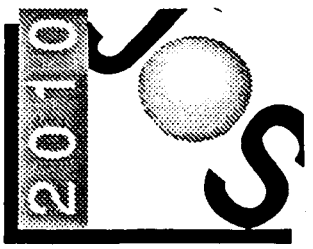
Chapter 8
Air Quality



Chapter 8. Air Quality

INTRODUCTION

This chapter describes existing air quality conditions and identifies potential air quality impacts and recommends feasible air quality mitigation measures related to implementation of the 2010 Plan. Portions of the text and data included in this chapter are from California Air Resources Board (1982, 1984, 1993), County Sanitation Districts of Los Angeles County (1991, 1992, 1993a, 1993b), County Sanitation Districts of Los Angeles County et al. (1993), South Coast Air Quality Management District (1993), and Southern California Association of Governments (1994a, 1994b, 1994c).

As described in Chapter 1, "Introduction", this EIR provides project-specific CEQA compliance for full secondary treatment and solids processing at the JWPCP. Other elements of the 2010 Plan are analyzed on a program level when site-specific information is unavailable or locations of sites are not identified.

SETTING

Regional Setting

The JOS service area, which includes the JWPCP, and five inland WRPs, is located in the South Coast Air Basin (SCAB). The SCAB covers an area of approximately 6,600 square miles and comprises all of Orange County and the metropolitan areas of Los Angeles, San Bernardino, and Riverside Counties. It is bounded on the northwest by Ventura County and on the south by San Diego County. The northern boundary runs roughly along the edge of the Angeles National Forest north of the crest of the San Gabriel and San Bernardino Mountains. The eastern border runs north-south through the San Bernardino and San Jacinto Mountains, but the Banning Pass area is excluded from the air basin. The western boundary is the entire shoreline of Los Angeles and Orange Counties.

Climate and Meteorological Conditions in the South Coast Air Basin

The SCAB lies within the semipermanent high-pressure zone of the eastern Pacific Ocean. This area is characterized by warm, dry summers and mild winters with moderate rainfall, which are typical of coastal zones along the western shores of continents at lower latitudes.

SCAB's climate and topography are conducive to the formation and transport of photochemical pollutants throughout the region. Prevailing daily winds in the region are westerly, with a nighttime return flow. This pattern is broken on 5-10 days a year when strong northeasterly winds, commonly known as Santa Ana winds, sweep down from the desert. Wind speeds in desert areas are generally much higher than those in the coastal plains.

Although atmospheric emissions are roughly constant throughout the year, the heaviest concentrations of photochemical pollutants occur from late spring to early fall when photochemical reactions are greatest because of higher sunlight intensity and lower daytime inversion layers. An inversion layer forms when cooler, denser air is trapped by warmer, lighter air. It is one of the dominant features that traps pollutants close to the ground and results in smog. Photochemical pollution levels of the SCAB are the highest in the United States, and some of the pollutants are transported to adjacent air basins. Carbon monoxide (CO) concentrations are highest during winter, when relatively stagnant air conditions result in an accumulation of this pollutant. Highest CO concentrations are found near heavily traveled and heavily congested roadways. (Southern California Association of Governments 1994.)

Air Quality in the South Coast Air Basin

Both the State of California and the federal government have established ambient air quality standards for several different pollutants. The pollutants for which ambient standards have been set are known as criteria pollutants. For some pollutants, separate standards have been set for different sampling periods. Most ambient standards have been set to protect public health; for some noncriteria pollutants, however, standards have been based on other values, such as protection of crops, protection of materials, or avoidance of nuisance conditions.

The SCAB is designated a nonattainment area for federal and state standards for ozone, fine particulate matter (PM10), CO, and nitrogen dioxides (NO_2). Table 8-1 presents the federal and state standards and a summary of air quality monitoring in the SCAB for these four pollutants, indicating maximum monitored concentrations in the SCAB and the number of days federal and state air quality standards were exceeded in 1992. Health effects, state and federal standards, and monitoring results for each of these pollutants are described below.

Ozone

Health Effects. Ozone is a public health concern because it is a respiratory irritant that also increases susceptibility to respiratory infections. Ozone causes substantial damage to leaf tissues of crops and natural vegetation, and damages many materials by acting as a chemical oxidizing agent.

State and Federal Standards. State and federal standards for ozone have been set for a 1-hour averaging time. The state 1-hour ozone standard is 0.09 parts per million

Table 8-1. Summary of 1992 Monitoring Data for Criteria Pollutants in the South Coast Air Basin

Pollutant	Air Quality Standards		Maximum Monitored Concentration		Number of Days Standard Exceeded	
	Federal	State	Concentration	Time Period	Federal	State
Ozone (O_3)	0.12 ppm (1 hour)	0.09 ppm (1 hour)	0.30 ppm	1 hour	118	164
Carbon monoxide (CO)	9.0 ppm (8 hours)	9.0 ppm (8 hours)	18.8 ppm	8 hour	31	36
	35 ppm (1 hour)	20 ppm (1 hour)	28 ppm	1 hour	none	5
Fine particulate matter (PM10)	150 $\mu g/m^3$ (24 hours)	50 $\mu g/m^3$ (24 hours)	649 $\mu g/m^3$	24 hours	3	66
Nitrogen dioxide (NO_2)	0.053 ppm (annual average)	0.25 ppm (1 hour)	0.0507 ppm 0.30 ppm	annual average 1 hour	none	1

Notes: ppm = parts per million.

$\mu g/m^3$ = micrograms per cubic meter.

Definition of exceedances of national and state standards differ. See text for an explanation of the different definitions.

Source: South Coast Air Quality Management District 1993.

(ppm), not to be exceeded at any time. The federal 1-hour ozone standard is 0.12 ppm, not to be exceeded more than three times in any 3-year period.

Both federal and state ozone standards are commonly exceeded in the SCAB; exceedances occurred 118 and 164 days, respectively, in 1992.

Carbon Monoxide

Health Effects. CO levels are a public health concern because CO combines with hemoglobin and thus reduces the rate at which oxygen is transported in the blood stream. Low concentrations of CO can significantly affect the amount of oxygen in the blood stream because CO binds to hemoglobin 220-245 times more strongly than oxygen. Both the cardiovascular system and the central nervous system can be affected when 25-40% of the hemoglobin in the blood stream is bound to CO rather than to oxygen. State and federal ambient air quality standards for CO have been set at levels intended to keep CO from combining with more than 15% of the blood's hemoglobin.

State and Federal Standards. State and federal CO standards have been set for both 1-hour and 8-hour averaging times. The state 1-hour CO standard is 20 ppm, and the federal 1-hour CO standard is 35 ppm. State and federal standards are both 9 ppm for an 8-hour averaging period. State CO standards are phrased as values not to be exceeded. Federal CO standards are established as values not to be exceeded more than once per year.

Both federal and state 8-hour CO standards are actually exceeded a substantial number of days in the SCAB; exceedances occurred 31 and 36 days, respectively, in 1992. The 1-hour state CO standard is exceeded infrequently (5 days in 1992); the 1-hour federal CO standard was not exceeded in 1992.

Particulate Matter

Health Effects. Health concerns associated with suspended particles focus on those particles small enough to reach the lungs when inhaled. Few particles larger than 10 microns in diameter reach the lungs. Smaller suspended particles or droplets, designated as PM10, can lodge in the lungs and contribute to respiratory problems. PM10 arises from such sources as road dust, diesel soot, combustion products, abrasion of tires and brakes, construction operations, and wind storms. It is also formed in the atmosphere from reactions of NO_2 and sulfur dioxide (SO_2) with ammonia. Fine particles pose a serious health hazard, alone or in combination with other pollutants. The smallest particles inhaled will be deposited in the lungs and can cause permanent lung damage. Fine particles can also have a damaging effect on health by interfering with the body's mechanism for clearing the respiratory tract or by acting as a carrier of an absorbed toxic substance.

State and Federal Standards. Both the federal and state air quality standards for particulate matter have recently been revised to apply only to PM10. State and federal PM10 standards have been set for 24-hour and annual averaging times. The state 24-hour PM10 standard equals 50 micrograms per cubic meter ($\mu g/m^3$) and the federal 24-hour standard is 150 $\mu g/m^3$. The state annual PM10 standard is 30 $\mu g/m^3$, an annual geometric

mean, whereas the federal annual PM10 standard equals 50 $\mu g/m^3$, an annual arithmetic mean. Federal and state 24-hour PM10 standards may not be exceeded more than 1 day per year, and both annual standards may not be exceeded.

The state PM10 standard is actually exceeded a substantial number of days in the SCAB (66 days in 1992). The federal PM10 standard is exceeded infrequently (3 days in 1992).

Nitrogen Dioxide

Health Effects. NO_2 is a byproduct of fossil fuel combustion in air. The principal form of nitrogen oxide produced by combustion is nitric oxide (NO), but NO reacts quickly to form NO_2, creating the mixture of NO and NO_2 commonly called nitrogen oxides (NO_x). NO_2 acts as an acute irritant and, in equal concentrations, is more injurious than NO. At atmospheric concentrations, however, NO_2 is only potentially irritating. There is some indication of a relationship between NO_2 and chronic pulmonary fibrosis. Some increase in bronchitis in children (2-3 years old) has been observed at concentrations below 0.3 ppm. NO_2 absorbs blue light; the result is a brownish red cast to the atmosphere and reduced visibility. NO_2 also contributes to the formation of PM10 by combining with ammonia.

State and Federal Standards. State and federal NO_2 standards have been set for different averaging times. The state NO_2 standard is 0.25 ppm for a 1-hour period and the federal standard is 0.053 ppm on an annual average basis. Both state and federal NO_2 standards are phrased as values not to be exceeded.

The state NO_2 standard is exceeded infrequently (1 day in 1992); the federal NO_2 standard was not exceeded in 1992.

Inventory of Existing Regional Emissions. Table 8-2 presents an estimate of existing (1990) emissions of reactive organic gases (ROG), CO, NO_x, sulfur oxides (SO_x), and PM10 in the Los Angeles County portion of the SCAB. ROG is a class of emissions that includes precursors to the formation of ozone.

As shown in Table 8-2, ROG and SO_x emissions from mobile sources are moderately greater than those from stationary sources in the SCAB. Mobile sources emit substantially more CO and NO_x than do stationary sources. Conversely, stationary sources emit substantially more PM10 than do mobile sources.

Air Quality Planning

Agency Responsibilities. Air quality management in California is governed by the federal and California Clean Air Acts and the California Health and Safety Code. EPA oversees implementation of the federal Clean Air Act. The California Air Resources Board (ARB), a department of the Cal-EPA, oversees air quality planning and control throughout

Table 8-2. 1990 Inventory of Criteria Pollutant Emissions - Los Angeles County Portion of South Coast Air Basin

Major Source Category	Reactive Organic Gases (ROG)		Nitrogen Oxides (NO_x)		Sulfur Oxides (SO_x)		Carbon Monoxide (CO)		Particulate Matter (PM10)	
	Tons per Day	Percentage of Total	Tons per Day	Percentage of Total	Tons per Day	Percentage of Total	Tons per Day	Percentage of Total	Tons per Day	Percentage of Total
Stationary Sources										
Fuel combustion	11	1.2	150	19.0	15	17.0	63	1.6	12	2.3
Waste burning	1.0	0.1	1.8	0.2	0.2	0.2	4.2	0.1	0.8	0.2
Solvent use	280	30.4	0.1	0.0	--	0.0	--	0.0	0.4	0.1
Petroleum process, storage, and transfer	75	8.2	4.8	0.6	12	13.6	3.3	0.1	2.5	0.5
Industrial processes	26	2.8	4.7	0.6	4.0	4.5	0.6	0.0	24	4.5
Miscellaneous processes	21.3	2.3	2.7	0.3	0.3	0.3	76.5	1.9	440.3	83.1
Subtotal	420	45.7	160	20.3	32	36.4	150	3.8	480	90.6
Mobile Sources										
On-road vehicles	420	45.7	370	46.8	18	20.5	2,900	72.5	31	5.8
Other mobile sources	82	8.9	250	31.6	38	43.2	890	22.3	14	2.6
Subtotal	500	54.3	620	78.5	56	63.6	3,800	95.0	46	8.7
Total of all sources	920	100.0	790	100.0	88	100.0	4,000	100.0	530	100.0

Notes: -- = indicates a value rounded to less than 0.1 ton per day.

The source document rounds to two significant digits, resulting in substantial rounding. Values in this table are as shown in the source document.

Source: California Air Resources Board 1993.

California and regulates directly emitted mobile-source pollutants and fuel content. ARB divides the state into air basins, based on meteorological and geographical conditions and, to the extent feasible, political boundaries.

The SCAQMD is a special district created by the California legislature to manage air quality in the SCAB, including all of Los Angeles County. The SCAQMD is responsible for stationary and indirect source control, air monitoring, and preparation of air quality attainment plans.

The federal Clean Air Act requires that the appropriate authorities prepare air quality plans designed to achieve ambient air quality standards. The SCAQMD is responsible for preparing an AQMP, which is part of the California State Implementation Plan (SIP), and submitting that plan to the ARB. The ARB then reviews it and forwards the AQMP of the SCAQMD as well as the plans of the other districts throughout the state, combined collectively as the SIP, to EPA Region IX for approval. A separate compliance plan is required by EPA for each nonattainment pollutant.

If the SIP which is submitted by the ARB is deemed insufficient, EPA is required to prepare a federal implementation plan (FIP) to attain the federal ambient air quality standards.

Federal Implementation Plan. The 1977 federal Clean Air Act Amendments required all areas of the United States to submit ozone and CO plans in 1979 and in 1982 that demonstrated attainment of the national health-based standards by 1987. Because massive emission reductions were needed to meet the standards in certain areas of California, including the SCAB, the SCAQMD determined that such plans were not feasible; EPA opted to work with the local districts rather than reject their AQMPs. As a result of a lengthy litigation process in which public interest groups successfully challenged EPA's decision not to disapprove the 1982 AQMPs for the SCAB and other California air districts, EPA was mandated to prepare a FIP for those regions by July 31, 1990. A FIP for the SCAB was completed and published in the Federal Register as required. However, EPA argued that it no longer had an obligation to issue the FIP under the federal Clean Air Act Amendments of 1990 because Congress had established comprehensive new state planning requirements and attainment deadlines. The EPA was again challenged in court relative to its FIP obligation, and a court ruling determined that a new FIP for ozone and CO was required. Consequently, EPA is under a court order to prepare a FIP for the SCAB that demonstrates attainment for ozone and CO. EPA is required to finalize the FIP by February 1995.

EPA has proposed 30 measures in the FIP for the SCAB. Of these, approximately 18 will be included in miscellaneous control measures found within the draft 1994 SCAQMD AQMP and will be implemented by the SCAQMD. Some of those measures could affect the proposed project, such as control of volatile organic compound (VOC) emissions from composting operations and POTWs. The 12 measures not subsumed by the draft 1994 SCAQMD AQMP are those that relate to federally regulated sources (such as control strategies for on-road and off-road mobile sources, trains, airports, and ports) and other

statewide area sources, such as pesticide use. These 12 FIP measures are included in the 1994 AQMP and are expected to be implemented by EPA. In association with the 1994 AQMP, the FIP measures are expected to bring the SCAB into compliance with the national air quality standards for ozone and CO.

State Implementation Plan. In developing the FIP, EPA has worked closely with the SCAQMD because the SCAQMD is developing its own AQMP as required by the federal Clean Air Act Amendments of 1990. The AQMP will be forwarded to the ARB for adoption as part of the SIP. This SIP must be adopted by the ARB and submitted to EPA by November 15, 1994. If the SIP is approved by EPA, then the SIP could be used in lieu of the FIP for federal air quality planning in the SCAB, if it also is approved by the SCAQMD Board (U.S. Environmental Protection Agency 1994).

EPA has developed a procedure for determining whether projects that are considered federal actions conform to applicable SIPs or FIPs (40 CFR 51, 93). Conformity procedures at least as stringent as those proposed by EPA must be incorporated into the applicable SIP. In the absence of a federally approved SIP containing general conformity procedures, all federally funded projects must be shown to conform to the requirements in the federal conformity guidance.

Southern California Association of Governments RCP. SCAG is a metropolitan planning organization with an executive council of 70 members. SCAG is responsible for preparing regional growth forecasts for the SCAB. The SCAQMD has entered into a memorandum of understanding to use SCAG's growth forecast in developing the air quality plans, including the 1994 SIP and the 1994 AQMP. The 1991 AQMP was based on a regional population forecast of 15.7 million for 2010, whereas the new air plans will reflect SCAG's population forecast of 17.4 million for 2010 in the Regional Comprehensive Plan. The draft FIP is based on the population forecast of 18.3 million.

Joint Water Pollution Control Plant

Sources and Emissions of Criteria Pollutants

Table 8-3 shows existing (1993) criteria pollutant emissions at the JWPCP and the three WRPs that may be expanded as part of this plan. Emissions from permitted processes are the largest source of ROG at the JWPCP. Permitted emissions are those produced by sources that require an air quality permit to operate. Nearly all the emissions from permitted processes are from wastewater treatment processes.

Emissions from permitted fuel burning in internal combustion engines and turbines are the largest source of NO_x, SO_x, and PM10.

Table 8-3. Criteria Pollutant Emissions at the JWPCP and Inland WRPs in 1993

Emission Source	Amount of Emissions (tons per year)				
	Reactive Organic Gases	Nitrogen Oxides	Sulfur Oxides	Carbon Monoxide	Particulate Matter
JWPCP	25.7	116.4	2.9	42.0	16.9
Los Coyotes WRP	4.5	0.1	0.0	0.0	0.0
San Jose Creek WRP	4.7	0.2	0.1	0.5	0.1
Whittier Narrows WRP	1.1	0.0	0.0	0.0	0.0

Note: 0.0 indicates a reported value less than 0.05 ton per year.

Source: County Sanitation Districts of Los Angeles County 1993e.

Sources and Emissions of Toxic Pollutants

Pursuant to the California Air Toxics "Hot Spots" Information and Assessment Act of 1987 (Assembly Bill [AB] 2588), the Districts prepared a health risk assessment (HRA) for the JWPCP, which was submitted to the SCAQMD on December 14, 1992. (County Sanitation Districts of Los Angeles County 1992a). The HRA contained a summary of toxic substances emitted by the JWPCP. Later in this chapter, in the "Criteria for Determining Significance" section, is a description of what levels constitute a significant health risk.

The HRA contains three components: an analysis of carcinogenic risks and an analysis of both the chronic and acute hazard indexes for noncarcinogens. According to the HRA, the individual cancer risk from JWPCP emissions is estimated to equal 1.67 per million at a continuous exposure of 70 years, 24 hours per day, at the residential receptor site of highest impact (the site of the assumed maximally exposed individual), which is south of the facility. At the commercial work site of highest impact, located near the southeast corner of the facility, the emissions from the JWPCP result in an individual cancer risk of about 0.6 per million for an exposure of 46 years, 8 hours per day, 240 days per year. (County Sanitation Districts of Los Angeles County 1992a.)

The "population excess cancer burden" is an estimate of the increased number of cancer cases in a population that can result because of exposure to emitted substances. The excess cancer burden for a population is the product of the exposed population and the estimated individual cancer risk associated with a 70-year exposure to all substances emitted from the source. The total population excess cancer burden for the population in the study area around the JWPCP was determined to be 0.0056 cancer cases (County Sanitation Districts of Los Angeles County 1992a).

The HRA also reported that noncancer health impacts of JWPCP emissions at all nearby residential and commercial receptor sites are well below those concentrations identified by the ARB, the SCAQMD, and the OEHHA as the acceptable exposure levels for long-term (or chronic) inhalation exposure to low-toxicity substances and for short-term (or acute) inhalation exposure to high-toxicity substances. The assessment of chronic exposure determined that the large margins of safety by which the predicted receptor site concentrations meet these allowable concentrations are exhibited both when each substance is considered by itself, and when the chronic toxicity health effects of all substances are added together by use of an ARB-approved hazard index evaluation process that accounts for the possibility that multiple subthreshold exposures could result in an adverse health effect. (County Sanitation Districts of Los Angeles County 1992a.) Similarly, the assessment of acute exposure also found large margins of safety when substances that pose an acute health risk were evaluated.

Sources of Odors and Number and Frequency of Odor Complaints

The primary source of odor at wastewater treatment facilities is hydrogen sulfide. This compound is produced by the activity of anaerobic organisms in septic collection systems or in anaerobic treatment processes at the plant site. Another common odor is that of nonionized ammonia, which is prevalent and readily volatilized whenever the wastewater pH is elevated (becomes less acidic and more alkaline). In many instances, other organic compounds can also contribute to odor production.

In accordance with the requirements of SCAQMD Rule 1179, "Publicly Owned Treatment Works Operations", an odor evaluation report was prepared for the JWPCP and the Los Coyotes, San Jose Creek, and Whittier Narrows WRPs (County Sanitation Districts of Los Angeles County et al. 1993). The odor evaluation was based on sampling method protocols, locations, and analytical protocols described in an emissions inventory plan submitted to the SCAQMD on June 1, 1992, and approved January 25, 1993. The sampling portion of the emissions inventory plan was implemented and completed at all four sites between January and July 1993 as part of the Joint Emissions Inventory Program (JEIP).

Process-specific odor testing was conducted at each of the four subject POTWs. The results of this odor evaluation program provide useful information regarding the relative strength of each measured odor source. The results from this study, however, do not address odor concentration at or across the facilities' property lines.

Because most sewage treatment processes are potential sources of odors, the Districts have adopted an overall odor control program, which is currently in place at each of the JOS facilities. As part of that program, the Districts routinely provide odor control as an integral part of each facility's design. The odor control technology currently employed on the wastewater and biosolids handling operations at the JWPCP consists of a combination of process covers and seals, optimum ventilation rates, caustic scrubbers, activated carbon adsorbers, and chemical treatment of wastewater. Each one of these control technologies has proven to be effective in controlling odors when properly applied.

Another aspect of the Districts' overall odor control strategy is the existing Odor Monitoring Program, which at the JWPCP includes conducting routine odor surveys onsite and within the surrounding area. In addition, the program requires frequent onsite equipment inspections to ensure that control devices and equipment are functioning properly. The program also establishes procedures on receiving, investigating, and responding to odor complaints and implementing corrective action. Most odor complaints are responded to and investigated within 30 minutes.

A demonstration of the effectiveness of the Districts' current odor control strategy is a review of the JWPCP odor complaint history since January 1, 1994; only two odor complaints have been received as of October 7, 1994. Based on the Districts' subsequent investigation, only one of these two complaints was determined to be associated with JWPCP operations. Because the area surrounding the JWPCP is heavily industrialized, the Districts sometimes receive complaints about odors from a neighboring industry (e.g., an oil refinery).

The JWPCP's odor history in the early 1990s is not a yard stick by which future odor performance can be measured. Several significant operational changes have taken place over the past few years at the JWPCP facility, and changes also have occurred at neighboring facilities. For example, onsite composting operations have ceased, although the bagging operation at the neighboring Kellogg facility continues. Also, an adjacent refinery, which has been the subject of SCAQMD Notices of Violation in the past, is no longer in commercial operation. Other neighboring sources of odors still exist, however, and may not be mitigated because they are beyond the control of the Districts.

Furthermore, process odor control is no longer discretionary but is mandated by a variety of regulations. For instance, the SCAQMD's best available control technology (BACT) for new or modified POTW sources requires that primary treatment processes be covered and the off-gas be vented to a carbon adsorber. Odor control regulations for POTWs may ensue from the draft 1994 AQMP. Future impending regulations such as the 1990 federal Clean Air Act Amendments' Title III maximum achievable control technology for toxics (MACT) standards will require the implementation of additional air pollution control systems, which, as a corollary effect, will further reduce ambient odor levels.

Local Wind Rose

Wind rose diagrams are used, among other purposes, to indicate the predominant wind patterns in an area. Wind patterns can be used to show odor and emissions dispersion trends. The wind roses for the San Pedro meteorological station near the JWPCP show the percentage of time wind is blowing in each direction and the mean wind speed at the station for each season of the year (Figures 8-1 through 8-4). During fall and winter, the predominant direction is from the north-northwest. During spring and summer, the predominant direction is from the south-southwest. (California Air Resources Board 1984.)

Sensitive Receptors

Most of the area within a 2,000-foot radius of the JWPCP has been developed and consists of residential, commercial, or industrial use. Immediately east of the JWPCP are industrial areas. Immediately west of the JWPCP is the Harbor Freeway (I-110); farther west are industrial areas. To the north and south are residential areas and to the northwest is a commercial area. The only observed undeveloped areas are west and southwest of the JWPCP, on the other side of I-110. (County Sanitation Districts of Los Angeles County 1992a.) The residential areas described above are considered existing sensitive receptors.

Los Coyotes Water Reclamation Plant

Sources and Emissions of Criteria Pollutants

Table 8-3 shows existing criteria pollutant emissions at the Los Coyotes WRP. Emissions from permitted processes are the largest source of ROG at the Los Coyotes WRP. Nearly all the emissions from permitted processes are from wastewater treatment processes; all other processes result in emissions measuring less than 0.05 t/y.

Emissions from permitted fuel burning in internal combustion engines and turbines are the only source of NO_x measuring greater than 0.05 t/y. Emissions of SO_x, CO, and PM10 from permitted processes are less than 0.05 t/y. (County Sanitation Districts of Los Angeles County 1993e.)

Sources and Emissions of Toxic Pollutants

Estimates of existing toxic pollutant sources and emissions from the Los Coyotes WRP are included in the Revised AB 2588 Air Toxics Inventory Report for the 1991 reporting year, which was submitted by the Districts to the SCAQMD in 1994. Because there is no existing regulatory requirement, an HRA has not been prepared for the Los Coyotes WRP. Emissions of toxic substances from the Los Coyotes WRP are substantially lower than emissions of the same substances at the JWPCP.

Existing Sources of Odors and Number and Frequency of Odor Complaints

For a description of the Districts' odor control strategy program, see the discussion under "Joint Water Pollution Control Plant" above. The odor control technology currently employed for the wastewater operations at the Los Coyotes WRP consists of a combination of process covers and seals, optimum ventilation rates, activated carbon adsorbers, and chemical treatment of wastewater. Each of these control technologies has proven to be effective in controlling odors when properly applied. For example, as of October 7, 1994, no odor complaints have been received in 1994 at the Los Coyotes WRP.

Local Wind Rose

The wind roses for the Artesia meteorological station near the Los Coyotes WRP show the percentage of time wind blows from each direction and the mean wind speed at the station for each season of the year (Figures 8-5 through 8-8). During winter, the predominant direction is from the east-northeast. During spring and summer, the predominant direction is from the south-southwest. During fall, the predominant direction is from the west-northwest. (California Air Resources Board 1984.)

Sensitive Receptors

Almost all the area within a 2,000-foot radius of the Los Coyotes WRP has been developed. Immediately east of the facility is the San Gabriel Freeway (I-605). Areas on the other side of I-605 and between Alondra Boulevard and the Artesia Freeway (SR 91) are primarily zoned as residential, with a few commercial/commercial-neighborhood parcels developed as shopping centers. The buildings and parking lot of Cerritos Community College are also located in this area east of the Los Coyotes WRP.

Immediately south of the Los Coyotes WRP is SR 91. Farther south, between the San Gabriel River and I-605 and up to Artesia Boulevard, land is zoned for industrial use and open space (Southern Pacific Railroad and Los Angeles County Flood Control). South of Artesia Boulevard is a private school. The area south of SR 91 and east of I-605 is zoned for commercial-industrial use and open space. The open space area is occupied by a local high school and a cemetery.

Immediately to the north is a golf course. North of the golf course, up to Alondra Boulevard, is a developed area zoned for industrial use. The area north of Alondra Boulevard lies within Norwalk and is zoned for residential use. Immediately west of the Los Coyotes WRP is the San Gabriel River. Farther west is Bellflower. Most of this area north of SR 91 is zoned for either agricultural or residential use but has been developed as residential, with the exception of Caruthers Park, which is immediately opposite the San Gabriel River from the Los Coyotes WRP. West of the San Gabriel River and south of SR 91 are some additional residential areas, a private school, and a hospital. (County Sanitation Districts of Los Angeles County 1992a.) The residential areas, schools, and hospital are considered existing sensitive receptors.

San Jose Creek Water Reclamation Plant

Sources and Emissions of Criteria Pollutants

Table 8-3 shows existing emissions related to criteria pollutants at the San Jose Creek WRP. Emissions from permitted processes are the largest source of ROG at the San Jose Creek WRP. Emissions from permitted fuel burning in internal combustion engines are the only source of NO_x. (County Sanitation Districts of Los Angeles County 1993e.)

Sources and Emissions of Toxic Pollutants

Pursuant to AB 2588, the Districts prepared an HRA for the existing San Jose Creek WRP (County Sanitation Districts of Los Angeles County 1991). The HRA was submitted to the SCAQMD on June 7, 1991. The HRA contained a summary of toxic substance emissions from the San Jose Creek WRP. The HRA determined the maximum individual risk and the population-wide risk associated with long-term inhalation exposure to carcinogenic substances, and determined the noncarcinogenic health effects of both long-term inhalation exposure to low-toxicity substances and short-term inhalation exposure to high-toxicity substances.

The HRA indicates that at all residential and commercial receptor sites near the San Jose Creek WRP, the health risk is so low that it is considered a "de minimis" risk by the SCAQMD. At the nearest residential receptor location, the emissions from the San Jose Creek WRP result in a maximum individual cancer risk estimate of 0.55 per million, assuming a 70-year continuous exposure. At the maximum exposed commercial receptor site, the highest increase in cancer risk that a worker could expect is 0.1 per million, assuming a working lifetime of 8 hours per day, 240 days per year for 46 years.

The HRA also indicates that at all nearby residential and commercial receptor sites, the predicted concentration of the San Jose Creek WRP's air emissions are well below those concentrations identified by ARB, the SCAQMD, and DOHS as the acceptable exposure levels for long-term (chronic) inhalation exposure to low-toxicity substances and for short-term (acute) inhalation exposure to high-toxicity substances. The HRA of chronic exposure indicates that the large margins of safety by which the predicted receptor site concentrations meet the long-term acceptable exposure levels are exhibited both when each substance is considered by itself, and when the chronic toxicity health effects of all substances are added together by use of an ARB-approved hazard index evaluation process that accounts for the possibility that multiple subthreshold exposures could result in an adverse health effect. (County Sanitation Districts of Los Angeles County 1991.) Similarly, the HRA of acute exposure found large margins of safety when predicted concentrations were compared to the short-term acceptable exposure levels, both when the acute health effects of each substance were evaluated separately, and when the acute effects of all substances were added together.

Sources of Odors and Number and Frequency of Odor Complaints

For a description of the Districts' odor control strategy program, see the discussion under "Joint Water Pollution Control Plant" above. The odor control technology currently employed for the wastewater operations at the San Jose Creek WRP consists of a combination of process covers and seals, optimum ventilation rates, an activated carbon adsorber, and chemical treatment of wastewater. As at the JWPCP, when these control technologies are properly applied, they provide effective odor control. From January 1 to October 7, 1994, seven odor complaints were received at the San Jose Creek WRP. Only one of the seven complaints was confirmed by the Districts to be related to wastewater treatment operations.

Local Wind Rose

The wind roses for the El Monte meteorological station near the San Jose Creek WRP show the percentage of time wind blows from each direction and the mean wind speed at the station for each season of the year (Figures 8-9 through 8-12). During winter, the predominant direction is from the north-northeast. During spring, the predominant direction is from the southwest. During summer and fall, the predominant direction is from the south-southwest. (California Air Resources Board 1984.)

Sensitive Receptors

Almost all the area within a 2,000-foot radius of the San Jose Creek WRP has been developed. Most of the land is zoned for residential uses, with some areas zoned for commercial or light industrial use. Adjacent to the southwest side of the San Jose Creek WRP is the Pomona Freeway (SR 60). Adjacent to the northwest side is I-605. Adjacent to the northeast side is San Jose Creek. Farther northeast, across San Jose Creek, is the California Country Club. (County Sanitation Districts of Los Angeles County 1992a.) The residential areas described above are considered existing sensitive receptors.

Whittier Narrows Water Reclamation Plant

Criteria Pollutant Sources and Emissions

Table 8-3 shows existing criteria pollutant emissions at the Whittier Narrows WRP. Emissions from permitted processes are the largest source of organic gases at the Whittier Narrows WRP. Nearly all the emissions from permitted processes are from wastewater treatment processes; all other processes result in less than 0.05 t/y of emissions. Emissions of SO_x, CO, NO_x, and PM10 from permitted processes are less than 0.5 t/y. (County Sanitation Districts of Los Angeles County 1993e.)

Sources and Emissions of Toxic Pollutants

Estimates of existing toxic pollutant sources and emissions from the Whittier Narrows WRP are included in the Revised AB 2588 Air Toxics Inventory Report for the 1991 reporting year, which was submitted by the Districts to the SCAQMD in 1994. At this time, because there are no regulatory requirements, an HRA has not been prepared for the Whittier Narrows WRP. Emissions of toxic substances at the Whittier Narrows WRP are substantially lower than emissions of the same substances at the San Jose Creek and Los Coyotes WRPs.

Sources of Odors and Number and Frequency of Odor Complaints

For a description of the Districts' odor control strategy program, see the discussion under "Joint Water Pollution Control Plant" above. The odor control technology currently employed for the wastewater operations at the Whittier Narrows WRP consists of a combination of process covers and seals, optimum ventilation rates, and chemical treatment of wastewater. When each of these control technologies is applied properly, they provide effective odor control. As a result, no odor complaints have been received at the Whittier Narrows WRP since January 1, 1991.

Local Wind Rose

The wind roses for the El Monte meteorological station near the Whittier Narrows WRP show the percentage of time wind is blowing in each direction and the mean wind speed at the station for each season of the year (Figures 8-9 through 8-12). Because of the geographic proximity of the San Jose Creek WRP and the Whittier Narrows WRP, meteorological data from the El Monte station is used to describe wind conditions at both WRPs. During winter, the predominant direction is from the north-northeast. During spring, the predominant direction is from the southwest. During summer and fall, the predominant direction is from the south-southwest. (California Air Resources Board 1984.)

Sensitive Receptors

The Whittier Narrows WRP is located in the Whittier Narrows flood control basin. Most of the land within a 2,000-foot radius of the Whittier Narrows WRP is zoned as open space and has been developed as a recreational area. East of the Whittier Narrows WRP, on the other side of Rosemead Boulevard, is Legg Lake (a recreational area). Immediately north of the Whittier Narrows WRP is Legg Lake Creek, which flows into the Rio Hondo. Farther north of the creek are additional recreation areas.

Most of the areas west, south, and southeast of the Whittier Narrows WRP are not currently used for recreational purposes. There are oil wells (possibly abandoned) located in these areas. (County Sanitation Districts of Los Angeles County 1992a.)

IMPACTS AND MITIGATION MEASURES OF THE 2010 PLAN ALTERNATIVES

Methodology and Assumptions for Impact Analysis

Construction Activities

As provided for in Section 15168 of the State CEQA Guidelines (14 CCR 15000 et seq.) and Section 7.12 of the SCAQMD's CEQA Handbook (South Coast Air Quality

Management District 1993), the analysis of air quality impacts resulting from construction at the inland WRPs and sewers was conducted on a program level. As a result, potential impacts at the inland WRPs and sewers are specified, but not quantified, in this EIR.

The analysis for the JWPCP was conducted on a project level. Therefore, emissions associated with construction activities at the JWPCP are quantified. The analysis of air quality impacts resulting from construction activities at the JWPCP is divided into three sections: direct emissions, indirect emissions, and microscale CO analysis. The methods and assumptions used are described in Appendix C.

Operational Activities

Similar to the assessment of air quality impacts from construction at inland WRPs, the analysis of air quality impacts from operation of the inland WRPs and sewers was conducted at a program level and potential impacts at these facilities are specified, but not quantified, in this EIR. The one exception is that air toxics impacts were quantified for the JWPCP and the inland WRPs. The HRAs that were conducted for each alternative were based on the maximum expansion for each facility. Consequently, HRAs were conducted for expansion of the JWPCP from 385 to 400 mgd, Los Coyotes WRP from 37.5 to 75 mgd, San Jose Creek WRP from 100 to 125 mgd, and Whittier Narrows WRP from 15 to 52.5 mgd. HRAs were not conducted for the expansion of Los Coyotes WRP from 37.5 to 50 mgd and from 37.5 to 62.5 mgd nor of the JWPCP decrease in capacity from 385 to 350 mgd.

Similar to the assessment of air quality impacts from construction at the JWPCP, the analysis of impacts from operation of the JWPCP was conducted at a project level and emissions associated with operation of the JWPCP are quantified. The analysis of air quality impacts from operation of new and modified existing facilities at the JWPCP is divided into four sections: criteria pollutants, air toxics, accidental release of acutely hazardous materials, and odors. The methods and assumptions used are described in Appendix C.

Consistency and Conformity Determinations

Consistency is different from conformity. Consistency is required under Section 15125 of the State CEQA Guidelines, while conformity is a requirement under Section 176(c) of the federal Clean Air Act.

Consistency Determination. Under Section 15125 of the State CEQA Guidelines, an EIR must include a discussion of any inconsistencies between the proposed project and any applicable general and regional plans. The AQMP is an applicable regional plan that provides for achieving clean air goals while maintaining a healthy economy using demographic projections and land use assumptions. In this EIR, the projections and assumptions used in the AQMP will be compared to the projections and assumptions used in designing the proposed project.

Conformity Determination. For nontransportation projects requiring federal funds or requiring federal approval, the project sponsor must conduct a general conformity analysis based on 40 CFR 6, 51, and 93). The purpose of the general conformity analysis is to ensure that federal actions do not cause or contribute to a degradation of air quality in areas with existing air quality problems. The federal general conformity rule took effect January 31, 1994. The SCAQMD has adopted a general conformity rule (Rule 1901) based on EPA's general conformity rule.

A project receiving federal funds can be segmented into parts for conformity purposes if those federal funds are tied to specific portions of the project through contracts. The proposed project (implementation of the 2010 Plan) can be segmented into parts for conformity purposes. At this time, only the upgrade to full secondary treatment at the JWPCP will involve the use of federal funds. The future WRP expansions proposed in the 2010 Plan may use federal funds. If so, then at the time a project-level EIR is proposed for those expansions, conformity will be addressed. Consequently, a conformity analysis is required only for expansion of secondary treatment at the JWPCP.

However, Section 93.153(d)(4) of EPA's conformity criteria states that a conformity determination is not required for "alterations and additions of existing structures as specifically required by new or existing applicable environmental legislation or environmental regulations". Because the upgrade to full secondary treatment at the JWPCP is required by existing EPA regulations, this project segment is also exempt from conformity.

Criteria for Determining Significance

An important source of criteria for determining the significance of air quality impacts is Chapter 6 of the CEQA Handbook (SCAQMD 1993). Criteria from the CEQA Handbook, as well as other criteria applied in this EIR, are described below.

Construction Activities

The CEQA Handbook notes:

> When estimating a project's construction-related emissions, the emissions can be averaged over a 3-month period to include only working days. . . . The following significance thresholds for air quality have been established by the [SCAQMD] on a quarterly basis:

- 2.5 tons per quarter of ROG,
- 2.5 tons per quarter of NO_x,
- 24.75 tons per quarter of CO,
- 6.75 tons per quarter of PM10, and
- 6.75 ton per quarter of SO_x.

The SCAQMD has also established the following significance thresholds that are based on calculations of daily construction-related emissions estimates:

- 75 pounds per day of ROG,
- 100 pounds per day of NO_x,
- 550 pounds per day of CO,
- 150 pounds per day of PM10, and
- 150 pounds per day of SO_x.

Precisely forecasting what construction equipment would be on the project site on a daily basis and precisely forecasting the level of activity of each piece of equipment on a daily basis is not possible. Basing the significance of impacts on the calendar-quarter estimation of construction-related emissions is considered the more reliable and representative approach. Therefore, the calendar-quarter significance thresholds will be used in this EIR to determine the significance of impacts.

For this EIR, SCAQMD Rule 1403 is used as the criterion for determining the significance of asbestos-related impacts. Rule 1403 specifies work practice requirements for demolition and renovation activities and the associated disturbance of asbestos-containing material. Rule 1403 requirements for demolition or renovation operations include notification, removal techniques for asbestos-containing material, cleanup procedures, and waste storage and disposal requirements. Emissions released as a result of demolition or renovation work that is not performed in compliance with SCAQMD Rule 1403 could potentially pose a threat to public health and safety and will be considered a significant impact.

Operational Activities

The CEQA Handbook notes:

> Both direct and indirect emissions should be included when determining whether the project exceeds these (operational) thresholds. The following significance thresholds for air quality have been established by the [SCAQMD] for project operations:
>
> - 55 pounds per day of ROG,
> - 55 pounds per day of NO_x,
> - 550 pounds per day of CO,
> - 150 pounds per day of PM10,
> - 150 pounds per day of SO_x, and
> - California state 1-hour or 8-hour CO standard.

Projects in the SCAB with daily operation-related emissions that exceed any of the above emission thresholds should be considered to be significant. These thresholds will be used in this EIR to determine the significance of operation-related air quality impacts.

It should be noted that emissions associated with the hauling of biosolids from the JWPCP will affect the SCAB, as well as the Southeast Desert Air Basin (SEDAB). The following operational thresholds will be used to determine the significance of biosolids disposal and reuse impacts occurring in the SEDAB:

- 75 pounds per day of ROG,
- 100 pounds per day of NO_x,
- 550 pounds per day of CO,
- 150 pounds per day of PM10, and
- 150 pounds per day of SO_x.

Air Toxic Emissions. Three distinct thresholds were used to identify impacts of air toxics: maximum cancer risk in the surrounding population (residential and commercial), chronic health risk, and acute health risk.

In accordance with District Rule 1401, "New Source Review of Toxic Air Contaminants", an incremental risk of more than one in a million was used as the significance threshold or 10 in a million if the project is constructed with best available control technology for toxics (T-BACT).

The chronic health hazard was determined by dividing the annual ground-level concentration (occurring at the location of the maximally exposed individual) for each individual compound by its acceptable exposure limit and then summing the results for each toxicological endpoint (target organ). An allowable threshold exceeding 1.0 for any target organ is considered significant.

The acute health risk was calculated in the same manner as chronic health hazard except that instead of using the annual ground-level concentrations, the maximum hourly ground-level concentrations resulting from peak hourly emissions are used. Again, the sum of the individual products (for each toxicological end point) is considered significant if it exceeds 1.0.

Accidental Release of Acutely Hazardous Materials. The potential accidental release of acutely hazardous materials is discussed in Chapter 10, "Public Health".

Odors. As noted earlier in this EIR, the significance of odor impacts involves a combination of several factors. All the factors, however, combine to affect the number of odor-related complaints received. Therefore, in this EIR, the project will be considered to have a significant odor impact if implementation of the project is expected to contribute substantially to an increase in the number of odor complaints received.

Consistency and Conformity Determinations

Consistency Determinations. As noted earlier in this chapter, this EIR will address any inconsistencies between the proposed project and the AQMP. The criterion for determining the significance of this impact will be consistency between the demographic projections and assumptions used in the proposed project and the AQMP. If substantial inconsistencies are found, this will be used to determine a significant impact.

Conformity Determinations. Based on the conformity discussion in the methodology section, the 2010 Plan is exempt from conformity.

Comparison of Alternatives

Table 8-10 at the end of this chapter shows that the impacts associated with Alternative 1 are similar to those under Alternatives 2, 3, and 4, with some variation. This variation is described below for each alternative.

Alternative 1: Upgrade JWPCP/Expand Los Coyotes WRP/San Jose Creek WRP

Construction Impacts

Impact: Potential for Short-Term Increase in Emissions of Nitrogen Oxides Resulting from Construction at the JWPCP. Construction of new facilities and modifications of existing facilities at the JWPCP would result in the emission of criteria pollutants. Table 8-4 shows estimated emissions that would result from construction activities at the JWPCP. As specified in Chapter 9 of the CEQA Handbook (South Coast Air Quality Management District 1993), estimates of construction-related emissions are prepared for each calendar quarter during the construction period.

Construction of new facilities and modification of existing facilities at the JWPCP would result in emissions of NO_x. This impact is considered significant because the amount of emissions would exceed the significance criterion of 2.5 tons per quarter. As shown in Table 8-4, the significance threshold would be exceeded during three periods: from the second quarter to the fourth quarter of 1997 and from the second quarter of 1998 to the second quarter of 2002. During the 3-year period from the first quarter of 2004 to the fourth quarter of 2006, construction activities would result in emissions of NO_x greater than the significance threshold. During the second half of 2000, NO_x emissions would peak at 11.94 tons per quarter.

Table 8-4. JWPCP Construction-Related Emissions

Year	Quarter	Carobon Monoxide in Tons per Quarter			Reactive Organic Gases in Tons per Quarter			Nitrogen Oxides in Tons per Quarter			Sulfur Oxides in Tons per Quarter			Inhalable Particulate Matter (PM10) in Tons per Quarter		
		Direct	Indirect	Total	Direct	Indirect	Total	Direct	Indirect	Total	Direct	Indirect	Total	Direct	Indirect	Total
1995	4	0.00	0.46	0.46	0.00	0.05	0.05	0.00	0.06	0.06	0.00	0.00	0.00	0.00	0.01	0.01
1996	1	0.00	0.46	0.46	0.00	0.05	0.05	0.00	0.06	0.06	0.00	0.00	0.00	0.00	0.01	0.01
1996	2	0.46	0.52	0.98	0.05	0.05	0.10	1.01	0.07	1.07	0.11	0.00	0.11	12.21	0.01	12.22
1996	3	1.31	0.84	2.15	0.15	0.08	0.23	2.05	0.11	2.16	0.21	0.01	0.22	18.68	0.01	18.69
1996	4	1.31	0.84	2.15	0.15	0.08	0.23	2.05	0.11	2.16	0.21	0.01	0.22	18.68	0.01	18.69
1997	1	1.31	0.72	2.03	0.15	0.07	0.22	2.05	0.10	2.15	0.21	0.01	0.22	18.68	0.01	18.69
1997	2	1.84	0.57	2.41	0.21	0.06	0.27	2.76	0.08	2.84	0.29	0.01	0.29	19.91	0.01	19.92
1997	3	2.11	0.88	3.00	0.24	0.09	0.33	3.13	0.12	3.25	0.32	0.01	0.33	20.04	0.02	20.06
1997	4	2.49	1.25	3.74	0.78	0.13	0.90	3.62	0.17	3.79	0.37	0.01	0.38	20.72	0.02	20.74
1998	1	1.30	1.04	2.34	0.15	0.10	0.25	1.72	0.14	1.86	0.17	0.01	0.18	2.35	0.02	2.36
1998	2	3.46	2.67	6.13	0.40	0.27	0.67	4.79	0.36	5.16	0.48	0.03	0.51	11.49	0.05	11.53
1998	3	4.54	3.48	8.02	0.53	0.35	0.88	6.33	0.47	6.80	0.64	0.04	0.67	16.06	0.06	16.12
1998	4	4.54	3.48	8.02	0.53	0.35	0.88	6.33	0.47	6.80	0.64	0.04	0.67	16.06	0.06	16.12
1999	1	4.27	1.11	5.37	2.07	0.11	2.18	5.96	0.16	6.12	0.60	0.01	0.61	15.92	0.02	15.94
1999	2	3.36	1.29	4.66	3.52	0.13	3.65	4.76	0.19	4.95	0.48	0.02	0.49	14.02	0.03	14.04
1999	3	7.15	2.56	9.71	0.84	0.25	1.10	10.02	0.36	10.38	1.01	0.03	1.04	22.06	0.05	22.11
1999	4	7.15	2.56	9.71	0.84	0.25	1.10	10.02	0.36	10.38	1.01	0.03	1.04	22.06	0.05	22.11
2000	1	7.72	2.75	10.47	0.91	0.27	1.18	10.70	0.39	11.09	1.08	0.03	1.11	22.65	0.05	22.70
2000	2	7.72	2.75	10.47	11.65	0.27	11.92	10.70	0.39	11.09	1.08	0.03	1.11	22.65	0.05	22.70
2000	3	8.22	3.43	11.65	11.71	0.34	12.04	11.45	0.49	11.94	1.16	0.04	1.20	23.76	0.07	23.83
2000	4	8.22	3.43	11.65	0.97	0.34	1.31	11.45	0.49	11.94	1.16	0.04	1.20	23.76	0.07	23.83
2001	1	8.22	3.01	11.23	7.41	0.27	7.68	11.45	0.46	11.90	1.16	0.04	1.19	23.76	0.07	23.83
2001	2	8.22	3.01	11.23	0.97	0.27	1.24	11.45	0.46	11.90	1.16	0.04	1.19	23.76	0.07	23.83
2001	3	8.22	3.01	11.23	0.97	0.27	1.24	11.45	0.46	11.90	1.16	0.04	1.19	23.76	0.07	23.83
2001	4	8.22	3.01	11.23	0.97	0.27	1.24	11.45	0.46	11.90	1.16	0.04	1.19	23.76	0.07	23.83

Year	Quarter	Carobon Monoxide in Tons per Quarter			Reactive Organic Gases in Tons per Quarter			Nitrogen Oxides in Tons per Quarter			Sulfur Oxides in Tons per Quarter			Inhalable Particulate Matter (PM10) in Tons per Quarter		
		Direct	Indirect	Total	Direct	Indirect	Total	Direct	Indirect	Total	Direct	Indirect	Total	Direct	Indirect	Total
2002	1	8.22	3.01	11.23	8.58	0.27	8.85	11.45	0.46	11.90	1.16	0.04	1.19	23.76	0.07	23.83
2002	2	8.22	3.01	11.23	11.58	0.27	11.85	11.45	0.46	11.90	1.16	0.04	1.19	23.76	0.07	23.83
2003	1	0.64	0.20	0.84	0.07	0.02	0.09	0.91	0.04	0.95	0.09	0.00	0.10	0.56	0.01	0.57
2003	2	0.64	0.20	0.84	0.07	0.02	0.09	0.91	0.04	0.95	0.09	0.00	0.10	0.56	0.01	0.57
2003	3	0.64	0.20	0.84	0.07	0.02	0.09	0.91	0.04	0.95	0.09	0.00	0.10	0.56	0.01	0.57
2003	4	0.64	0.20	0.84	0.07	0.02	0.09	0.91	0.04	0.95	0.09	0.00	0.10	0.56	0.01	0.57
2004	1	3.32	0.92	4.24	0.36	0.07	0.44	5.16	0.16	5.32	0.53	0.01	0.54	7.75	0.03	7.78
2004	2	3.32	0.92	4.24	0.36	0.07	0.44	5.16	0.16	5.32	0.53	0.01	0.54	7.75	0.03	7.78
2004	3	3.32	0.92	4.24	0.36	0.07	0.44	5.16	0.16	5.32	0.53	0.01	0.54	7.75	0.03	7.78
2004	4	3.32	0.92	4.24	0.36	0.07	0.44	5.16	0.16	5.32	0.53	0.01	0.54	7.75	0.03	7.78
2005	1	3.32	0.82	4.14	0.36	0.06	0.42	5.16	0.15	5.31	0.53	0.01	0.54	7.75	0.03	7.78
2005	2	3.32	0.82	4.14	3.57	0.06	3.63	5.16	0.15	5.31	0.53	0.01	0.54	7.75	0.03	7.78
2005	3	2.68	0.65	3.33	6.59	0.05	6.64	4.25	0.11	4.36	0.44	0.01	0.45	8.79	0.01	8.80
2005	4	2.68	0.65	3.33	0.29	0.05	0.34	4.25	0.11	4.36	0.44	0.01	0.45	8.79	0.01	8.80
2006	1	2.68	0.65	3.33	0.29	0.05	0.34	4.25	0.11	4.36	0.44	0.01	0.45	8.79	0.01	8.80
2006	2	2.68	0.65	3.33	0.29	0.05	0.34	4.25	0.11	4.36	0.44	0.01	0.45	8.79	0.01	8.80
2006	3	2.68	0.65	3.33	3.16	0.05	3.21	4.25	0.11	4.36	0.44	0.01	0.45	8.79	0.01	8.80
2006	4	2.68	0.65	3.33	3.16	0.05	3.21	4.25	0.11	4.36	0.44	0.01	0.45	8.79	0.01	8.80

Note: Direct emissions are primarily related to on-site construction vehicle exhaust, surface coatings, and dust due to construction.

Indirect emissions are primarily related to construction employee commute trips.

Estimation of direct emissions based on procedures described in South Coast Air Quality Management District 1993.

Estimation of indirect emissions based on the Mobile Assessment for Air Quality Impacts (MAAQI) model.

Mitigation. Implementation of the following mitigation measures would reduce this impact, but not to a less-than-significant level. Tables 11-2 and 11-3 of the CEQA Handbook (South Coast Air Quality Management District 1993) present mitigation measures for construction-related on-road and off-road mobile-source emissions, respectively. On-road mobile-source emissions approximate the indirect emissions shown in Table 8-4. Off-road mobile-source emissions approximate the direct emissions shown in Table 8-4.

Only two of the mitigation measures for off-road mobile sources described in Table 11-3 of the CEQA Handbook would result in reductions in NO_x emissions (three would increase NO_x emissions). Because the emissions from temporary power generators cannot be quantified at this time, no off-road mobile-source mitigation measures are recommended.

Mitigation measures for on-road mobile sources are described in Table 11-2 of the CEQA Handbook. Some of these measures would result in quantifiable reductions in NO_x emissions; some are not quantifiable. All of these measures are described below. Implementation of these measures would be required to mitigate this impact, but would not reduce this impact to a less-than-significant level.

- **Mitigation Measure 8-1. Reduce vehicle trips associated with lunch breaks.**

  The Districts propose to reduce lunch-time vehicle trips by ensuring the availability of onsite food retailers. This service would be available from the beginning of the second quarter of 1996 through the end of the second quarter of 2002.

  Table 11-2 of the CEQA Handbook indicates that implementation of Mitigation measure 8-1 described above would reduce on-road mobile-source (direct) emissions by approximately 0.1-1.3%. The reduction would equal less than 0.1% of total (direct plus indirect) NO_x emissions.

- **Mitigation Measure 8-2. Configure parking to minimize traffic interference.**

  The Districts propose to configure parking facilities for construction equipment and construction employees' vehicles to minimize interference between parking and the flow of construction-related vehicles. This would reduce emissions by minimizing vehicle idling.

- **Mitigation Measure 8-3. Provide temporary traffic control during all phases of construction activities to improve traffic flow.**

  The Districts propose to use temporary traffic control during the construction period. Traffic control would be provided to improve the flow of vehicles, minimizing delay. This would reduce emissions by minimizing vehicle idling time.

- **Mitigation Measure 8-4. Schedule construction activities that affect traffic flow to off-peak hours to the extent feasible.**

  To the extent feasible, the Districts propose to schedule construction activity so that impacts of traffic flow are restricted to off-peak hours. This mitigation measure applies only to the effect construction activity has on offsite traffic. This would reduce emissions by minimizing vehicle idling.

- **Mitigation Measure 8-5. Develop a construction traffic management plan that includes, but is not limited to, rerouting construction trucks off congested streets, consolidating truck deliveries, and providing dedicated turn lanes for movement of construction trucks and equipment onsite and offsite.**

  The Districts propose to prepare a construction traffic management plan that minimizes the impact of construction trucks on offsite vehicle traffic flow. The objective of this plan would be to minimize the number of trucks used and direct the trucks to operate in a way that minimizes impacts on offsite traffic flow. This would reduce emissions by minimizing vehicle idling.

Impact: Potential for Short-Term Increase in Emissions of Reactive Organic Gases Resulting from Construction at the JWPCP. Construction of new facilities and modification of existing facilities at the JWPCP would result in the generation of ROG emissions. Table 8-7 shows estimated emissions that would result from construction activities at the JWPCP.

The use of architectural coatings (e.g., paints and primers) would be the largest source of construction-related ROG emissions. The use of architectural coatings and the associated generation of ROG emissions would be concentrated into short periods of time at the very end of the construction of each facility because coating operations generally occur at the end of a construction project. Construction activities not associated with the use of architectural coatings would emit, at most, 1.3 tons of ROG per quarter. In comparison, the use of architectural coatings is expected to produce approximately 10 tons of ROG during the peak quarter.

This impact is considered significant because the amount of ROG emissions would exceed the significance criterion of 2.50 tons per quarter. As shown in Table 8-4, this significance threshold would be exceeded during six periods: the second quarter of 1999, the second and third quarters of 2000, the first quarters of 2001, the first and second quarters of 2002, the second and third quarters of 2005, and the third and fourth quarter of 2006.

Mitigation. Implementation of the following mitigation measures would reduce this impact, but not to a less-than-significant level. Tables 11-2 and 11-3 of the CEQA Handbook present mitigation measures for construction-related on-road and off-road mobile-source

emissions, respectively. These measures are proposed to the extent feasible to mitigate impacts.

- **Mitigation Measure 8-1. Reduce vehicle trips associated with lunch breaks.**

- **Mitigation Measure 8-2. Configure parking to minimize traffic interference.**

- **Mitigation Measure 8-3. Provide temporary traffic control during all phases of construction activities to improve traffic flow.**

- **Mitigation Measure 8-4. Schedule construction activities that affect traffic flow to off-peak hours to the extent feasible.**

- **Mitigation Measure 8-5. Develop a construction traffic management plan that includes, but is not limited to, rerouting construction trucks off congested streets, consolidating truck deliveries, and providing dedicated turn lanes for movement of construction trucks and equipment onsite and offsite.**

  These mitigation measures are described above.

A substantial portion of the construction-related ROG emissions would result from the application of coatings to concrete structures. To minimize this source of ROG emissions, implementation of the following mitigation measure is recommended:

- **Mitigation Measure 8-6. Apply coatings with a low VOC content and use high-efficiency applicators.**

  To the extent feasible, the Districts propose to require the use of coatings with a low volatile organic compound (VOC) content. These coatings would be used for architectural, waterproofing, and protective applications. The ability to use low-VOC-content coatings may be limited by the need to ensure adequate durability of the coating and adequate protection of the underlying surfaces.

  In addition, to the extent feasible, the Districts propose to use coating applicators that transfer coating materials to substrates with high efficiency.

According to information presented in Table 11-2 of the CEQA Handbook, implementation of the on-road mobile-source Mitigation Measure 8-1 described above would reduce direct emissions by approximately 0.1-1.3%. Quantifying the emission reductions achievable by using coatings with a low VOC content and utilizing high-efficiency applicators is not possible at this time because of the difficulty in predicting future coating reformulations and developments in coating equipment technology.

Impact: Potential for Short-Term Increase in Emissions of Inhalable Particulates Resulting from Construction at the JWPCP. Construction of new and modified facilities at the JWPCP would result in the emission of PM10 pollutants. Table 8-4 shows estimated emissions that would result from construction activities at the JWPCP.

This impact is considered significant because the amount of emissions would exceed the significance criterion of 6.75 tons per quarter. As shown in Table 8-4, this significance threshold would be exceeded during three periods: from the second quarter of 1996 to the fourth quarter of 1997, from the second quarter of 1998 to the second quarter of 2002, and from the first quarter of 2004 to the fourth quarter of 2006. During the second exceedance period, PM10 emissions would peak at 23.8 tons per quarter.

Fugitive dust emissions occurring in the SCAB are governed by SCAQMD's Rule 403. The mitigation measures discussed below (Mitigation Measures 8-7 through 8-15) in some instances go beyond the reasonably available control measures (RACM) specified in Rule 403.

Mitigation. Implementation of the following mitigation measures would reduce this impact, but not to a less-than-significant level. Table 11-4 of the CEQA Handbook presents mitigation measures for construction-related PM10 emissions. The following are mitigation measures from Table 11-4 that have quantifiable emission reductions.

Reducing PM10 emissions below the significance threshold would require a 72% reduction in emissions. The CEQA Handbook presents an estimated level of effectiveness for each of the mitigation measures. This estimated level of effectiveness applies to the treated source category. For example, paving unpaved construction roads is estimated to reduce PM10 emissions by 92.5%. However, the 92.5% reduction only applies to emissions generated by unpaved roads, not other sources of PM10 emissions. The highest anticipated effectiveness of mitigation measures presented in the CEQA Handbook is 92.5%; many mitigation measures have a lower anticipated degree of effectiveness. Therefore, although implementing the following mitigation measures would reduce the significance of PM10 air quality impacts, a 72% reduction is not practically achievable. Implementation of the mitigation measures would not reduce the impact to a less-than-significant level.

The following mitigation measures would reduce PM10 emissions from graded surfaces.

- **Mitigation Measure 8-7. Apply nontoxic soil stabilizers.**

  The Districts propose to reduce PM10 emissions by applying nontoxic soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 10 days or more). The CEQA Handbook (Table 11-4) indicates that implementation of this mitigation measure would reduce emissions from the treated source by 30-65%.

- **Mitigation Measure 8-8. Replace ground cover in disturbed areas as quickly as possible.**

Table 11-4 indicates that implementation of this mitigation measure would reduce emissions from the treated source by 15-49%.

- **Mitigation Measure 8-9. Enclose, cover, water twice daily, or apply nontoxic soil binders according to manufacturers' specifications to exposed piles (i.e., gravel, sand, dirt) with 5% or greater silt content.**

Table 11-4 indicates that implementation of this mitigation measure would reduce emissions from the treated source by 30-74%.

- **Mitigation Measure 8-10. Water active sites (heavily trafficked areas) at least twice daily.**

Table 11-4 indicates that implementation of this mitigation measure would reduce emissions from the treated source by 34-68%.

The following mitigation measures would reduce PM10 emissions from paved road surfaces.

- **Mitigation Measure 8-11. Ensure that all trucks hauling dirt, sand, soil, or other loose material are covered, or maintain freeboard in accordance with CVC Section 23114.**

Table 11-4 indicates that implementation of this mitigation measure would reduce emissions from the treated source by 7-14%.

- **Mitigation Measure 8-12. Sweep streets at the end of the day with water sweepers if visible soil is carried onto adjacent public roads.**

Table 11-4 indicates that implementation of this mitigation measure would reduce emissions from the treated source by 25-60%.

The following mitigation measures would reduce PM10 emissions from unpaved road surfaces.

- **Mitigation Measure 8-13. Pave the first 100 feet onto site of all unpaved, heavily trafficked construction roads.**

The Districts propose to pave the first 100 feet onto site of all unpaved, heavily trafficked construction roads. If appropriate and feasible, more than the first 100 feet should be paved. According to information presented in Table 11-4, implementation of this mitigation measure would reduce emissions from the treated source by 92.5%.

- **Mitigation Measure 8-14. Pave or apply nontoxic soil stabilizers to all unpaved parking and staging areas.**

  The Districts propose to pave or apply nontoxic soil stabilizers to all unpaved parking and staging areas. According to information presented in Table 11-4, implementation of this mitigation measure would reduce emissions from the treated source by 45-85%.

- **Mitigation Measure 8-15. Limit traffic speeds on all unpaved roads to 15 mph or less.**

  The Districts propose to limit traffic speeds on all unpaved roads to 15 mph or less. According to information presented in Table 11-4, implementation of this mitigation measure would reduce emissions from the treated source by 40-70%.

The Districts would require that all applicable contractors enforce Mitigation Measures 8-7 through 8-15 and comply with SCAQMD Rule 403. The mitigation measures will be in effect during periods when PM10 emissions exceed the significance threshold of 6.75 tons per quarter. According to information presented in Table 11-4, implementation of these mitigation measures would reduce emissions from the treated source by 40-70%.

Impact: Potential for Short-Term Increase in Microscale Carbon Monoxide Levels Resulting from Construction at the JWPCP. Construction at the JWPCP would generate additional on-road vehicle trips. These trips would be associated with both construction employee commute travel and transport of construction equipment. The additional vehicle travel would result in increases in CO levels along commute routes and equipment hauling routes.

An assessment of the project site and the surrounding roadway network led to the conclusion that the location most likely to be affected by project-related travel is the intersection of Sepulveda Boulevard and Figueroa Street. Table 8-5 presents the results of a microscale CO analysis of this intersection.

Table 8-5 shows CO concentrations for existing conditions and for 2002 conditions both with and without the project. Conditions in 2002 with and without the project were analyzed because project-related travel (resulting in indirect emissions) and the potential for increased traffic congestion would be at their maximum during that year. The CO emissions from indirect sources do not peak at the same time the project-related travel reaches its maximum because the CO emission factors for on-road vehicles decrease in future years.

Table 8-5 shows that project-related travel would result in a minor increase in CO concentrations. The project would increase peak 1-hour CO concentration by 0.4 ppm to 0.6 ppm and increase 8-hour concentrations by 0.3 ppm to 0.5 ppm. However, all the 1-hour and 8-hour CO concentrations for the 2002 with-project condition are well below the CO air quality standards. Therefore, this impact is considered less than significant.

Mitigation. No mitigation is required.

Table 8-5. Summary of Worst-Case Carbon Monoxide Modeling Results - Intersection of Sepulveda Boulevard and Figueroa Street (parts per million)

Receptor	Existing		2002 No Project		2002 with Project	
	1 Hour	8 Hour	1 Hour	8 Hour	1 Hour	8 Hour
Shopping center, northwest of intersection	11.9	8.5	6.7	4.9	7.2	5.2
Commercial, northeast of intersection	11.8	8.5	6.7	4.9	7.1	5.2
Industrial, southeast of intersection	12.8	9.2	7.3	5.3	7.9	5.8
Commercial, southwest of intersection	11.8	8.5	6.7	4.9	7.1	5.2

Notes: Existing 1-hour and 8-hour background concentrations equal 10.2 and 7.3 ppm, respectively.

Year 2002 condition 1-hour and 8-hour background concentrations equal 5.5 and 4.0 ppm, respectively.

Persistence factors of 0.72 and 0.73 were used for existing and year 2002, respectively.

Impact: Minimal Potential for Release of Asbestos Resulting from Construction at the JWPCP. Construction at the JWPCP would involve demolition of two buildings at the JWPCP that have been identified as containing asbestos: boilerhouse 2/proportioning station 1 and the grit dewatering building. Construction would also involve renovation of two buildings containing asbestos: boilerhouse 3 and the laboratory and control building.

All demolition or renovation work involving asbestos-containing materials that is performed within the SCAB is required to comply with Rule 1403, and the Districts would comply with this rule. As a result, no threat to public health and safety would occur as a result of the construction projects described in this EIR. Asbestos-containing areas in affected buildings have been identified by consultants, are clearly marked on drawings, are limited to small areas, and can be safely removed by qualified contractors with little or no impact on the environment. Therefore, all projects that identify the implementation of Rule 1403 are determined to have a less-than-significant impact with respect to asbestos emissions.

Mitigation. No mitigation is required.

Impact: Potential for Short-Term Increase in Emissions of Nitrogen Oxides Resulting from Construction at the Los Coyotes and San Jose Creek WRPs. Construction of the proposed expansion of the Los Coyotes and San Jose Creek WRPs would generate NO_x emissions. Based on the relative amounts of construction activities, the amount of emissions at the WRPs is expected to be substantially less than the amount that would result from construction activities at the JWPCP (shown in Table 8-4). However, because the type of construction activity that would occur at the WRPs is similar to the type that would occur at the JWPCP, the relative proportion of emission types is expected to be similar. The level of NO_x emissions estimated to result from construction activities at the JWPCP is almost five times the significance threshold of 2.5 tons per quarter. NO_x emissions per quarter due to construction at the WRPs are not expected to be less than one-fifth of the level estimated for the JWPCP. Thus, it is expected that construction of the expansion of each of the WRPs would exceed the significance criterion of 2.5 tons per quarter. This impact is considered significant.

Mitigation. Implementation of the following mitigation measures to the extent feasible would be required to reduce this impact, but would not reduce the impact to a less-than-significant level.

- **Mitigation Measure 8-1. Reduce vehicle trips associated with lunch breaks.**
- **Mitigation Measure 8-2. Configure parking to minimize traffic interference.**
- **Mitigation Measure 8-3. Provide temporary traffic control during all phases of construction activities to improve traffic flow.**

- **Mitigation Measure 8-4. Schedule construction activities that affect traffic flow to off-peak hours to the extent feasible.**

- **Mitigation Measure 8-5. Develop a construction traffic management plan that includes, but is not limited to, rerouting construction trucks off congested streets, consolidating truck deliveries, and providing dedicated turn lanes for movement of construction trucks and equipment onsite and offsite.**

These mitigation measures are described above under the discussion of JWPCP impacts.

Impact: Potential for Short-Term Increase in Emissions of Reactive Organic Gases Resulting from Construction at the Los Coyotes and San Jose Creek WRPs. Although emissions from construction activities at the Los Coyotes and San Jose Creek WRPs are expected to be less than emissions at the JWPCP, construction of the expansion of the Los Coyotes and San Jose Creek WRPs could exceed the significance criterion of 2.50 tons per quarter. This impact is considered potentially significant.

Mitigation. Implementation of the following mitigation measures would reduce this impact to a less-than-significant level:

- **Mitigation Measure 8-1. Reduce vehicle trips associated with lunch breaks.**

- **Mitigation Measure 8-2. Configure parking to minimize traffic interference.**

- **Mitigation Measure 8-3. Provide temporary traffic control during all phases of construction activities to improve traffic flow.**

- **Mitigation Measure 8-4. Schedule construction activities that affect traffic flow to off-peak hours to the extent feasible.**

- **Mitigation Measure 8-5. Develop a construction traffic management plan that includes, but is not limited to, rerouting construction trucks off congested streets, consolidating truck deliveries, and providing dedicated turn lanes for movement of construction trucks and equipment onsite and offsite.**

- **Mitigation Measure 8-6. Apply coatings with a low VOC content and use high-efficiency applicators.**

These mitigation measures are described above under the discussion of JWPCP impacts.

Impact: Potential for Short-Term Increase in Emissions of Inhalable Particulates Resulting from Construction at the Los Coyotes and San Jose Creek WRPs. Although emissions from construction activities at the Los Coyotes and San Jose Creek WRPs are expected to be less than emissions at the JWPCP, it is expected that construction of the expansion of the Los Coyotes and San Jose Creek WRPs would exceed the significance criterion of 6.75 tons per quarter. This impact is considered significant.

Mitigation. Implementation of the following mitigation measures would be required to reduce this impact, but would not reduce the impact to a less-than-significant level.

- **Mitigation Measure 8-7. Apply nontoxic soil stabilizers.**
- **Mitigation Measure 8-8. Replace ground cover in disturbed areas as quickly as possible.**
- **Mitigation Measure 8-9. Enclose, cover, water twice daily, or apply nontoxic soil binders according to manufacturers' specifications to exposed piles (i.e., gravel, sand, dirt) with 5% or greater silt content.**
- **Mitigation Measure 8-10. Water active sites (heavily trafficked areas) at least twice daily.**
- **Mitigation Measure 8-11. Ensure that all trucks hauling dirt, sand, soil, or other loose material are covered, or maintain freeboard in accordance with CVC Section 23114.**
- **Mitigation Measure 8-12. Sweep streets at the end of the day with water sweepers if visible soil is carried onto adjacent public roads.**
- **Mitigation Measure 8-13. Pave the first 100 feet onto site of all unpaved, heavily trafficked construction roads.**
- **Mitigation Measure 8-14. Pave or apply nontoxic soil stabilizers to all unpaved parking and staging areas.**
- **Mitigation Measure 8-15. Limit traffic speeds on all unpaved roads to 15 mph or less.**

These mitigation measures are described above under the discussion of JWPCP impacts.

Impact: Potential for Short-Term Increase in Microscale Carbon Monoxide Levels Resulting from Construction at the Los Coyotes and San Jose Creek WRPs. Construction at the Los Coyotes and San Jose Creek WRPs would generate additional on-road vehicle trips. The additional vehicle travel would result in increases in microscale CO levels along commute routes and equipment haul routes.

The analysis of microscale CO impacts of construction at the JWPCP indicated that the impacts would be less than significant. Because the magnitude of construction activity at the WRPs would be less than at the JWPCP, this impact is considered less than significant.

Mitigation. No mitigation is required.

Impact: Minimal Potential for Release of Asbestos Resulting from Construction at the Los Coyotes WRP. One or more buildings at the Los Coyotes WRP slated for demolition or renovation could contain asbestos. All demolition or renovation work involving asbestos-containing materials that is performed within the SCAB is required to comply with Rule 1403, and the Districts would comply with this rule. As a result, no threat to public health and safety would occur as a result of the construction projects described in this EIR. Asbestos-containing areas in affected buildings have been identified by consultants, are clearly marked on drawings, are limited to small areas, and can be safely removed by qualified contractors with little or no impact on the environment. Therefore, all projects that identify the implementation of Rule 1403 are determined to have a less-than-significant impact with respect to asbestos emissions.

Mitigation. No mitigation is required.

Impacts of Treatment Plant Operations

Impact: Potential for Long-Term Increase in Emissions of Reactive Organic Gases, Nitrogen Oxides, Carbon Monoxide, Sulfur Oxides, and Particulates Resulting from Increase in Operations at the JWPCP. Operation of new and modified facilities at the JWPCP would increase emissions of ROG, NO_x, CO, SO_x, and PM10. Table 8-6 shows estimated emissions that would result from operation of facilities at the JWPCP. For each of the pollutants shown in Table 8-6, emissions estimates are split into amounts that would occur under 2010 no-project conditions and amounts associated with operation of new and modified facilities (described in Table 8-6 as "Project Related"). Estimates of pollutant emissions are also divided into the major emission sources at the JWPCP.

Operation of new and modified facilities at the JWPCP would result in direct emission increases in the SCAB of 51 pounds per day of ROG, 104 pounds per day of NO_x, 52 pounds per day of PM10, 22 pounds per day of SO_x, and 109 pounds per day of CO. The majority of project-related emissions increases would be associated with permitted combustion equipment, specifically the addition of one 12,000-horsepower (hp) gas turbine engine.

Operation of new and modified facilities at the JWPCP would result in indirect emissions increases in the SCAB of 7 pounds per day of ROG, 75 pounds per day of NO_x, 6 pounds per day of PM10, 4 pounds per day of SO_x, and 70 pounds per day of CO. The majority of these emissions increases would be associated with the hauling of biosolids to disposal, land application, and processing destinations. The operation of new and modified facilities at the JWPCP would also result in indirect emissions in the SEDAB of 15.7 pounds

Table 8-6. Future Year JWPCP Operational-Related Emissions - Alternatives 1, 2, 3, and No Project (Pounds per Day)

Emission Source	Carbon Monoxide			Reactive Organic Compounds			Nitrogen Oxides			Sulfur Oxides			Particulate Matter (PM10)		
	2010 No Project	2010 With Project	Project Related	2010 No Project	2010 With Project	Project Related	2010 No Project	2010 With Project	Project Related	2010 No Project	2010 With Project	Project Related	2010 No Project	2010 With Project	Project Related
Direct Sources															
Permitted combustion equipment (e.g., combustion of digester gas generated on-site)	201.3	310.5	109.2	48.4	79.8	31.4	261.6	365.6	104.0	63.3	85.7	22.4	111.4	163.2	51.8
Primary treatment processes (e.g., sedimentation tanks)	--	--	--	38.0	39.5	1.5	--	--	--	--	--	--	--	--	--
Secondary treatment processes (e.g., secondary clarifiers)	--	--	--	11.8	23.5	11.7	--	--	--	--	--	--	--	--	--
Digester post-digester processes (e.g., digester cleaning screenings)	--	--	--	9.1	15.1	6.0	--	--	--	--	--	--	--	--	--
Other (e.g., solvent use)	--	--	--	28.3	28.3	0.0	--	--	--	--	--	--	--	--	--
Subtotal (direct sources)	201.3	310.5	109.2	135.6	186.2	50.6	261.6	365.6	104.0	63.3	85.7	22.4	111.4	163.2	51.8
Indirect Sources															
Employee commute trips	54.9	58.9	4.0	3.9	4.2	0.3	10.1	10.8	0.7	1.0	1.1	0.1	1.7	1.8	0.1
Transportation of biosolids (SCAB only)	110.6	176.3	65.7	12.8	19.9	7.1	105.2	179.1	73.9	6.5	10.8	4.3	8.2	13.7	5.5
Subtotal (indirect sources)	165.5	235.2	69.7	16.7	24.1	7.4	115.3	189.9	74.6	7.5	11.9	4.4	9.9	15.5	5.6
Total (SCAB)	366.8	545.7	178.9	152.3	210.3	58.0	376.9	555.5	178.6	70.8	97.6	26.8	121.3	178.7	57.4
Indirect transportation of biosolids (SEDAB)	176.4	327.1	150.7	18.5	34.2	15.7	199.9	370.6	170.7	11.7	21.8	10.1	14.9	27.6	12.7

Notes: Project-related emissions represent different between 2010 No Project and 2010 With Project.
Secondary treatment will increase from 200 mgd to 400 mgd.
Sludge quantity will increase by 77% from current level.
Emission factors for wastewater treatment are based on JEIP data for JWPCP.
One Solar Mars (T-12,000) will be operated with digester gas and natural gas (30% maximum heat input). Emission factors are based on annual emissions inventory report.
Two engines will be added at SIPS but all five PEPS engines will be in standby; minor increase of DG consumption. Emission factors are based on annual emissions inventory report.
Assumes the use of selective catalytic reduction on combustion turbines.
-- = no reported emissions.

per day of ROG, 170.7 pounds per day of NO_x, 12.7 pounds per day of PM10, 10.1 pounds per day of SO_x, and 150.7 pounds per day of CO. Electrical requirements at JWPCP are satisfied by the gas-turbine-based combined-cycle power plant (CCPP) with the Southern California Edison (SCE) grid providing backup power. Full-secondary JWPCP electrical requirements for 2002 are estimated at 21 megawatts. By 2010, CCPP output will increase to 25 megawatts and JWPCP will maintain the capability to generate its entire electrical requirements and maintain a small electricity export to SCE.

Before operating the new and modified facilities at the JWPCP, the Districts would be required to comply with the SCAQMD New Source Review (NSR) Regulation XIII, Rules 1300 through 1313. The NSR regulation requires that the best available control technology (BACT) be applied to reduce emissions associated with the new and modified facilities. For example, selective catalytic reduction (SCR) is proposed as BACT for NO_x control for the turbines fired by digester gas and natural gas and the internal combustion engine fired by digester gas. NSR also requires that dispersion modeling be conducted to show that emission increases will not cause local violations of the state and federal pollutant standards. Finally, NSR requires that the net increase in emissions after installation of BACT be completely offset. Offsets are obtained by the use of emission reduction credits (ERCs) or by making compensating emission reductions at other processes within the JWPCP. Consequently, NSR requires no net increase in ozone precursors, PM10, CO, or NO_x. Because the SCAB is in attainment for SO_2, SO_2 emission offsets are not required. As a result of these requirements, the emission increases of each criteria pollutant would be less than the SCAQMD's significance thresholds and impacts are less than significant.

Mitigation. No mitigation is required.

Impact: Minimal Potential for Long-Term Increases in Odor Levels at the JWPCP. Although some of the new and modified proposed facilities have been identified as potential sources of odors, no increases in property line odor levels are anticipated because strict adherence to the Districts' current odor control strategy practices as described above under "Setting" will continue. In an effort to reduce overall facility-related odors, not only will the Districts provide integral odor control for the new and modified proposed facilities, but the Districts also plan to enhance the odor control effectiveness at some existing facility locations. This will be accomplished by implementing the following measures: more effective covering systems on existing structures, modifying existing air pollution control systems by substantially increasing their capacity to treat odorous air streams, and installing new air pollution control systems at locations that are not currently ventilated. Many existing satellite odor control units will be centralized to make odor control more efficient and easier to monitor and maintain. Standby units will be designed, constructed, and maintained in the case of centralized odor control facilities.

Based on the recent success and the continued implementation of the Districts odor control strategy program, no increases in odors associated with the expansion of the facility are anticipated; therefore, this impact is considered less than significant.

Mitigation. No mitigation is required.

Impact: Minimal Increase in Health Risk Resulting from Emissions of Toxic Air Pollutants at the JWPCP. Table 8-7 shows the results of the cancer health risk assessment from each proposed facility expansion. Table 8-8 shows the total chronic health hazard at each facility and Table 8-9 shows the total acute health hazard at each facility. For the JWPCP upgrade, the maximum incremental individual cancer risk for commercial locations would be 0.24 case per million, while the residential health risk would be 0.92 case per million. Because these values are less than 1.0 case per million, they are considered less than significant.

Similarly, the total chronic and acute health indexes are both less than 1.0 for each toxicological endpoint. Consequently, the chronic and acute health hazard impacts are considered less than significant.

Mitigation. No mitigation is required.

Impact: Minimal Potential for Long-Term Increase in Emissions of Criteria Pollutants Resulting from Expansion of Operation of the Los Coyotes and San Jose Creek WRPs. Operation of expanded facilities at the Los Coyotes and San Jose Creek WRPs would result in the emission of criteria pollutants. Table 8-6 shows estimated emissions that would result from operation of the JWPCP. Operation of expanded facilities at the WRPs would result in substantially lower levels of emissions than at the JWPCP. As a result, operation of expanded facilities at the WRPs probably would not result in emissions levels that would exceed the impact significance thresholds; therefore, this impact is considered less than significant.

Mitigation. No mitigation is required.

Impact: Minimal Increase in Health Risk Resulting from Emissions of Toxic Air Pollutants at the Los Coyotes and San Jose Creek WRPs. Table 8-7 shows the results of the cancer health risk assessment for each proposed facility expansion. Table 8-8 shows the total chronic health hazard for each facility and Table 8-9 shows the total acute health hazard for each facility. For the Los Coyotes WRP, the maximum individual cancer risk for commercial locations is 0.74 case per million and the residential health risk is 0.83 case per million. These values are associated with an expansion of 37.5 mgd at the Los Coyotes WRP, but under Alternative 1 the actual expansion would equal 12.5 mgd. Consequently, the health impacts at the Los Coyotes WRP associated with Alternative 1 would be lower than that shown in Tables 8-7, 8-8, and 8-9. For the San Jose Creek WRP, the maximum incremental individual cancer risk for commercial locations is 0.52 case per million, and the residential health risk is 0.59 case per million. These values are associated with an expansion of 25 mgd at the San Jose Creek WRP. Because the cancer risk values are less than 1.0 case per million, they are considered less than significant.

Mitigation. No mitigation is required.

Table 8-7. Cancer Health Risk Impacts for Each Proposed Facility Modification

Facility	Maximum Incremental Individual Cancer Risk, Commercial (In a Million)	Maximum Incremental Individual Cancer Risk, Residential (In a Million)
JWPCP (15-mgd upgrade)	0.24	0.92
Los Coyotes WRP (37.5-mgd increase)	0.74	0.83
San Jose Creek WRP Stage III (25-mgd increase)	0.52	0.59
Whittier Narrows WRP (37.5-mgd increase)	0.95	<0.29

Note: See Appendix C for a discussion of the assumptions used to conduct the health risk assessment.

Table 8-8. Total Chronic Hazard Index for Each Toxicological End Point

Facility	Cardio-vascular or Blood	Central or Peripheral Nervous System	Immune System	Kidney	Gastro-intestinal System and Liver	Repro-ductive System	Respira-tory System	Skin
JWPCP (15-mgd upgrade)	--	6.5×10^{-4}	3.1×10^{-6}	1.2×10^{-3}	1.9×10^{-3}	5.0×10^{-4}	2.0×10^{-3}	4.8×10^{-4}
Los Coyotes WRP (37.5-mgd increase)	---	6.6×10^{-3}	--	1.3×10^{-3}	2.7×10^{-2}	1.8×10^{-3}	1.7×10^{-4}	--
San Jose Creek WRP Stage III (25-mgd increase)	--	8.4×10^{-4}	--	9.0×10^{-3}	1.6×10^{-2}	1.0×10^{-3}	1.9×10^{-3}	1.5×10^{-4}
Whittier Narrows WRP (37.5-mgd increase)	--	8.7×10^{-4}	--	6.7×10^{-3}	2.5×10^{-2}	9.4×10^{-4}	2.0×10^{-4}	--

Note: -- = compounds affecting these toxicological end points either do not exist or are below detectable thresholds.

Table 8-9. Total Acute Hazard Index for Each Toxicological End Point

Facility	Respiratory	Blood	Central Nervous System	Eye	Immune System
JWPCP (15-mgd upgrade)	1.4×10^{-2}	--	1.4×10^{-3}	--	--
Los Coyotes WRP (37.5-mgd increase)	9.5×10^{-3}	--	1.1×10^{-3}	--	--
San Jose Creek WRP Stage III (25-mgd increase)	5.6×10^{-4}	--	1.6×10^{-3}	--	--
Whittier Narrows WRP (37.5-mgd increase)	4.7×10^{-2}	--	1.3×10^{-3}	--	--

Note: -- = compounds affecting these toxicological end points either do not exist or are below detectable thresholds.

Impact: Minimal Potential for Long-Term Increases in Odor Levels at the Los Coyotes WRP. As noted above under "Setting", as of October 7, 1994, the Districts have received no complaints in 1994. Therefore, it is considered unlikely that expansion of the Los Coyotes WRP would result in an increase in odor complaints. This impact is considered less than significant because the Districts would continue investigating complaints of odors from the Los Coyotes WRP and, where feasible and appropriate, corrective actions would be taken to address complaints.

Mitigation. No mitigation is required.

Impact: Minimal Potential for Long-Term Increases in Odor Levels at the San Jose Creek WRP. As described in above under "Setting", during 1994 the Districts received seven complaints regarding odor from the San Jose Creek WRP. However, only one of the seven complaints was confirmed by the Districts to be related to wastewater treatment operations. None of these complaints resulted in any communications from the SCAQMD. Therefore, it is considered unlikely that expansion of the San Jose Creek WRP would result in an increase in odor complaints. This impact is considered less than significant because the Districts would continue to investigate complaints of odors from the San Jose Creek WRP and, where feasible and appropriate, corrective action would be taken to address complaints.

Mitigation. No mitigation is required.

Impact: Consistency of the 2010 Plan with the 1994 Air Quality Management Plan. The AQMP uses the demographic projections and land use assumptions adopted in the 1994 RCP under a memorandum of understanding with the SCAG. In combination with the implementation of SCAQMD's control measures and rules, the demographic projections and land use assumptions in the 1994 RCP are used to project the future emission goals of the AQMP. The 2010 Plan specifically uses the adopted 1994 RCP demographic projections. Therefore, the proposed project is consistent with the long-range goals of the AQMP.

Mitigation. No mitigation is required.

Impacts of Biosolids Disposal and Reuse

Impact: Potential for Generation of Criteria Pollutants and Odors Resulting from Biosolids Disposal and Reuse. Implementation of the 2010 Plan would increase the amount of biosolids generated by the Districts, which would result in increased disposal and reuse activities. Composting and land application of additional biosolids could increase process emissions, particulate matter, and odors. However, the Districts will only use sites that are properly permitted and that have mitigated all site-specific impacts through the preparation of site-specific environmental documents or compliance with air pollution control district regulations.

Mitigation. No mitigation is required.

Impact: Potential for Generation of NO_x Emissions from Truck Transport of Biosolids. Table C-14 of Appendix C shows changes relative to a baseline scenario in pollutant emissions that would be generated by truck transport of biosolids in 2010 from the JWPCP to disposal and reuse sites. This operation would result in a negligible increase in emissions of SO_x, ROG, and PM10 and an increase in emissions of 73.9 ppd of NO_x and 65.7 ppd of CO in the SCAB. These increases represent a potential exceedance of the NO_x threshold for the SCAB shown in the methodology section, assuming a maximum haul distance of 105 miles to the SCAB-SEDAB border.

Truck transport of biosolids in 2010 would also result in a negligible increase in emissions of SO_x, ROG, and PM10 but an increase in emissions of 170.7 ppd of NO_x and 150.7 ppd of CO in the SEDAB. These increases represent a potential exceedance of the NO_x threshold for the SEDAB shown in the methodology section, assuming a maximum haul distance of 198 miles from the SCAB-SEDAB border to a remote reuse site.

Because pollutant level increases generated by truck transport of biosolids from the JWPCP could result in emissions increases exceeding the SCAB and SEDAB thresholds for NO_x, this impact is considered to be significant.

Mitigation. Implementation of the following mitigation measures would likely reduce this impact, but not to a less-than-significant level:

- **Mitigation Measure 8-16. Perform routine truck maintenance.**

  To the extent feasible, routine maintenance of all Districts-owned trucks used to haul biosolids from the JWPCP would be performed at least as frequently as recommended by the manufacturer. Routine maintenance includes changing oil and other necessary fluids; replacing air, fuel, and oil filters; and performing engine tune-ups.

Alternative 2: Upgrade JWPCP/Expand Los Coyotes WRP

Under Alternative 2, impacts at the JWPCP and the Los Coyotes WRP would be the same as under Alternative 1. No impacts would occur at the San Jose Creek WRP. Construction of sewer lines would result in an additional impact, which is described below.

Impact: Potential for Short-Term Increase in Criteria Pollutant Emissions Resulting from Construction of Sewer Lines. Construction of conveyance facilities would result in the emission of criteria pollutants. However, based on the relative amounts of construction activities, conveyance system construction emissions are expected to be substantially less than those generated by facility construction activities at the inland WRPs and the JWPCP because of shorter construction periods, smaller disturbed areas, and less equipment use. The largest component of pollution resulting from sewer construction activities is predicted to be PM10.

Construction specifications require the contractor to prevent and abate any dust nuisance by cleaning, sweeping, and sprinkling the construction area with water. A self-loading motor sweeper with spray nozzles is required to be on the job site at all times. The contractor is also precluded from discharging smoke, dust, or any other air contaminants in violation of any local air regulation, most notably SCAQMD Rules 402 (Nuisance) and 403 (Fugitive Dust). Compliance with these regulations during construction activities would minimize PM10 emissions. Therefore, this impact is considered less than significant.

Mitigation. No mitigation is required.

Alternative 3: Upgrade JWPCP/Expand Whittier Narrows WRP

Under Alternative 3, impacts at the JWPCP would be the same as under Alternative 1. No impacts would occur at the Los Coyotes or San Jose Creek WRPs. Impacts at the Whittier Narrows WRP are described below.

Construction Impacts

Impact: Potential for Short-Term Increase in Emissions of Nitrogen Oxides Resulting from Construction at the Whittier Narrows WRP. This impact is considered significant for reasons described above for the Los Coyotes WRP under Alternative 1.

Mitigation. Implementation of the following mitigation measures would be required to reduce this impact, but not to a less-than-significant level:

- **Mitigation Measure 8-1. Reduce vehicle trips associated with lunch breaks.**
- **Mitigation Measure 8-2. Configure parking to minimize traffic interference.**
- **Mitigation Measure 8-3. Provide temporary traffic control during all phases of construction activities to improve traffic flow.**
- **Mitigation Measure 8-4. Schedule construction activities that affect traffic flow to off-peak hours to the extent feasible.**
- **Mitigation Measure 8-5. Develop a construction traffic management plan that includes, but is not limited to, rerouting construction trucks off congested streets, consolidating truck deliveries, and providing dedicated turn lanes for movement of construction trucks and equipment onsite and offsite.**

Impact: Potential for Short-Term Increase in Emissions of Reactive Organic Gases Resulting from Construction at the Whittier Narrows WRP. This impact is considered significant for reasons described above for the Los Coyotes and San Jose Creek WRPs under Alternative 1.

Mitigation. Implementation of the following mitigation measures would reduce this to a less-than-significant level:

- **Mitigation Measure 8-1. Reduce vehicle trips associated with lunch breaks**
- **Mitigation Measure 8-2. Configure parking to minimize traffic interference.**
- **Mitigation Measure 8-3. Provide temporary traffic control during all phases of construction activities to improve traffic flow.**
- **Mitigation Measure 8-4. Schedule construction activities that affect traffic flow to off-peak hours to the extent feasible.**
- **Mitigation Measure 8-5. Develop a construction traffic management plan that includes, but is not limited to, rerouting construction trucks off congested streets, consolidating truck deliveries, and providing dedicated turn lanes for movement of construction trucks and equipment onsite and offsite.**

These mitigation measures are described above in the discussion of JWPCP impacts under Alternative 1.

Impact: Potential for Short-Term Increase in Emissions of Inhalable Particulates Resulting from Construction at the Whittier Narrows WRP. This impact is considered significant and unavoidable for reasons described above for the Los Coyotes WRP under Alternative 1.

Mitigation. Implementation of the following mitigation measures would reduce this impact, but not to a less-than-significant level:

- **Mitigation Measure 8-7. Apply nontoxic soil stabilizers.**
- **Mitigation Measure 8-8. Replace ground cover in disturbed areas as quickly as possible.**
- **Mitigation Measure 8-9. Enclose, cover, water twice daily, or apply nontoxic soil binders according to manufacturers' specifications to exposed piles (i.e., gravel, sand, dirt) with 5% or greater silt content.**
- **Mitigation Measure 8-10. Water active sites (heavily trafficked areas) at least twice daily.**

- **Mitigation Measure 8-11. Ensure that all trucks hauling dirt, sand, soil, or other loose material are covered, or maintain freeboard in accordance with CVC Section 23114.**

- **Mitigation Measure 8-12. Sweep streets at the end of the day with water sweepers if visible soil is carried onto adjacent public roads.**

- **Mitigation Measure 8-13. Pave the first 100 feet onto site of all unpaved, heavily trafficked construction roads.**

- **Mitigation Measure 8-14. Pave or apply nontoxic soil stabilizers to all unpaved parking and staging areas.**

- **Mitigation Measure 8-15. Limit traffic speeds on all unpaved roads to 15 mph or less.**

Impact: Potential for Short-Term Increase in Microscale Carbon Monoxide Levels Resulting from Construction at the Whittier Narrows WRP. This impact is considered less than significant for reasons described above for the Los Coyotes WRP under Alternative 1.

Mitigation. No mitigation is required.

Impact: Potential for Release of Asbestos Resulting from Construction at the Whittier Narrows WRP. This impact is considered less than significant for reasons described above for the Los Coyotes WRP under Alternative 1.

Mitigation. No mitigation is required.

Impacts of Treatment Plant Operations

Impact: Minimal Potential for Long-Term Increase in Emissions of Criteria Pollutants Resulting from Expansion of Operation of the Whittier Narrows WRP. Operation of expanded facilities at the Whittier Narrows WRP under Alternative 3 would result in the emission of criteria pollutants. Table 8-6 shows estimated emissions that would result from operation of the JWPCP. Operation of expanded facilities at the Whittier Narrows WRP would result in substantially lower levels of emissions than operation of facilities at the JWPCP. Operation of expanded facilities at the Whittier Narrows WRP would probably not result in emissions levels that would exceed the impact significance thresholds. Therefore, this impact is considered less than significant.

Mitigation. No mitigation is required.

Impact: Minimal Increase in Health Risk Resulting from Emissions of Toxic Air Pollutants at the Whittier Narrows WRP. For the Whittier Narrows WRP, the maximum incremental individual cancer risk for commercial locations is 0.95 case per million, and the residential health risk is less than 0.29 case per million (Table 8-7). These values are associated with an expansion of 37.5 mgd. Because the risk values are less than 1.0 case per million, they are considered less than significant.

Similarly, the total chronic and the acute health hazard indexes are both less than 1.0 for each toxicological end point. Consequently, the chronic and acute health hazards impacts are considered less than significant.

Mitigation. No mitigation is required.

Impact: Minimal Potential for Long-Term Increases in Odor Levels at the Whittier Narrows WRP. As noted above under "Setting", no complaints have been received by the Districts regarding odor from the Whittier Narrows WRP since January 1, 1991. Therefore, it is considered unlikely that expansion of the Whittier Narrows WRP would result in an increase in odor complaints. This impact is considered less than significant.

The Districts will continue to implement the ongoing odor complaint action plan, investigating any complaints of odors from the Whittier Narrows WRP. Where feasible and appropriate, corrective actions will be taken to address complaints.

Mitigation. No mitigation is required.

Alternative 4: Upgrade JWPCP/ Expand Los Coyotes WRP/ San Jose Creek WRP/Whittier Narrows WRP

Under Alternative 4, impacts at the Los Coyotes and San Jose Creek WRPs would be similar to those under Alternative 1, impacts on sewers would be the same as under Alternative 2, and impacts at the Whittier Narrows WRP would be the same as under Alternative 3. Impacts at the JWPCP would be similar to those under Alternative 1, with the minor exception of ROG emissions, which would be slightly lower under Alternative 4, prior to implementation of BACT and offsets (Table 8-6).

Impact: Decrease in Health Risk Resulting from Emissions of Toxic Air Pollutants at the JWPCP. Under Alternative 4, the JWPCP primary treatment capacity would undergo a net decrease of 35 mgd as compared to Alternatives 1, 2, and 3. No health risk assessment was conducted for this alternative because the decrease in treatment is consistent with reduced emissions and lowered risk. Alternative 4 represents a net air quality benefit with regard to health risk. This impact is considered less than significant.

Mitigation. No mitigation is required.

No-Project Alternative

Under the No-Project Alternative, construction of new facilities, including upgrading the JWPCP to full secondary treatment and expansion of inland WRPs, would not occur. Therefore, no construction-related air quality impacts would occur. However, sewage flows to the treatment plants will continue to increase as a result of population growth, and emissions associated with this increased flow would consist primarily of ROG from primary treatment activities. Biosolids would continue to be hauled to offsite locations via truck for disposal or reuse, and emissions associated with hauling would increase somewhat as a result of increased treatment of flows.

Table 8-10. Comparison of Air Quality Impacts by Alternative

Impacts and Mitigation Measures	Alternative 1			Alternative 2			Alternative 3		Alternative 4				
	JWPCP	LC	SJC	JWPCP	LC	Sewers	JWPCP	WN	JWPCP	LC	SJC	WN	Sewers
Construction Impacts													
Impact: Potential for short-term increase in emissions of nitrogen oxides resulting from construction at the JWPCP (*)	✓			✓			✓		✓				
Mitigation Measure 8-1. Reduce vehicle trips associated with lunch breaks													
Mitigation Measure 8-2. Configure parking to minimize traffic interference													
Mitigation Measure 8-3. Provide temporary traffic control during all phases of construction activities to improve traffic flow													
Mitigation Measure 8-4. Schedule construction activities that affect traffic flow to off-peak hours to the extent feasible													
Mitigation Measure 8-5. Develop a construction traffic management plan that includes, but is not limited to, rerouting construction trucks off congested streets, consolidating truck deliveries, and providing dedicated turn lanes for movement of construction trucks and equipment onsite and offsite													
Impact: Potential for short-term increase in emissions of reactive organic gases resulting from construction at the JWPCP (*)	✓			✓			✓		✓				
Mitigation Measures 8-1 through 8-5													
Mitigation Measure 8-6. Apply coatings with a low VOC content													

LT = less than significant. S = significant. * = significant and unavoidable.

Impacts and Mitigation Measures	Alternative 1			Alternative 2			Alternative 3		Alternative 4				
	JWPCP	LC	SJC	JWPCP	LC	Sewers	JWPCP	WN	JWPCP	LC	SJC	WN	Sewers
Impact: Potential for short-term increase in emissions of inhalable particulates resulting from construction at the JWPCP (*)	✓			✓			✓		✓				
Mitigation Measure 8-7. Apply nontoxic soil stabilizers													
Mitigation Measure 8-8. Replace ground cover in disturbed areas as quickly as possible													
Mitigation Measure 8-9. Enclose, cover, water twice daily, or apply nontoxic soil binders according to manufacturers' specifications to exposed piles (i.e., gravel, sand, dirt) with 5% or greater silt content													
Mitigation Measure 8-10. Water active sites (heavily trafficked areas) at least twice daily													
Mitigation Measure 8-11. Ensure that all trucks hauling dirt, sand, soil, or other loose material are covered, or maintain freeboard in accordance with CVC Section 23114													
Mitigation Measure 8-12. Sweep streets at the end of the day with water sweepers if visible soil is carried onto adjacent public roads													
Mitigation Measure 8-13. Pave the first 100 feet onto site of all unpaved, heavily trafficked construction roads													
Mitigation Measure 8-14. Pave or apply nontoxic soil stabilizers to all unpaved parking and staging areas													
Mitigation Measure 8-15. Limit traffic speeds on all unpaved roads to 15 mph or less													
Impact: Potential for short-term increase in microscale carbon monoxide levels resulting from construction at the JWPCP (LT)	✓			✓			✓		✓				
No mitigation is required													

LT = less than significant. S = significant. * = significant and unavoidable.

Impacts and Mitigation Measures	Alternative 1			Alternative 2			Alternative 3		Alternative 4				
	JWPCP	LC	SJC	JWPCP	LC	Sewers	JWPCP	WN	JWPCP	LC	SJC	WN	Sewers
Impact: Potential for short-term increase in emissions of nitrogen oxides resulting from construction at the Whittier Narrows WRP (*) Mitigation Measures 8-1 through 8-5								✓				✓	
Impact: Potential for short-term increase in emissions of reactive organic gases resulting from construction at the Whittier Narrows WRP (S) Mitigation Measures 8-1 through 8-6								✓				✓	
Impact: Potential for short-term increase in emissions of inhalable particulates resulting from construction at the Whittier Narrows WRP (*) Mitigation Measures 8-7 through 8-15								✓				✓	
Impact: Potential for short-term increase in microscale carbon monoxide levels resulting from construction at the Whittier Narrows WRP (LT) No mitigation is required								✓				✓	
Impact: Minimal potential for release of asbestos resulting from construction at the Whittier Narrows WRP (LT) No mitigation is required								✓				✓	
Impact: Potential for short-term increase in criteria pollutant emissions resulting from construction of sewer lines (LT) No mitigation is required						✓							✓
Impacts of Treatment Plant Operations Impact: Potential for long-term increase in emissions of reactive organic gases, nitrogen oxides, carbon monoxide, sulfur oxides, and inhalable particulates resulting from increase in operations at the JWPCP (LT) No mitigation is required	✓			✓			✓		✓				

LT = less than significant. S = significant. * = significant and unavoidable.

Impacts and Mitigation Measures	Alternative 1			Alternative 2			Alternative 3		Alternative 4				
	JWPCP	LC	SJC	JWPCP	LC	Sewers	JWPCP	WN	JWPCP	LC	SJC	WN	Sewers
Impact: Minimal potential for long-term increases in odor levels at the JWPCP (LT) No mitigation is required	✓			✓			✓		✓				
Impact: Minimal increase in health risk resulting from emissions of toxic air pollutants at the JWPCP (LT) No mitigation is required	✓			✓			✓						
Impact: Minimal potential for long-term increase in emissions of criteria pollutants resulting from expansion of operation of the Los Coyotes and San Jose Creek WRPs (LT) No mitigation is required		✓	✓		✓					✓	✓		
Impact: Minimal increase in health risk resulting from emissions of toxic air pollutants at the Los Coyotes and San Jose Creek WRPs (LT) No mitigation is required		✓	✓		✓					✓	✓		
Impact: Minimal potential for long-term increases in odor levels at the Los Coyotes WRP (LT) No mitigation is required		✓			✓					✓			
Impact: Potential for long-term increases in odor levels at the San Jose Creek WRP (LT) No mitigation is required			✓								✓		
Impact: Consistency of the 2010 Plan with the 1994 Air Quality Management Plan (LT) No mitigation is required	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Impact: Minimal potential for long-term increase in emissions of criteria pollutants resulting from expansion of operation of the Whittier Narrows WRP (LT) No mitigation is required								✓				✓	

LT = less than significant. S = significant. * = significant and unavoidable.

Impacts and Mitigation Measures	Alternative 1			Alternative 2			Alternative 3		Alternative 4				
	JWPCP	LC	SJC	JWPCP	LC	Sewers	JWPCP	WN	JWPCP	LC	SJC	WN	Sewers
Impact: Minimal increase in health risk resulting from emissions of toxic air pollutants at the Whittier Narrows WRP (LT) No mitigation is required								✓				✓	
Impact: Minimal potential for long-term increases in odor levels at the Whittier Narrows WRP (LT) No mitigation is required								✓				✓	
Impact: Decrease in health risk resulting from emissions of toxic air pollutants at the JWPCP (LT) No mitigation is required									✓				
Impacts of Biosolids Disposal and Reuse Impact: Potential for generation of criteria pollutants and odors resulting from biosolids disposal and reuse (LT) No mitigation is required	✓			✓			✓		✓				
Impact: Potential for generation of NO_x emissions from truck transport of biosolids within the SCAB (*) Mitigation Measure 8-16. Preform routine truck maintenance	✓			✓			✓		✓				
Impact: Potential for generation of NO_x emissions from truck transport of biosolids within the SEDAB (*) Mitigation Measure 8-16	✓			✓			✓		✓				

LT = less than significant. S = significant. * = significant and unavoidable.