methane and 35 percent carbon dioxide, has multiple applications. It is combusted in a combined cycle power plant to generate electricity directly and produce steam for additional power production and supplemental digester heating. The digester gas also fuels internal combustion engines for pumping various plant flows and fuels boilers to produce process steam for digester heating. These innovative uses of digester gas allow the JWPCP to satisfy all of its energy needs. Standby flares are maintained to dispose of surplus gas or all gas when the power plant is out of operation.

4.2.2 BIOSOLIDS MANAGEMENT

Biosolids Reuse

After startup of the JWPCP in 1928, biosolids were dewatered in open-air drying beds located onsite. Recycling of biosolids began in the same year when H.C. Kellogg entered into a contract with the Districts to remove the dry cake from the beds for use in a biosolids based soil amendment product. In 1972, the Districts began windrow composting of biosolids at the JWPCP on a trial basis. Composting was found to accelerate the air-drying process. By the mid 1970's, the air drying beds were replaced by a two-stage centrifuge system employing scroll centrifuges followed by basket centrifuges. Composting windrows subsequently were employed in the former sites of the air drying beds. As composting was developed over the years, it was found that the process further reduced pathogens and stabilized the organic material with respect to odors and vector attraction potential. The compost was sold to Kellogg as a base for their soil amendment products. The JWPCP composting operation continued until 1991 when it was moved offsite; it is now privately operated. Compost products are bagged for consumer use and a portion is marketed in bulk quantities to plant growers.

Subsequently, the Districts entered into contracts with additional private operators of composting facilities and direct land application operations to process and/or reuse Districts' biosolids. The Districts contracted with Recyc, Inc. for composting services in 1992. The facility is located in the Temescal Canyon area of Riverside County, and the markets for the processed material are bulk agriculture and horticulture and bagged consumer use. All composting facilities utilized by the Districts produce "exceptional quality" products that are allowed unrestricted distribution under EPA regulations.

Direct land application of biosolids to supply crop nutrients and amend soils commenced in 1993 through a contract with Ag Tech Company in Yuma, Arizona (Ag Tech has since opened a site near Bakersfield, California). In this reuse operation, application rates are determined based on the agronomic needs of the crops being grown, and site life is based on the metals concentrations of the biosolids applied. Sub-surface injection of biosolids is practiced at this site. In 1994 and early 1995, the Districts initiated new contracts at two land application sites: the Yakima Company site near Buttonwillow, California, and the McCarthy Farms site near Corcoran, California, as well as a short term contract with Biogro Systems for land application near Blythe, California.

Landfill Co-Disposal

Co-disposal of biosolids with municipal solid waste at the Puente Hills Landfill began in 1977 and continues today. The area of the landfill that accepts biosolids is lined with a plastic liner and has a leachate collection system. The close proximity of the landfill to the JWPCP makes the site attractive because of reduced air emissions from hauling and reduced transportation costs.

The LA/OMA Project

In 1973, federal and state funds became available for alternative methods of biosolids disposal. In order to optimize the use of these funds, the Districts entered into a joint powers agreement with the EPA, SWRCB, the City of Los Angeles and the Orange County Sanitation Districts to undertake a regional biosolids management planning project. The purpose of the ensuing project, called the Los Angeles/Orange County Metropolitan Area Project (LA/OMA), was to create a long-term plan for the use and/or disposal of biosolids generated within the service areas of the three local agencies. This plan was completed in 1980.

The LA/OMA project recommended that the Districts employ a combination of three methods for biosolids management: landfill co-disposal, composting, and dehydration and combustion. Of those, the Districts currently utilize composting and landfill co-disposal. A third method of biosolids management, direct land application, has been adopted by the

Districts since the LA/OMA project. This form of biosolids reuse was evaluated by LA/OMA but was found not to be a viable option at the time of the project.

Current Management Practices

Table 4.2-1 summarizes the manner in which biosolids are currently managed. Contract quantities given are maximums; actual quantities reused are somewhat lower, and all biosolids that are not reused are hauled to the Districts' Puente Hills Landfill for co-disposal as described above. The Districts currently process approximately 1,300 wet tons per day (wtpd) of biosolids (9,000 wtpw). This quantity of biosolids is composed of approximately 325 tons per day of residual "dry" solids from the JWPCP treatment process and 975 tons per day of water (quantities of biosolids for reuse or disposal typically are given in wet tons because this is the actual quantity of material to be handled and the quantity on which contracts are based). More than half of this is reused, mainly through direct land application.

Table 4.2-1
JOS BIOSOLIDS MANAGEMENT[1]

Company	Contract Maximum (wet tons/wk)	Treatment Method	Disposal Site
Ag Tech	2000	Land Application	Yuma, Arizona
Biogro Systems	2000	Land Application	Blythe, California
McCarthy Farms	2000	Land Application	Corcoran, California
Recyc	1000	Compost	Riverside, California
Yakima	1000	Land Application	Buttonwillow, California
Districts	——	Co-Disposal	Puente Hills Landfill

[1] *The Districts also have two inactive contracts with private operators of composting facilities (Kellogg Supply and Pima Gro Systems, Inc.)*