

General Conformity Determination

22E.1 Introduction

This appendix provides the general conformity determination for the applicant-preferred alternative (APA) of the Bay Delta Conservation Plan (BDCP, or project). A general conformity determination is required by Section 176 of the Clean Air Act (CAA). The CAA requires states to submit a state implementation plan (SIP) for areas in nonattainment for federal standards. Section 176(c)(1) of the CAA prohibits federal agencies from engaging in, supporting, or providing financial assistance for licensing, permitting, or approving any activities that do not conform to an approved SIP.

The U.S. Environmental Protection Agency (EPA) enacted the federal general conformity regulation in 1993 (40 Code of Federal Regulations [CFR] Parts 5, 51, and 93). The purpose of the general conformity rule is to ensure that federal actions do not generate emissions that interfere with state and local agencies' SIPs and emission-reduction strategies to ensure attainment of the national ambient air quality standards (NAAQS). Specifically, projects that receive federal funding or require federal approval must demonstrate that they would not cause or contribute to new violations of air quality standards, exacerbate existing violations, or interfere with timely attainment or required interim emissions reductions toward attainment. Because the project is receiving federal funds and approvals from the U.S. Department of the Interior Bureau of Reclamation (Reclamation) (Reclamation), U.S. Fish and Wildlife Service (USFWS), and National Marine Fisheries Service (NMFS) (Federal lead agencies), all direct and indirect emissions generated by the project are subject to the general conformity rule.

22E.1.1 Regulatory Status of the Plan Area

The Plan Area is subject to air quality regulations developed and implemented at the federal, state, and local levels. At the federal level, the EPA is responsible for implementation of the CAA. Some portions of the CAA (e.g., certain mobile-source and other requirements) are implemented directly by EPA. Other portions of the CAA (e.g., stationary-source requirements) are implemented by state and local agencies.

Responsibility for attaining and maintaining air quality in California is divided between the California Air Resources Board (ARB) and regional air quality districts. The Yolo-Solano Air Quality Management District (YSAQMD), Sacramento Metropolitan Air Quality Management District (SMAQMD), Bay Area Air Quality Management District (BAAQMD), and San Joaquin Valley Air Pollution Control District (SJVAPCD) have jurisdiction over local air quality within the Plan area.

Under the CAA, YSAQMD, SMAQMD, BAAQMD, and SJVAPCD are required to develop air quality plans for nonattainment criteria pollutants in their respective air districts. The *1994 Sacramento Area Regional Ozone Attainment Plan* was prepared to address ozone precursors within the Sacramento Federal Nonattainment Area (SFNA) following the region's serious nonattainment designation for the 1-hour ozone NAAQS in November 1991. The *Sacramento Regional 8-Hour Attainment and Reasonable Further Progress Plan* has also been adopted to address the region's

1 nonattainment status for the 8-hour ozone NAAQS. Counties in the SFNA (Sacramento, Yolo, Placer,
2 El Dorado, Solano, Sutter, and Butte) have also adopted the *Northern Sacramento Valley Planning*
3 *Area 2012 Triennial Air Quality Attainment Plan* (2012 Plan).

4 BAAQMD and SJVAPCD have also adopted air quality plans to improve air quality, protect public
5 health, and protect the climate. The *Bay Area 2001 Ozone Attainment Plan* was adopted to reduce
6 ozone and achieve the NAAQS ozone standard in the San Francisco Bay Area Air Basin (SFBAAB).
7 BAAQMD also adopted a resignation plan for carbon monoxide (CO) in 1994. SJVAPCD's *2007 Ozone*
8 *Plan* contains a comprehensive list of regulatory and incentive-based measures to reduce ozone
9 precursors within the San Joaquin Valley Air Basin (SJVAB). SJVAPCD's *2007 PM10 Maintenance*
10 *Plan*, *2008 PM2.5 Plan*, and *2012 PM2.5 Plan* likewise include strategies to reduce particulate matter
11 (PM) emissions throughout the air basin.

12 22E.1.2 General Conformity Requirements

13 The general conformity rule applies to all federal actions located in nonattainment and maintenance
14 areas that are not exempt from general conformity (are either covered by Transportation
15 Conformity or listed in the rule), are not covered by a presumed-to-conform approved list¹, or do
16 not have clearly *de minimis* emissions. In addition, the general conformity rule applies only to direct
17 and indirect emissions associated with the portions of any federal action that are subject to New
18 Source Review for which a Federal permitting agency has directly caused or initiated, has continued
19 program responsibility for, or can practically control (i.e., stationary industrial sources requiring air
20 quality permits from local air pollution control agencies are not subject to general conformity).

21 Federal projects must undertake an evaluation to determine whether all project emission sources
22 are subject to the general conformity rule. The analysis includes a stepwise process in which the
23 Federal agency determines the following.

- 24 1. **Is the emission source located in a Federal attainment area?** If yes, the emission source is
25 not subject to general conformity and no additional analysis is required. If no, document
26 whether the emission source is located in a nonattainment or maintenance area and proceed to
27 step 2.
- 28 2. **Does one or more of the specific exemptions apply to the project?** If yes, the project is
29 exempt from general conformity and no further analysis is required. If no, proceed to step 3.
- 30 3. **Has the Federal agency included the action on its list of presumed-to-conform actions?** If
31 yes, the project is presumed to conform to the applicable SIP and the requirements of general
32 conformity are satisfied. If no, proceed to step 4.
- 33 4. **Are the total direct and indirect emissions below the *de minimis* thresholds?** If yes, the
34 project would not cause or contribute to new violations of air quality standards; the
35 requirements of general conformity are satisfied. If no, the applicant must perform a conformity
36 determination.

37 A general conformity determination is made by satisfying any of the following requirements.

- 38 • Showing that the emission increases caused by the Federal action are included in the SIP.

¹ Category of activities designated by a Federal agency as having emissions below *de minimis* levels or otherwise do not interfere with the applicable SIP or the attainment and maintenance of the NAAQS.

- 1 • Demonstrating that the state agrees to include the emission increases in the SIP.
- 2 • Offsetting the action's emissions in the same or nearby area.
- 3 • Mitigating to reduce the emission increase.
- 4 • Utilizing a combination of the above strategies.

5 The general conformity rule states that the applicability analysis can be (but is not required to be)
 6 completed concurrently with any analysis required under the National Environmental Policy Act
 7 (NEPA). The applicability analysis for the proposed project is described in Section E.1.8, *Applicability*
 8 *Analysis*.

9 **22E.2 Description of the Federal Action**

10 The federal agency is only required to conduct a general conformity evaluation for the specific
 11 Federal action associated with the selected alternative for a project or program (U.S. Environmental
 12 Project Agency 1994). The positive conformity determination must be submitted before the federal
 13 action is approved. Each federal agency is responsible for determining conformity of those proposed
 14 actions over which it has jurisdiction. Alternative 4A has been selected as the applicant-preferred
 15 alternative (APA). Construction and operation of the project under Alternative 4A would be identical
 16 to Alternative 4. Accordingly, emissions generated by Alternative 4A would be representative of
 17 emissions generated under Alternative 4. The general conformity determination presented in this
 18 appendix therefore relates to those activities pertaining to Alternatives 4 and 4A (henceforth
 19 referred to as Alternative 4/4A).

20 If the APA is modified such that it would generate a higher amount of emissions, the general
 21 conformity determination would be revised to reflect the changes before the finalization of the
 22 EIR/EIS. The project is described further in Section 22E.1.3 below.

23 **22E.2.1 BDCP Alternative 4/4A**

24 The BDCP is a comprehensive conservation strategy for the Sacramento–San Joaquin Delta (Delta) to
 25 advance the planning goal of restoring ecological functions of the Delta and improving water supply
 26 reliability in the state of California. The conservation strategy is designed to restore and protect
 27 ecosystem health, water supply, and water quality within a stable regulatory framework. The BDCP
 28 reflects the outcome of a multiyear collaboration between Department of Water Resources (DWR),
 29 Reclamation, state and federal fish and wildlife agencies, state and federal water contractors,
 30 nongovernmental organizations, agricultural interests, and the general public. The BDCP sets out a
 31 comprehensive conservation strategy for the Delta designed to restore and protect ecosystem
 32 health, water supply, and water quality within a stable regulatory framework.

33 The BDCP includes up to 21 conservation measures (CM) that will be taken to meet biological the
 34 goals and objectives. This general conformity determination covers direct and indirect emissions
 35 associated with construction and operation of CM1—Water Facilities and Operation. CM1 provides
 36 for the construction and operation of a new north Delta water conveyance facility to bring water
 37 from the Sacramento River in the north Delta to the existing water export pumping plants in the
 38 south Delta, as well as for the operation of existing south Delta export facilities.

1 Under Alternatives 4 and 4A, water would primarily be conveyed from the north Delta to the south
2 Delta through pipelines/ tunnels. Water would be diverted from the Sacramento River through
3 three fish-screened intakes on the east bank of the Sacramento River between Clarksburg and
4 Courtland. Water would travel from the intakes to a sedimentation basin before reaching the
5 tunnels. From the intakes water would flow into an initial single-bore tunnel, which would lead to an
6 intermediate forebay on Glannvale Tract. From the southern end of this forebay, water would pass
7 through an outlet structure into a dual-bore tunnel where it would flow by gravity to the south
8 Delta. Water would then reach pumping plants to the northeast of the Clifton Court Forebay, where
9 water would be pumped into the north cell of the expanded Clifton Court Forebay. The forebay
10 would be dredged and redesigned to provide an area isolating water flowing from the new north
11 Delta facilities. The expanded Clifton Court Forebay would be designed to provide water to Jones
12 Pumping Plant 24 hours per day. A complete description of Alternative 4 is provided in Chapter 3,
13 *Description of Alternatives*, Sections 3.4, 3.5.9, and 3.6.1. A complete description of Alternative 4A is
14 provided in Appendix A, *Revisions to the Draft EIR/EIS*, Section 4.

15 **22E.3 Air Quality Conditions in the Plan Area**

16 The Plan Area encompasses the following three air basins: Sacramento Valley Air Basin (SVAB),
17 SJVAB, and the SFBAAB.

18 **22E.3.1 Climate and Meteorology**

19 The SVAB has a Mediterranean climate characterized by hot, dry summers and cool, rainy winters.
20 In general, the prevailing winds are moderate in strength and vary from moist clean breezes from
21 the south to dry land flows from the north. The mountains surrounding the SVAB create a barrier to
22 airflow that can trap air pollutants under certain meteorological conditions. The ozone season (May
23 through October) in the Sacramento Valley is characterized by stagnant morning air or light winds
24 with the Delta sea breeze arriving in the afternoon out of the southwest. Usually the evening breeze
25 transports the airborne pollutants to the north out of the Sacramento Valley (Yolo-Solano Air
26 Quality Management District 2007).

27 The SJVAB has an inland Mediterranean climate that is characterized by warm, dry summers and
28 cool winters. Although marine air generally flows into the basin from the Delta, the surrounding
29 mountain ranges restrict air movement through and out of the valley. The vertical dispersion of air
30 pollutants in the SJVAB is limited by the presence of persistent temperature inversion. Air pollutants
31 tend to collect under an inversion, leading to higher concentrations of emitted pollutants.
32 Conversely, precipitation and fog tend to reduce pollutant concentrations. Precipitation in the SJVAB
33 decreases from north to south, with approximately 20 inches in the north, 10 inches in the middle,
34 and less than 6 inches in the south (San Joaquin Valley Air Pollution Control District 2002).

35 The SFBAAB has a coast climate that is influenced by marine air flow and the basin's proximity to
36 the San Francisco Bay. Bay breezes push air onshore during the daytime and draw air offshore at
37 night. During the summer months, the bay helps to cool the warm onshore flows, while it warms the
38 air during the winter months. This mediating effect keeps temperatures relatively consistent
39 throughout the year. In the westernmost portion of the SFBAAB, which encompasses the study area,
40 the bay wind patterns can concentrate and carry air pollutants from other cities to the region,

1 adding to the mix of pollutants that are emitted locally (Bay Area Air Quality Management District
2 2011).

3 **22E.3.2 Ambient Air Quality**

4 The existing air quality conditions in the Plan Area can be characterized by monitoring data
5 collected in the region. Air quality concentrations typically are expressed in terms of parts per
6 million (ppm) or micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). Table 22E-1 summarizes air quality
7 monitoring data from monitoring stations in the SVAB, SJVAB, and SFBAAB for the last 3 years for
8 which complete data are available. As shown in Table 22E-1, the monitoring stations have
9 experienced occasional violations of the NAAQS and California Ambient Air Quality Standards
10 (CAAQS) for all pollutants except CO and nitrogen dioxide (NO_2). However, in general, air quality is
11 improving in the region, as indicated by the declining number of measured violations.

1 **Table 22E-1. Ambient Air Quality Monitoring Data for the SVAB, SJVAB, SFBAAB (2011–2013)**

Pollutant Standards	SVAB (T Street & El Camino)			SJVAB (Stockton)			SFBAAB (Bethel Island & Concord)		
	2011	2012	2013	2011	2012	2013	2011	2012	2013
Ozone (O₃)									
Maximum 1-hour concentration (ppm)	0.100	0.104	0.091	0.089	0.097	0.080	0.091	0.098	0.082
Maximum 8-hour concentration (ppm)	0.087	0.092	0.068	0.068	0.083	0.067	0.078	0.087	0.075
Number of days standard exceeded ^a									
CAAQS 1-hour (>0.09 ppm)	1	1	0	0	1	0	0	1	0
CAAQS 8-hour (>0.070 ppm)	5	9	0	0	2	0	4	4	1
NAAQS 8-hour (>0.075 ppm)	1	4	0	0	6	0	2	2	0
Carbon Monoxide (CO)									
Maximum 8-hour concentration (ppm)	2.83	2.14	-	2.13	1.78	-	0.95	0.89	-
Maximum 1-hour concentration (ppm)	3.0	2.7	3.0	3.2	3.0	2.7	1.4	1.5	1.0
Number of days standard exceeded ^a									
NAAQS 8-hour (≥9 ppm)	0	0	0	0	0	0	0	0	0
CAAQS 8-hour (≥9.0 ppm)	0	0	0	0	0	0	0	0	0
NAAQS 1-hour (≥35 ppm)	0	0	0	0	0	0	0	0	0
CAAQS 1-hour (≥20 ppm)	0	0	0	0	0	0	0	0	0
Nitrogen Dioxide (NO₂)									
State maximum 1-hour concentration (ppm)	57	62	59	62	78	62	35	32	33
State second-highest 1-hour concentration (ppm)	53	56	56	59	58	61	34	30	32
Annual average concentration (ppm)	13	12	12	16	14	15	6	6	-
Number of days standard exceeded									
CAAQS 1-hour (0.18 ppm)	0	0	0	0	0	0	0	0	0
Particulate Matter (PM₁₀)^b									
National ^c maximum 24-hour concentration (μg/m ³)	38.8	36.2	53.1	66.1	69.4	90.1	46.8	51.4	47.4
National ^c second-highest 24-hour concentration (μg/m ³)	38.1	33.6	45.4	53.0	58.2	69.4	44.3	29.5	45.5
State ^d maximum 24-hour concentration (μg/m ³)	42.2	36.7	92.3	70.1	70.0	95.5	49.5	52.3	50.7
State ^d second-highest 24-hour concentration (μg/m ³)	39.3	35.6	66.8	57.8	61.7	74.0	45.8	31.4	48.5
National annual average concentration (μg/m ³)	18.4	17.2	14.4	23.3	22.4	31.3	17.3	13.8	8.5
State annual average concentration (μg/m ³) ^e	19.2	17.8	-	24.1	22.8	32.0	17.9	14.1	-
Number of days standard exceeded ^a									
NAAQS 24-hour (>150 μg/m ³) ^f	0	0	-	0	0	0	0	0	0
CAAQS 24-hour (>50 μg/m ³) ^f	0	0	21	24	18	58	0	6	1

Pollutant Standards	SVAB (T Street & El Camino)			SJVAB (Stockton)			SFBAAB (Bethel Island & Concord)		
	2011	2012	2013	2011	2012	2013	2011	2012	2013
Particulate Matter (PM2.5)									
National ^c maximum 24-hour concentration ($\mu\text{g}/\text{m}^3$)	50.5	27.1	39.2	60.0	60.4	65.5	47.5	32.2	36.2
National ^c second-highest 24-hour concentration ($\mu\text{g}/\text{m}^3$)	47.8	26.7	35.9	53.1	45.0	64.4	39.7	30.0	29.5
State ^d maximum 24-hour concentration ($\mu\text{g}/\text{m}^3$)	50.5	40.8	40.2	65.5	60.4	66.5	47.5	32.2	36.2
State ^d second-highest 24-hour concentration ($\mu\text{g}/\text{m}^3$)	47.8	31.1	39.4	59.5	45.0	64.4	39.7	30.0	29.5
National annual average concentration ($\mu\text{g}/\text{m}^3$)	10.1	8.3	10.0	11.3	12.3	17.6	7.8	6.6	7.6
State annual average concentration ($\mu\text{g}/\text{m}^3$) ^e	10.1	-	10.1	14.0	12.4	-	7.9	6.6	7.6
Number of days standard exceeded ^a									
NAAQS 24-hour (>35 $\mu\text{g}/\text{m}^3$)	18	0	6	11	6	28	2	0	1
Sulfur Dioxide (SO₂)									
No data available									

Source: California Air Resources Board 2014a; United States Environmental Protection Agency 2014a.

ppm = parts per million.

NAAQS = National Ambient Air Quality Standards.

CAAQS = California Ambient Air Quality Standards.

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

mg/m^3 = milligrams per cubic meter.

> = greater than.

NA = not applicable.

^a An exceedance is not necessarily a violation.

^b National statistics are based on standard conditions data. In addition, national statistics are based on samplers using federal reference or equivalent methods.

^c State statistics are based on local conditions data, except in the South Coast Air Basin, for which statistics are based on standard conditions data. In addition, State statistics are based on California approved samplers.

^d Measurements usually are collected every 6 days.

^e State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.

^f Mathematical estimate of how many days concentrations would have been measured as higher than the level of the standard had each day been monitored. Values have been rounded.

1 **22E.3.3 Mass Emissions**

2 The ARB compiles an emissions inventory for all sources of emissions within the study area. This
 3 inventory is used by the YSAQMD, SMAQMD, BAAQMD, SJVAPCD, and ARB for regional air quality
 4 planning purposes and is the basis for the region's air quality plans, and includes such sources as
 5 stationary (e.g., landfills, electric utilities, mineral processes); area-wide (e.g., farming operations,
 6 construction/demolition activities, residential fuel combustion); and mobile sources (e.g.,
 7 automobiles, aircraft, off-road equipment). The latest criteria pollutant emissions summary (2012)
 8 for counties in which the water conveyance facility would be located (Yolo, Sacramento, San Joaquin,
 9 Contra Costa) is summarized in Tables 22E-2 through 22E-5.

10 **Table 22E-2. Yolo County Air Quality Emissions—2012**

Source type	Annual emissions (tons per day)					
	ROG	CO	NO _x	SO _x	PM10	PM2.5
Stationary sources						
Total fuel combustion	0.14	1.81	2.93	0.26	0.46	0.46
Total waste disposal	0.07	0.00	0.00	0.01	0.00	0.00
Total cleaning and surface coatings	1.02	0.00	0.00	0.00	0.01	0.01
Total petroleum production and marketing	1.17	0.04	0.00	0.00	0.00	0.00
Total industrial processes	0.41	0.39	0.17	0.08	1.74	0.64
Total stationary sources	2.81	2.24	3.10	0.35	2.21	1.11
Area-wide sources						
Total solvent evaporation	2.30	0.00	0.00	0.00	0.00	0.00
Total miscellaneous processes	1.29	6.77	0.53	0.04	21.30	3.49
Total area-wide sources	3.59	6.77	0.53	0.04	21.30	3.49
Mobile sources						
Total on road mobile sources	2.50	23.64	7.13	0.02	0.49	0.27
Total off road mobile sources	1.99	11.71	5.72	0.01	0.30	0.27
Total mobile sources	4.49	35.35	12.85	0.03	0.79	0.54
Yolo County total	10.89	44.36	16.48	0.42	24.30	5.14

Source: California Air Resources Board 2013

11

1 **Table 22E-3. Sacramento County Air Quality Emissions—2012**

Source type	Annual emissions (tons per day)					
	ROG	CO	NO _x	SO _x	PM10	PM2.5
Stationary sources						
Total fuel combustion	0.39	3.34	2.62	0.08	0.35	0.34
Total waste disposal	1.16	0.05	0.05	0.01	0.00	0.00
Total cleaning and surface coatings	4.43	0.00	0.00	0.00	0.00	0.00
Total petroleum production and marketing	2.47	0.01	0.01	0.00	0.00	0.00
Total industrial processes	1.06	0.54	0.24	0.28	1.27	0.48
Total stationary sources	9.51	3.94	2.92	0.37	1.62	0.82
Area-wide sources						
Total solvent evaporation	13.14	0.00	0.00	0.00	0.01	0.01
Total miscellaneous processes	8.19	37.20	2.98	0.13	21.78	7.84
Total area-wide sources	21.33	37.20	2.98	0.13	21.79	7.85
Mobile sources						
Total on road mobile sources	15.11	148.81	31.70	0.19	2.62	1.33
Total off road mobile sources	9.30	61.30	11.89	0.18	0.76	0.68
Total mobile sources	24.41	210.11	43.59	0.37	3.38	2.01
Sacramento County total	55.25	251.25	49.49	0.87	26.79	10.68

Source: California Air Resources Board 2013

2 **Table 22E-4. San Joaquin County Air Quality Emissions—2012**

Source type	Annual emissions (tons per day)					
	ROG	CO	NO _x	SO _x	PM10	PM2.5
Stationary sources						
Total fuel combustion	0.34	2.97	5.04	1.33	0.22	0.21
Total waste disposal	1.59	0.10	0.07	0.03	0.04	0.03
Total cleaning and surface coatings	2.69	0.00	0.00	0.00	0.08	0.07
Total petroleum production and marketing	1.34	0.02	0.02	0.00	0.00	0.00
Total industrial processes	2.48	0.25	2.85	1.60	1.55	0.66
Total stationary sources	8.44	3.34	7.98	2.96	1.89	0.97
Area-wide sources						
Total solvent evaporation	6.73	0.00	0.00	0.00	0.00	0.00
Total miscellaneous processes	9.22	9.57	1.54	0.07	26.82	5.23
Total area-wide sources	15.95	9.57	1.54	0.07	26.82	5.23
Mobile sources						
Total on road mobile sources	7.82	69.94	23.17	0.09	1.52	0.91
Total off road mobile sources	4.38	19.77	5.04	0.08	0.40	0.33
Total mobile sources	12.20	89.71	28.21	0.17	1.92	1.24
San Joaquin County total	36.59	102.62	37.73	3.20	30.63	7.44

Source: California Air Resources Board 2013

1 **Table 22E-5. Contra Costa County Air Quality Emissions—2012**

Source type	Annual emissions (tons per day)					
	ROG	CO	NO _x	SO _x	PM10	PM2.5
Stationary sources						
Total fuel combustion	2.56	11.20	13.44	5.98	0.58	0.58
Total waste disposal	0.42	0.16	0.28	0.03	0.00	0.00
Total cleaning and surface coatings	2.48	0.00	0.01	0.00	0.00	0.00
Total petroleum production and marketing	7.45	0.72	0.57	2.00	0.00	0.00
Total industrial processes	3.33	1.16	2.25	7.02	0.64	0.16
Total stationary sources	16.24	13.24	16.55	15.03	1.22	0.74
Area-wide sources						
Total solvent evaporation	8.48	0.00	0.00	0.00	0.00	0.00
Total miscellaneous processes	2.00	23.68	2.46	0.07	11.08	4.55
Total area-wide sources	10.48	23.68	2.46	0.07	11.08	4.55
Mobile sources						
Total on road mobile sources	11.24	111.62	23.88	0.15	1.96	1.01
Total off road mobile sources	2.81	9.83	5.50	0.44	0.31	0.27
Total mobile sources	14.05	121.45	29.38	0.59	2.27	1.28
Contra Costa County total	40.77	158.37	48.39	15.69	14.57	6.57

Source: California Air Resources Board 2013

2

3 **22E.3.4 Federal Nonattainment Status and Conformity** 4 **Applicably**

5 Local monitoring data (Table 22E-1) are used to designate areas as nonattainment, maintenance,
6 attainment, or unclassified for the NAAQS. Table 22E-6 summarizes the attainment status of the Plan
7 Area within SVAB, SJVAB, and SFBAAB with regard to the NAAQS.

8 **Table 22E-6. Federal Attainment Status of the Plan Area within SVAB, SJVAB, and SFBAAB**

Pollutant	SVAB	SJVAB	SFBAAB
Ozone	Severe Nonattainment	Extreme Nonattainment	Marginal Nonattainment
Carbon Monoxide	Moderate Maintenance ^a	Moderate Maintenance ^a	Moderate Maintenance ^a
Coarse Particulate Matter (PM10)	Moderate Maintenance ^a	Serious Maintenance	Attainment
Fine Particulate Matter (PM2.5)	Nonattainment ^a	Nonattainment	Nonattainment

Sources: U.S. Environmental Protection Agency 2014b; California Air Resources Board 2014b.

^a Applies only to a portion of the air basin that the Plan Area crosses (see Figures 22E-1 through 22E-4).

9

10 EPA's General Conformity Rule (40 CFR Parts 51 and 93) only applies to Federal actions that are
11 taken in EPA-designated "nonattainment" or "maintenance" areas. Accordingly, as outlined in
12 Section III.A of the General Conformity Rule, "only actions which cause emissions in designated
13 nonattainment and maintenance areas are subject to the regulations". The general conformity

1 evaluation is made by comparing all emission sources (e.g., haul trucks, off-road equipment) located
 2 in nonattainment or maintenance areas to the applicable general conformity *de minimis* thresholds
 3 shown in Table 22E-7.

4 **Table 22E-7. Federal General Conformity *de Minimis* Thresholds**

Air Basin	Annual Air Pollutant Emissions in Tons per Year					
	ROG ^a	NO _x ^a	CO	PM10	PM2.5	SO ₂ ^b
Sacramento Valley Air Basin	25	25	100	100	100	100
San Joaquin Valley Air Basin	10	10	100	100	100	100
San Francisco Bay Area Air Basin	100	100	100	None	100	100

Source: 40 CFR 93.153

CO = carbon monoxide.

NO_x = oxides of nitrogen.

PM2.5 = particulate matter 2.5 microns in diameter or less.

PM10 = particulate matter 10 microns in diameter or less.

ROG = reactive organic gases.

SO₂ = sulfur dioxide

^a ROG and NO_x are precursors to ozone and NO_x is a precursor to PM. NO_x emissions in excess of 100 tons per year within federally designated PM10 or PM2.5 nonattainment or maintenance areas trigger a secondary PM threshold.

^b SO₂ is a precursor to PM2.5.

5
 6 The majority of construction emissions would occur at construction sites along the water
 7 conveyance alignment. Emissions would also be generated along haul routes used to transport
 8 equipment and materials to construction sites. Figures 22E-1 through 22E-4 identify the federally-
 9 designated nonattainment and maintenance areas for ozone (ROG and NO_x), CO, PM10, and PM2.5 in
 10 the Plan Area relative to the project alignment and haul routes. Table 22E-8 summaries project
 11 construction activities that would occur within the federally-designated nonattainment and
 12 maintenance areas.

13

1 **Table 22E-8. Construction Activities Located Within Federally-Designated Nonattainment or Maintenance Areas**

Sacramento Valley Air Basin			
Pollutant	Federal Designation (see Table 22E-6)	General Designation Boundaries (see Figures 22E-1 through 22E-4)	Project Sites Within Boundary (see Figures 22E-1 through 22E-4)
Ozone	Severe Nonattainment	Sacramento and Yolo counties, non-Lake Tahoe Air Basin areas of El Dorado and Placer counties, and eastern Solano and southern Sutter counties	Water conveyance alignment and material and equipment haul roads
CO	Moderate Maintenance	Urbanized areas of Sacramento, Placer, and Yolo counties	Material and equipment haul roads
PM10	Moderate Maintenance	Sacramento County	Water conveyance alignment and material and equipment haul roads within Sacramento County
PM2.5	Nonattainment	Sacramento, Solano, and Sutter Counties County, western El Dorado and Placer counties, and eastern Yolo and Solano counties County	Water conveyance alignment and material and equipment haul roads
San Joaquin Valley Air Basin			
Pollutant	Federal Designation (see Table 22E-6)	General Designation Boundaries (see Figures 22E-1 through 22E-4)	Project Sites Within Boundary (see Figures 22E-1 through 22E-4)
Ozone (8 hr)	Extreme Nonattainment	All counties in SJVAPCD-portion of the SJVAB	Water conveyance alignment and material and equipment haul roads
CO	Moderate Maintenance	Stockton urbanized area	Material and equipment haul roads
PM10	Serious Maintenance	All counties in SJVAPCD-portion of the SJVAB	Water conveyance alignment and material and equipment haul roads
PM2.5	Nonattainment	All counties in SJVAPCD-portion of the SJVAB	Water conveyance alignment and material and equipment haul roads
San Francisco Bay Area Air Basin			
Pollutant	Federal Designation (see Table 22E-6)	General Designation Boundaries (see Figures 22E-1 through 22E-4)	Project Sites Within Boundary (see Figures 22E-1 through 22E-4)
Ozone (8 hr)	Marginal Nonattainment	All areas in the SFBAAB except northern Sonoma County	Water conveyance alignment and material and equipment haul roads
CO	Moderate Maintenance	Urbanized areas of Alameda, Contra Costa, Marin, San Mateo, Santa Clara, Solano, and Sonoma counties	Material and equipment haul roads
PM10	Attainment	-	-
PM2.5	Nonattainment	All areas in the SFBAAB except northern Sonoma County	Water conveyance alignment and material and equipment haul roads

2

1 The general conformity analysis considers all direct and indirect construction emissions associated
 2 with the project activities outlined in Table 22E-8. The analysis also evaluates emissions from long-
 3 term operations and maintenance (O&M) activities that would begin once construction is complete.
 4 Two timeframes are evaluated in the O&M analysis to capture anticipated changes in vehicle
 5 technologies and emission factors—2030 (early long-term, or ELT) and 2060 (late long-term, or
 6 LLT).

7 **22E.4 Relationship to Other Environmental Analyses**

8 A partially recirculated Draft EIS/EIR will be published for public review and comment in May 2015
 9 providing an analysis of the APA (Alternative 4/4A), with publication of the Final EIS/EIR
 10 anticipated in December 2015. The partially recirculated Draft EIS/EIR presents the general
 11 conformity determination process and general findings in the general conformity determination for
 12 public and agency review, while the final general conformity determination will be published
 13 concurrent with the Record of Decision (ROD) for the Federal action.

14 The EIS/EIR was prepared consistent with NEPA and California Environmental Quality Act (CEQA)
 15 requirements. CEQA and NEPA requires an evaluation of air quality impacts associated with
 16 construction and operation of the proposed project. The analysis of impacts under NEPA and CEQA
 17 was evaluated using the local thresholds of significance established by the YSAQMD, SMAQMD,
 18 BAAQMD, and SJVAPCD.

19 **22E.5 Emission Reduction Measures**

20 **22E.5.1 Onsite Environmental Commitments**

21 Environmental commitments to reduce onsite construction emissions are identified in Appendix 3B,
 22 *Environmental Commitments*, of the partially recirculated Draft EIS/EIR. These commitments have
 23 been incorporated into the project design and are considered a condition of project approval. The
 24 environmental commitments represent all feasible actions to reduce onsite construction emissions.
 25 The environmental commitments outlined in the partially recirculated Draft EIS/EIR are described
 26 below. The BDCP proponents—Department of Water Resources (DWR) and six State Water Project
 27 (SWP) and Central Valley Project (CVP) water contractors—have primary implementation
 28 responsibility for the environmental commitments.

29 **Construction Equipment Exhaust Reduction Plan**

30 Prior to construction, BDCP proponents will develop a construction equipment exhaust reduction
 31 plan to reduce criteria air pollutants from construction equipment. The reduction plan will be
 32 provided to the appropriate Plan Area air districts for approval prior to construction. Control
 33 technology that achieves equivalent or greater reductions than those identified below may be
 34 specified as new emissions reduction technologies become available and cost-effective.

1 **22E.5.1.1.1 Off-Road Heavy-Duty Engines**

2 The reduction plan will require that equipment used to construct BDCP facilities achieve fleet-wide
 3 average criteria pollutant emissions rates for equipment greater than 50 horsepower that are
 4 equivalent to the use of a model year 2013 fleet. Prior to construction start for each major project
 5 feature BDCP proponents will ensure model year 2013 emissions rates are achieved by developing
 6 a-specific construction equipment exhaust reduction plan. Contractors may utilize a combination of
 7 newer engines, aftermarket controls, and retrofits to achieve the fleet-wide average performance
 8 standard. Potential strategies may include the following:

- 9 • Electrification of equipment
- 10 • Use of diesel particulate filters on non-electrified equipment.
- 11 • Use of compressed natural gas (CNG).
- 12 • Use of advanced engines (e.g., Tier 3 or Tier 4 certified engines).

13 The BDCP proponents will quantitatively demonstrate, through equipment-specific modeling, that
 14 fleet-wide average achieve criteria pollutant emissions rates for equipment greater than 50
 15 horsepower that are equivalent to the use of a model year 2013 fleet have been achieved by the
 16 selected equipment and aftermarket controls. As noted in Appendix 22A, *Air Quality Analysis*
 17 *Methodology*, the Air Quality analysis and Health Risk Assessment have been performed based on
 18 model year 2013 emission factors obtained from the SMAQMD Construction Mitigation Calculator.
 19 The 2013 model year emission factors for each equipment piece are built from the zero-hour
 20 emissions rates, annual deterioration rates, and assumptions about engine operating hours.

21 In addition to the model year 2013 performance standard, the following best management practices
 22 will be incorporated into the reduction plan.

- 23 • Minimize idling time either by shutting equipment off when not in use or limiting the time of
 24 idling to 3 minutes (5 minutes required by 13 CCR 2449[d][3], 2485). Provide clear signage that
 25 posts this requirement for workers at the entrances to the site.
- 26 • Maintain all construction equipment in proper working condition according to manufacturer's
 27 specifications. The equipment must be checked by an ASE- certified mechanic and determined to
 28 be running in proper condition before it is operated.
- 29 • Ensure that emissions from all off-road diesel-powered equipment used on the project site do
 30 not exceed 40% opacity for more than 3 minutes in any 1 hour. Any equipment found to exceed
 31 40% opacity (or Ringelmann 2.0²) will be repaired immediately. Non-compliant equipment will
 32 be documented and a summary provided annually to the lead agency and air district. A visual
 33 inspection of all in-operation equipment will be made at least weekly by the contractor and
 34 witnessed monthly or more frequently by the proponent agency(ies), and a periodic summary of
 35 the visual survey results will be submitted by the contractor throughout the duration of the
 36 proposed project, except that the summary will not be required for any 30-day period in which
 37 no construction activity occurs. The summary will include the quantity and type of vehicles
 38 inspected, as well as the dates of each survey. The air districts or other officials may conduct
 39 periodic site inspections to determine compliance. Nothing in this measure will supersede other
 40 air district or state rules or regulations.

² Based on the Ringelmann scale, which measures the density of smoke in the air.

1 **22E.5.1.1.2 Marine Vessels**

2 Prior to construction start for each major project feature BDCP proponents will ensure that all
3 marine vessels used to construct BDCP facilities utilize EPA certified Tier 3 or newer engines. As
4 noted in Appendix 22A, *Air Quality Analysis Methodology*, the air quality analysis and HRA have been
5 performed based on model year 2010 emission factors (Tier 3 compliance for new engines)
6 obtained from the ARB.

7 **22E.5.1.1.3 Heavy Duty Haul Trucks**

8 Prior to construction start for each major project feature BDCP proponents will ensure that all on-
9 road heavy-duty diesel trucks with a gross vehicle weight rating of 19,500 pounds or greater used to
10 construct BDCP facilities comply with EPA 2007 on-road emission standards for particulate matter
11 less than 10 microns in diameter (PM₁₀) and nitrogen oxides (NO_x) (0.01 g/bhp-hr and 0.20 g/bhp-
12 hr, respectively). These PM₁₀ and NO_x standards were phased in through the 2007 and 2010 model
13 years on a percent of sales basis (50% of sales in 2007 to 2009 and 100% of sales in 2010). As noted
14 in Appendix 22A, *Air Quality Analysis Methodology*, the Air Quality analysis and Health Risk
15 Assessment have been performed based on model year 2010 emission factors obtained from the
16 ARB's EMFAC2014 model.

17 **22E.5.1.1.4 Locomotives**

18 Prior to construction start for each major project feature BDCP proponents will ensure that all diesel
19 tunneling locomotives used to construct BDCP facilities utilize EPA certified Tier 4 or newer engines.

20 **Fugitive Dust Control**

21 BDCP proponents will implement basic and enhanced control measures at all construction and
22 staging areas to reduce construction-related fugitive dust. This commitment is related to AMM35,
23 Fugitive Dust Control, described in BDCP Appendix 3.C. The following measures are based on the
24 SMAQMD's CEQA guidelines, and are in conformance with the BAAQMD, SJVAPCD, and YSAQMD
25 fugitive dust control requirements.

26 **22E.5.1.1.5 Basic Fugitive Dust Control Measures**

27 BDCP proponents will ensure that the following measures will be implemented to control dust
28 during construction activities.

- 29 ● Water will be applied to all exposed surfaces as reasonably necessary to prevent visible dust
30 from leaving work areas. Frequency of watering will be increased during especially dry or windy
31 periods or in areas with high construction activity. Exposed surfaces include (but are not limited
32 to) soil piles, graded areas, unpaved parking areas, staging areas, and access roads. If water or
33 other dust control measures cannot be implemented to unpaved access roads, vehicle speeds
34 will be limited to 15 miles per hour on such road segments.
- 35 ● Cover or maintain at least 2 feet of freeboard space on haul trucks transporting soil, sand, or
36 other loose material on the site. Haul trucks transporting soil, sand, or other loose material that
37 will be traveling along freeways or major roadways shall be covered.
- 38 ● Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto
39 adjacent public roads at least once a day. Use of dry power sweeping is prohibited.

- Disturbed areas should be promptly finished and/or protected and maintained in a manner to control fugitive dust. Mulch, dust palative, soil binders, or other reasonable mitigation measures will be used in inactive areas.

22E.5.1.1.6 *Enhanced Fugitive Dust Control Measures for Land Disturbance*

BDCP proponents will ensure that the following measures will be implemented to control dust during soil disturbance activities.

- Water exposed soil with adequate frequency for continued moist soil. However, do not overwater to the extent that sediment flows off the site.
- Suspend excavation, grading, and/or offending demolition activity during high wind conditions, should the high winds cause fugitive dust to leave the construction site.
- Where appropriate, install wind breaks (e.g., plant trees, solid fencing) on windward side(s) of construction areas.
- Plant vegetative ground cover (native grass/plant seed) in disturbed areas as soon as reasonable after construction is completed. Water appropriately until vegetation is established.

22E.5.1.1.7 *Measures for Entrained Road Dust*

BDCP proponents will ensure that the following measures will be implemented to control track out.

- Install rattle plates, stabilized construction entrances/exits, wheel washers, or wash off all trucks, vehicles, and equipment leaving the site.
- Treat site accesses to a distance of 100 feet from the paved road with a 6 to 12-inch layer of wood chips, mulch, or gravel to reduce generation of road dust and track out onto public roads.
- Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person will respond and take corrective action within 48 hours. The phone number of the District will also be visible to ensure compliance.

22E.5.1.1.8 *Measures for New Concrete Batching Plants*

BDCP proponents will ensure that the following measures will be implemented to the extent feasible to control dust during concrete batching activities.

- Apply water and/or chemical suppressants to reduce fugitive dust emissions from active storage piles and during aggregate and sand delivery, storage, and transfer.
- Use a hood system vented to a fabric filter/baghouse to reduce fugitive dust emissions during cement delivery and hopper and central mix loading.

22E.5.2 Offsite Mitigation

Mitigation measures to avoid construction emissions in excess of air district and federal *de minimis* thresholds are outlined in Chapter 22, *Air Quality and Greenhouse Gases*, of the partially recirculated Draft EIS/EIR. These measures are consistent with NEPA and CEQA mitigation and minimization measures and will be required elements of the project, as they will be included in the project's Mitigation Monitoring and Reporting Program, as required under CEQA. The mitigation measures

1 required in the partially recirculated Draft EIS/EIR are described below. The BDCP proponents have
2 primary implementation responsibility for the mitigation measures.

3 **Mitigation Measure AQ-1a: Mitigate and Offset Construction-Generated Criteria Pollutant**
4 **Emissions within the SFNA to Net Zero (0) for Emissions in Excess of General Conformity**
5 ***De Minimis* Thresholds (Where Applicable) and to Quantities below Applicable CEQA**
6 **Thresholds for Other Pollutants³**

7 DWR will reduce criteria pollutant emissions generated by the construction of the water
8 conveyance facilities associated with BDCP within the SFNA through the creation of offsetting
9 reductions of emissions. The preferred means of undertaking such offsite mitigation shall be
10 through a partnership with the SMAQMD involving the payment of offsite mitigation fees.
11 Criteria pollutants in excess of the federal *de minimis* thresholds shall be reduced to net zero (0)
12 (see Table 22-9). Criteria pollutants not in excess of the *de minimis* thresholds, but above any
13 applicable air pollution control or air quality management district CEQA thresholds⁴ shall be
14 reduced to quantities below the numeric thresholds (see Table 22-8).⁵

15 DWR will undertake in good faith an effort to enter into a development mitigation contract with
16 SMAQMD in order to reduce criteria pollutant emissions generated by the construction of the
17 water conveyance facilities associated with BDCP. The preferred source of emissions reductions
18 for NO_x, PM, and ROG shall be through contributions to SMAQMD's HDLEVIP. The HDLEVIP is
19 designed to reduce NO_x, PM, and ROG from on- and offroad sources. The program is managed
20 and implemented by SMAQMD on behalf of all air districts within the SFNA, including the
21 YSAQMD.

22 SMAQMD's incentive programs are a means of funding projects and programs capable of
23 achieving emissions reductions. The payment fee is based on the average cost to achieve one ton
24 per day (tpd) of reductions based on the average cost for reductions over the previous year.
25 Onroad reductions averaged (nominally) \$44 million (NO_x only) and off-road reductions
26 averaged \$36 million (NO_x only) over the previous year, thus working out to approximately \$40
27 million per one tpd of reductions. This rate roughly correlates to the average cost effectiveness
28 of the Carl Moyer Incentive Program.

29 If DWR is successful in reaching what it regards as a satisfactory agreement with SMAQMD,
30 DWR will enter into mitigation contracts with SMAQMD to reduce NO_x, PM, or ROG (as
31 appropriate) emissions to the required levels. Such reductions may occur within the SMAQMD
32 and/or within another air district within the SFNA. The required levels are:

- 33 • For emissions in excess of the federal *de minimis* threshold: **net zero (0)** (see Table 22-9).
- 34 • For emissions not in excess of *de minimis* thresholds but above the appropriate SMAQMD
35 standards: **below the appropriate CEQA threshold levels** (see Table 22-8.)

³ In the title of this mitigation measure, the phrase "for other pollutants" is intended to apply to other alternatives, where associated impacts to other pollutants may exceed thresholds other than NO_x.

⁴ For example, NO_x emissions in a certain year may exceed BAAQMD's 54 pound per day CEQA threshold, but not the 100 ton annual *de minimis* threshold. According to Appendix G of the State CEQA Guidelines, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make determinations regarding the significance of an impact.

⁵ For example, emissions of NO_x generated by Alternative 1A both exceed the federal *de minimis* threshold for the SVAB and the SMAQMD's CEQA threshold. NO_x emissions must therefore be reduced to net zero (0).

1 Implementation of this mitigation would require DWR to adopt the following specific
2 responsibilities.

- 3 • Consult with the SMAQMD in good faith with the intention of entering into a mitigation
4 contract with SMAQMD for the HDLEVIP. For SIP purposes, the necessary reductions must
5 be achieved (contracted and delivered) by the applicable year in question (i.e., emissions
6 generated in year 2016 would need to be reduced offsite in 2016). Funding would need to
7 be received prior to contracting with participants and should allow sufficient time to receive
8 and process applications to ensure offsite reduction projects are funded and implemented
9 prior to commencement of BDCP activities being reduced. This would roughly equate to the
10 equivalent of two years prior to the required mitigation; additional lead time may be
11 necessary depending on the level of offsite emission reductions required for a specific year.
12 In negotiating the terms of the mitigation contract, DWR and SMAQMD should seek
13 clarification and agreement on SMAQMD responsibilities, including the following.
 - 14 ○ Identification of appropriate offsite mitigation fees required for BDCP.
 - 15 ○ Timing required for obtaining necessary offsite emission credits.
 - 16 ○ Processing of mitigation fees paid by DWR.
 - 17 ○ Verification of emissions inventories submitted by DWR.
 - 18 ○ Verification that offsite fees are applied to appropriate mitigation programs within the
19 SFNA.
- 20 • Quantify mitigation fees required to satisfy the appropriate reductions. As noted above, the
21 payment fees may vary by year and are sensitive to the number of projects requiring
22 reductions within the SFNA. The schedule in which payments are provided to SMAQMD also
23 influences overall cost. For example, a higher rate on a per-tonnage basis will be required
24 for project elements that need accelerated equipment turn-over to achieve near-term
25 reductions, whereas project elements that are established to contract to achieve far-term
26 reductions will likely pay a lower rate on a per-tonnage basis.
- 27 • Develop a compliance program to calculate emissions and collect fees from the construction
28 contractors for payment to SMAQMD. The program will require, as a standard or
29 specification of their construction contracts with DWR, that construction contractors
30 identify construction emissions and their share of required offsite fees, if applicable. Based
31 on the emissions estimates, DWR will collect fees from the individual construction
32 contractors (as applicable) for payment to SMAQMD. Construction contractors will have the
33 discretion to reduce their construction emissions to the lowest possible level through
34 additional onsite mitigation, as the greater the emissions reductions that can be achieved by
35 onsite mitigation, the lower the required offsite fee. Acceptable options for reducing
36 emissions may include use of late-model engines, low-emission diesel products, additional
37 electrification or alternative fuels, engine-retrofit technology, and/or after-treatment
38 products. All control strategies must be verified by SMAQMD.
- 39 • Conduct daily and annual emissions monitoring to ensure onsite emissions reductions are
40 achieved and no additional mitigation payments are required. Excess offsite funds can be
41 carried from previous to subsequent years in the event that additional reductions are
42 achieved by onsite mitigation. At the end of the project, if it is determined that excess offset
43 funds remain (outstanding contracts and administration over the final years of the contracts

1 will be taken into consideration), SMAQMD and DWR shall determine the disposition of final
 2 funds (e.g., additional emission reduction projects to offset underperforming contracts,
 3 return of funds to DWR, etc.).

4 If a sufficient number of emissions reduction projects are not identified to meet the required
 5 performance standard, DWR will coordinate with SMAQMD to ensure the performance
 6 standards of achieving net zero (0) for emissions in excess of General Conformity *de minimis*
 7 thresholds (where applicable) and of achieving quantities below applicable CEQA thresholds for
 8 other pollutants not in excess of the *de minimis* thresholds but above CEQA thresholds are met.

9 **Mitigation Measure AQ-1b: Develop an Alternative or Complementary Offsite Mitigation**
 10 **Program to Mitigate and Offset Construction-Generated Criteria Pollutant Emissions**
 11 **within the SFNA to Net Zero (0) for Emissions in Excess of General Conformity *De Minimis***
 12 **Thresholds (Where Applicable) and to Quantities below Applicable CEQA Thresholds for**
 13 **Other Pollutants**

14 Should DWR be unable to enter into what they regard as a satisfactory agreement with SMAQMD
 15 as contemplated by Mitigation Measure AQ-1a, or should DWR enter into an agreement with
 16 SMAQMD but find themselves unable to meet the performance standards set forth in Mitigation
 17 Measure AQ-1a, DWR will develop an alternative or complementary offsite mitigation program
 18 to reduce criteria pollutant emissions generated by the construction of the water conveyance
 19 facilities associated with BDCP. The offsite mitigation program will offset criteria pollutant
 20 emissions to the required levels identified in Mitigation Measure AQ-1a. Accordingly, the
 21 program will ensure that the project does not contribute to or worsen existing air quality
 22 violations. Whether this program will address emissions beyond NO_x, PM, or ROG, will turn on
 23 whether DWR has achieved sufficient reductions of those pollutants pursuant to Mitigation
 24 Measure AQ-1a.

25 The offsite mitigation program will establish a program to fund emission reduction projects
 26 through grants and similar mechanisms. All projects must provide contemporaneous (occur in
 27 the same calendar year as the emission increases) and localized (i.e., within the SFNA) emissions
 28 benefit to the area of effect. DWR may identify emissions reduction projects through
 29 consultation with SMAQMD, other air districts within the SFNA, and ARB, as needed. Potential
 30 projects could include, but are not limited to the following.

- 31 • Alternative fuel, low-emission school buses, transit buses, and other vehicles.
- 32 • Diesel engine retrofits and repowers.
- 33 • Locomotive retrofits and repowers.
- 34 • Electric vehicle or lawn equipment rebates.
- 35 • Electric vehicle charging stations and plug-ins.
- 36 • Video-teleconferencing systems for local businesses.
- 37 • Telecommuting start-up costs for local businesses.

38 As part of its alternative or complementary offsite mitigation program, DWR will develop
 39 pollutant-specific formulas to monetize, calculate, and achieve emissions reductions in a cost-
 40 effective manner. Construction contractors, as a standard specification of their construction
 41 contracts with DWR, will identify construction emissions and their share of required offset fees.

1 DWR will verify the emissions estimates submitted by the construction contractors and
2 calculate the required fees. Construction contractors (as applicable) will be required to
3 surrender required fees to DWR prior to the start of construction. Construction contractors will
4 have the discretion to reduce their construction emissions to the lowest possible level through
5 additional onsite mitigation, as the greater the emissions reductions that can be achieved by
6 onsite mitigation, the lower the required offset fee. Acceptable options for reducing emissions
7 may include, but are not limited to, the use of late-model engines, low-emission diesel products,
8 additional electrification or alternative fuels, engine-retrofit technology, and/or after-treatment
9 products. All control strategies must be verified by SMAQMD, the ARB, any relevant air pollution
10 control or air quality management district within the SFNA, or by a qualified air quality expert
11 employed by or retained by DWR.

12 The offsite fee, grant, or other mechanism will be calculated or formulated based on the actual
13 cost of pollutant reductions. No collected offset fees will be used to cover administrative costs;
14 offset fees or other payments are strictly limited to procurement of offsite emission reductions.
15 Fees or other payments collected by DWR will be allocated to emissions reductions projects in a
16 grant-like manner. DWR shall document the fee schedule basis, such as consistency with the
17 ARB's Carl Moyer Program cost-effectiveness limits and capital recovery factors.

18 DWR will conduct annual reporting to verify and document that emissions reductions projects
19 achieve a 1:1 reduction with construction emissions to ensure claimed offsets meet the required
20 performance standard. All offsite reductions must be quantifiable, verifiable, enforceable, and
21 satisfy the basic criterion of additionality (i.e., the reductions would not happen without the
22 financial support of purchased offset credits). Annual reports will include, at a minimum the
23 following components.

- 24 ● Total amount of offset fees received.
- 25 ● Total fees distributed to offsite projects.
- 26 ● Total fees remaining.
- 27 ● Projects funded and associated pollutant reductions realized.
- 28 ● Total emission reductions realized.
- 29 ● Total emissions reductions remaining to satisfy the requirements of Mitigation Measure AQ-
30 1b.
- 31 ● Overall cost-effectiveness of the projects funded.

32 If a sufficient number of emissions reduction projects are not identified to meet the required
33 performance standard, DWR will consult with SMAQMD, the ARB, any relevant air pollution
34 control or air quality management district within the SFNA, or a qualified air quality expert
35 employed by or retained by DWR to ensure conformity is met through some other means of
36 achieving the performance standards of achieving net zero (0) for emissions in excess of General
37 Conformity *de minimis* thresholds (where applicable) and of achieving quantities below
38 applicable CEQA thresholds for other pollutants.

1 **Mitigation Measure AQ-3a: Mitigate and Offset Construction-Generated Criteria Pollutant**
 2 **Emissions within BAAQMD/SFBAAB to Net Zero (0) for Emissions in Excess of General**
 3 **Conformity *De Minimis* Thresholds (Where Applicable) and to Quantities below**
 4 **Applicable BAAQMD CEQA Thresholds for Other Pollutants⁶**

5 DWR will reduce criteria pollutant emissions generated by the construction of the water
 6 conveyance facilities associated with BDCP within the BAAQMD through the creation of
 7 offsetting reductions of emissions occurring within the SFBAAB. The preferred means of
 8 undertaking such offsite mitigation shall be through a partnership with the BAAQMD involving
 9 the payment of offsite mitigation fees. Criteria pollutants in excess of the federal *de minimis*
 10 thresholds shall be reduced to net zero (0) (see Table 22-9). Criteria pollutants not in excess of
 11 the *de minimis* thresholds, but above any applicable air pollution control or air quality
 12 management district CEQA thresholds⁷ shall be reduced to quantities below the numeric
 13 thresholds (see Table 22-8).

14 DWR will undertake in good faith an effort to enter into a development mitigation contract with
 15 BAAQMD in order to reduce criteria pollutant emissions generated by the construction of the
 16 water conveyance facilities associated with BDCP within the BAAQMD. The preferred source of
 17 emissions reductions for NO_x, ROG, and PM shall be through contributions to BAAQMD's Carl
 18 Moyer Program and/or other BAAQMD incentive programs (e.g., TFCA).

19 If DWR is successful in reaching what it regards as a satisfactory agreement with BAAQMD, DWR
 20 will enter into mitigation contracts with BAAQMD to reduce NO_x, PM, or ROG (as appropriate)
 21 emissions to the required levels. Such reductions may occur within the SFBAAB. The required
 22 levels are:

- 23 • For emissions in excess of the federal *de minimis* threshold: **net zero (0)** (see Table 22-9).
- 24 • For emissions not in excess of *de minimis* thresholds but above the appropriate BAAQMD
 25 standards: **below the appropriate CEQA threshold levels** (see Table 22-8).

26 Implementation of this mitigation would require DWR adopt the following specific
 27 responsibilities.

- 28 • Consult with the BAAQMD in good faith with the intention of entering into a mitigation
 29 contract with BAAQMD for the Carl Moyer Program and/or other BAAQMD emission
 30 reduction incentive program. For SIP purposes, the necessary reductions must be achieved
 31 (contracting and delivered) by the applicable year in question (i.e., emissions generated in
 32 year 2016 would need to be reduced offsite in 2016). Funding would need to be received
 33 prior to contracting with participants and should allow sufficient time to receive and
 34 process applications to ensure offsite reduction projects are funded and implemented prior
 35 to commencement of BDCP activities being reduced. In negotiating the terms of the
 36 mitigation contract, DWR and BAAQMD should seek clarification and agreement on
 37 BAAQMD responsibilities, including the following.

⁶ In the title of this mitigation measure, the phrase "for other pollutants" is intended to apply to other alternatives, where associated impacts to other pollutants may exceed thresholds other than NO_x.

⁷ For example, NO_x emissions in a certain year may exceed BAAQMD's 54 pound per day CEQA threshold, but not the 100 ton annual *de minimis* threshold. According to Appendix G of the State CEQA Guidelines, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make determinations regarding the significance of an impact.

- 1 ○ Identification of appropriate offsite mitigation fees required for BDCP.
- 2 ○ Timing required for obtaining necessary offsite emission credits.
- 3 ○ Processing of mitigation fees paid by DWR.
- 4 ○ Verification of emissions inventories submitted by DWR.
- 5 ○ Verification that offsite fees are applied to appropriate mitigation programs within the
- 6 SFBAAB.
- 7 ● Quantify mitigation fees required to satisfy the appropriate reductions. Funding for the
- 8 emission reduction projects will be provided in an amount up to the emission reduction
- 9 project cost-effectiveness limit set by for the Carl Moyer Program during the year that the
- 10 emissions from construction are emitted. (The current emissions limit is \$17,720 / weighted
- 11 ton of criteria pollutants [NO_x + ROG + (20*PM)]). An administrative fee of 5% would be
- 12 paid by DWR to the BAAQMD to implement the program. The funding would be used to fund
- 13 projects eligible for funding under the Carl Moyer Program guidelines or other BAAQMD
- 14 emission reduction incentive program meeting the same cost-effectiveness threshold that
- 15 are real, surplus, quantifiable, and enforceable.
- 16 ● Develop a compliance program to calculate emissions and collect fees from the construction
- 17 contractors for payment to BAAQMD. The program will require, as a standard or
- 18 specification of their construction contracts with DWR, that construction contractors
- 19 identify construction emissions and their share of required offsite fees, if applicable. Based
- 20 on the emissions estimates, DWR will collect fees from the individual construction
- 21 contractors (as applicable) for payment to BAAQMD. Construction contractors will have the
- 22 discretion to reduce their construction emissions to the lowest possible level through
- 23 additional onsite mitigation, as the greater the emissions reductions that can be achieved by
- 24 onsite mitigation, the lower the required offsite fee. Acceptable options for reducing
- 25 emissions may include use of late-model engines, low-emission diesel products, additional
- 26 electrification or alternative fuels, engine-retrofit technology, and/or after-treatment
- 27 products. All control strategies must be verified by BAAQMD.
- 28 ● Conduct daily and annual emissions monitoring to ensure onsite emissions reductions are
- 29 achieved and no additional mitigation payments are required. Excess offsite funds can be
- 30 carried from previous to subsequent years in the event that additional reductions are
- 31 achieved by onsite mitigation. At the end of the project, if it is determined that excess offset
- 32 funds remain (outstanding contracts and administration over the final years of the contracts
- 33 will be taken into consideration), BAAQMD and DWR shall determine the disposition of final
- 34 funds (e.g., additional emission reduction projects to offset underperforming contracts,
- 35 return of funds to DWR, etc.).

36 If a sufficient number of emissions reduction projects are not identified to meet the required

37 performance standard, the DWR will coordinate with BAAQMD to ensure the performance

38 standards of achieving net zero (0) for emissions in excess of General Conformity *de minimis*

39 thresholds (where applicable) and of achieving quantities below applicable BAAQMD CEQA

40 thresholds for other pollutants not in excess of the *de minimis* thresholds but above BAAQMD

41 CEQA thresholds are met.

Mitigation Measure AQ-3b: Develop an Alternative or Complementary Offsite Mitigation Program to Mitigate and Offset Construction-Generated Criteria Pollutant Emissions within the BAAQMD/SFBAAB to Net Zero (0) for Emissions in Excess of General Conformity *De Minimis* Thresholds (Where Applicable) and to Quantities below Applicable BAAQMD CEQA Thresholds for Other Pollutants

Should DWR be unable to enter into what they regard as a satisfactory agreement with BAAQMD as contemplated by Mitigation Measure AQ-3a, or should DWR enter into an agreement with BAAQMD but find themselves unable to meet the performance standards set forth in Mitigation Measure AQ-3a, DWR will develop an alternative or complementary offsite mitigation program to reduce criteria pollutant emissions generated by the construction of the water conveyance facilities associated with BDCP. The offsite mitigation program will offset criteria pollutant emissions to the required levels identified in Mitigation Measure AQ-3a. Accordingly, the program will ensure that the project does not contribute to or worsen existing air quality violations. Whether this program will address emissions beyond NO_x, PM, or ROG, will turn on whether DWR has achieved sufficient reductions of those pollutants pursuant to Mitigation Measure AQ-3a.

The offsite mitigation program will establish a program to fund emission reduction projects through grants and similar mechanisms. All projects must provide contemporaneous (occur in the same calendar year as the emission increases) and localized (i.e., within the SFBAAB) emissions benefit to the area of effect. DWR may identify emissions reduction projects through consultation with BAAQMD and ARB, as needed. Potential projects could include, but are not limited to the following.

- Alternative fuel, low-emission school buses, transit buses, and other vehicles.
- Diesel engine retrofits and repowers.
- Locomotive retrofits and repowers.
- Electric vehicle or lawn equipment rebates.
- Electric vehicle charging stations and plug-ins.
- Video-teleconferencing systems for local businesses.
- Telecommuting start-up costs for local businesses.

As part of its alternative or complementary offsite mitigation program, DWR will develop pollutant-specific formulas to monetize, calculate, and achieve emissions reductions in a cost-effective manner. Construction contractors, as a standard specification of their construction contracts with DWR, will identify construction emissions and their share of required offset fees. DWR will verify the emissions estimates submitted by the construction contractors and calculate the required fees. Construction contractors (as applicable) will be required to surrender required fees to DWR prior to the start of construction. Construction contractors will have the discretion to reduce their construction emissions to the lowest possible level through additional onsite mitigation, as the greater the emissions reductions that can be achieved by onsite mitigation, the lower the required offset fee. Acceptable options for reducing emissions may include, but are not limited to, the use of late-model engines, low-emission diesel products, additional electrification or alternative fuels, engine-retrofit technology, and/or after-treatment products. All control strategies must be verified by BAAQMD, the ARB, or by a qualified air quality expert employed by or retained by DWR.

1 The offsite fee, grant, or other mechanism will be calculated or formulated based on the actual
 2 cost of pollutant reductions. No collected offset fees will be used to cover administrative costs;
 3 offset fees or other payments are strictly limited to procurement of offsite emission reductions.
 4 Fees or other payments collected by DWR will be allocated to emissions reductions projects in a
 5 grant-like manner. DWR shall document the fee schedule basis, such as consistency with the
 6 ARB's Carl Moyer Program cost-effectiveness limits and capital recovery factors.

7 DWR will conduct annual reporting to verify and document that emissions reductions projects
 8 achieve a 1:1 reduction with construction emissions to ensure claimed offsets meet the required
 9 performance standard. All offsite reductions must be quantifiable, verifiable, enforceable, and
 10 satisfy the basic criterion of additionality (i.e., the reductions would not happen without the
 11 financial support of purchased offset credits). Annual reports will include, at a minimum the
 12 following components.

- 13 • Total amount of offset fees received.
- 14 • Total fees distributed to offsite projects.
- 15 • Total fees remaining.
- 16 • Projects funded and associated pollutant reductions realized.
- 17 • Total emission reductions realized.
- 18 • Total emissions reductions remaining to satisfy the requirements of Mitigation Measure AQ-
 19 3b.
- 20 • Overall cost-effectiveness of the projects funded.

21 If a sufficient number of emissions reduction projects are not identified to meet the required
 22 performance standard, DWR will consult with BAAQMD, the ARB, or a qualified air quality
 23 expert employed by or retained by DWR to ensure conformity is met through some other means
 24 of achieving the performance standards of achieving net zero (0) for emissions in excess of
 25 General Conformity *de minimis* thresholds (where applicable) and of achieving quantities below
 26 applicable BAAQMD CEQA thresholds for other pollutants.

27 **Mitigation Measure AQ-4a: Mitigate and Offset Construction-Generated Criteria Pollutant**
 28 **Emissions within SJVAPCD/SJVAB to Net Zero (0) for Emissions in Excess of General**
 29 **Conformity *De Minimis* Thresholds (Where Applicable) and to Quantities below**
 30 **Applicable SJVAPCD CEQA Thresholds for Other Pollutants⁸**

31 DWR will reduce criteria pollutant emissions generated by the construction of the water
 32 conveyance facilities associated with BDCP within the SJVAPCD through the creation of
 33 offsetting reductions of emissions occurring within the SJVAB. The preferred means of
 34 undertaking such offsite mitigation shall be through a partnership with the SJVAPCD involving
 35 the payment of offsite mitigation fees. Criteria pollutants in excess of the federal *de minimis*
 36 thresholds shall be reduced to net zero (0) (see Table 22-9). Criteria pollutants not in excess of
 37 the *de minimis* thresholds, but above any applicable air pollution control or air quality

⁸ In the title of this mitigation measure, the phrase "for other pollutants" is intended to apply to other alternatives, where associated impacts to other pollutants may exceed thresholds other than NO_x.

1 management district CEQA thresholds⁹ shall be reduced to quantities below the numeric
2 thresholds (see Table 22-8).¹⁰

3 DWR will undertake in good faith an effort to enter into a development mitigation contract with
4 SJVAPCD in order to reduce criteria pollutant emissions generated by the construction of the
5 water conveyance facilities associated with BDCP within the SJVAPCD. The preferred source of
6 emissions reductions for NO_x, PM, and ROG shall be through contributions to SJVAPCD's VERA.
7 The VERA is implemented through the District Incentive Programs and is a measure to reduce
8 project impacts under CEQA. The current VERA payment fee for construction emissions is
9 \$9,350 per ton of NO_x and \$9,011 per ton of PM₁₀. This is an estimated cost and may change in
10 the future (e.g., future year payment fees for NO_x could be in excess of the current price of
11 \$9,350) and are sensitive to the number and type of projects requiring emission reductions
12 within the same air basin (Siong pers. comm. 2012).

13 If DWR is successful in reaching what it regards as a satisfactory agreement with SJVAPCD, DWR
14 will enter into mitigation contracts with SJVAPCD to reduce NO_x, PM, or ROG (as appropriate)
15 emissions to the required levels. Such reductions must occur within the SJVAB. required levels
16 are:

- 17 • For emissions in excess of the federal *de minimis* threshold: **net zero (0)**.
- 18 • For emissions not in excess of *de minimis* thresholds but above the SJVAPCD's standards:
19 **below the appropriate CEQA threshold levels.**

20 Implementation of this measure would require DWR to adopt the following specific
21 responsibilities.

- 22 • Consult with the SJVAPCD in good faith with the intention of entering into a mitigation
23 contract with SJVAPCD for the VERA. For SIP purposes, the necessary reductions must be
24 achieved (contracted and delivered) by the applicable year in question (i.e., emissions
25 generated in year 2016 would need to be reduced offsite in 2016). Funding would need to
26 be received prior to contracting with participants and should allow sufficient time to receive
27 and process applications to ensure offsite reduction projects are funded and implemented
28 prior to commencement of BDCP activities being reduced. This would roughly equate to the
29 equivalent of two months (2) prior to groundbreaking; additional lead time may be
30 necessary depending on the level of offsite emission reductions required for a specific year.
31 In negotiating the terms of the mitigation contract, DWR and SJVAPCD should seek
32 clarification and agreement on SJVAPCD responsibilities, including the following.
 - 33 ○ Identification of appropriate offsite mitigation fees required for BDCP.
 - 34 ○ Processing of mitigation fees paid by DWR.
 - 35 ○ Verification of emissions inventories submitted by DWR

⁹ For example, PM₁₀ emissions in a certain year may exceed SJVAPCD's 15 ton annual CEQA threshold, but not the 100 ton annual *de minimis* threshold. According to Appendix G of the State CEQA Guidelines, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make determinations regarding the significance of an impact.

¹⁰ For example, emissions of NO_x generated by Alternative 1A both exceed the federal *de minimis* threshold for the SJVAB and the SJVAPCD's CEQA threshold. NO_x emissions must therefore be reduced to net zero (0).

- 1 ○ Verification that offsite fees are applied to appropriate mitigation programs within the
2 SJVAB.
- 3 ● Quantify mitigation fees required to satisfy the appropriate reductions. An administrative
4 fee of 4% would be paid by DWR to the SJVAPCD to implement the program. As noted above,
5 the payment fees may vary by year and are sensitive to the number of projects requiring
6 reductions within the SJVAB.
- 7 ● Develop a compliance program to calculate emissions and collect fees from the construction
8 contractors for payment to SJVAPCD. The program will require, as a standard or
9 specification of their construction contracts with DWR, that construction contractors
10 identify construction emissions and their share of required offsite fees, if applicable. Based
11 on the emissions estimates, DWR will collect fees from the individual construction
12 contractors (as applicable) for payment to SJVAPCD. Construction contractors will have the
13 discretion to reduce their construction emissions to the lowest possible level through
14 additional onsite mitigation, as the greater the emissions reductions that can be achieved by
15 onsite mitigation, the lower the required offsite fee. Acceptable options for reducing
16 emissions may include use of late-model engines, low-emission diesel products, additional
17 electrification or alternative fuels, engine-retrofit technology, and/or after-treatment
18 products. All control strategies must be verified by SJVAPCD.
- 19 ● Conduct daily and annual emissions monitoring to ensure onsite emissions reductions are
20 achieved and no additional mitigation payments are required. Excess offsite funds can be
21 carried from previous to subsequent years in the event that additional reductions are
22 achieved by onsite mitigation. At the end of the project, if it is determined that excess offset
23 funds remain (outstanding contracts and administration over the final years of the contracts
24 will be taken into consideration), SJVAPCD and DWR shall determine the disposition of final
25 funds (e.g., additional emission reduction projects to offset underperforming contracts,
26 return of funds to DWR, etc.).

27 If a sufficient number of emissions reduction projects are not identified to meet the required
28 performance standard, DWR will coordinate with SJVAPCD to ensure the performance standards
29 of achieving net zero (0) for emissions in excess of General Conformity *de minimis* thresholds
30 (where applicable) and of achieving quantities below applicable SJVAPCD CEQA thresholds for
31 other pollutants not in excess of the *de minimis* thresholds but above SJVAPCD CEQA thresholds
32 are met.

33 **Mitigation Measure AQ-4b: Develop an Alternative or Complementary Offsite Mitigation**
34 **Program to Mitigate and Offset Construction-Generated Criteria Pollutant Emissions**
35 **within the SJVAPCD/SJVAB to Net Zero (0) for Emissions in Excess of General Conformity**
36 ***De Minimis* Thresholds (Where Applicable) and to Quantities below Applicable SJVAPCD**
37 **CEQA Thresholds for Other Pollutants**

38 Should DWR be unable to enter into what they regard as a satisfactory agreement with SJVAPCD
39 as contemplated by Mitigation Measure AQ-4a, or should DWR enter into an agreement with
40 SJVAPCD but find themselves unable to meet the performance standards set forth in Mitigation
41 Measure AQ-4a, DWR will develop an alternative or complementary offsite mitigation program
42 to reduce criteria pollutant emissions generated by the construction of the water conveyance
43 facilities associated with BDCP. The offsite mitigation program will offset criteria pollutant
44 emissions to the required levels identified in Mitigation Measure AQ-4a. Accordingly, the

1 program will ensure that the project does not contribute to or worsen existing air quality
2 violations. Whether this program will address emissions beyond NO_x, PM, or ROG, will turn on
3 whether DWR has achieved sufficient reductions of those pollutants pursuant to Mitigation
4 Measure AQ-4a.

5 The offsite mitigation program will establish a program to fund emission reduction projects
6 through grants and similar mechanisms. All projects must provide contemporaneous (occur in
7 the same calendar year as the emission increases) and localized (i.e., within the SJVAB)
8 emissions benefit to the area of effect. DWR may identify emissions reduction projects through
9 consultation with SJVAPCD and ARB, as needed. Potential projects could include, but are not
10 limited to the following.

- 11 • Alternative fuel, low-emission school buses, transit buses, and other vehicles.
- 12 • Diesel engine retrofits and repowers.
- 13 • Locomotive retrofits and repowers.
- 14 • Electric vehicle or lawn equipment rebates.
- 15 • Electric vehicle charging stations and plug-ins.
- 16 • Video-teleconferencing systems for local businesses.
- 17 • Telecommuting start-up costs for local businesses.

18 As part of its alternative or complementary offsite mitigation program, DWR will develop
19 pollutant-specific formulas to monetize, calculate, and achieve emissions reductions in a cost-
20 effective manner. Construction contractors, as a standard specification of their construction
21 contracts with DWR, will identify construction emissions and their share of required offset fees.
22 DWR will verify the emissions estimates submitted by the construction contractors and
23 calculate the required fees. Construction contractors (as applicable) will be required to
24 surrender required fees to DWR prior to the start of construction. Construction contractors will
25 have the discretion to reduce their construction emissions to the lowest possible level through
26 additional onsite mitigation, as the greater the emissions reductions that can be achieved by
27 onsite mitigation, the lower the required offset fee. Acceptable options for reducing emissions
28 may include, but are not limited to, the use of late-model engines, low-emission diesel products,
29 additional electrification or alternative fuels, engine-retrofit technology, and/or after-treatment
30 products. All control strategies must be verified by SJVAPCD, the ARB, or by a qualified air
31 quality expert employed by or retained by DWR.

32 The offsite fee, grant, or other mechanism will be calculated or formulated based on the actual
33 cost of pollutant reductions. No collected offset fees will be used to cover administrative costs;
34 offset fees or other payments are strictly limited to procurement of offsite emission reductions.
35 Fees or other payments collected by DWR will be allocated to emissions reductions projects in a
36 grant-like manner. DWR shall document the fee schedule basis, such as consistency with the
37 ARB's Carl Moyer Program cost-effectiveness limits and capital recovery factors.

38 DWR will conduct annual reporting to verify and document that emissions reductions projects
39 achieve a 1:1 reduction with construction emissions to ensure claimed offsets meet the required
40 performance standard. All offsite reductions must be quantifiable, verifiable, enforceable, and
41 satisfy the basic criterion of additionality (i.e., the reductions would not happen without the

1 financial support of purchased offset credits). Annual reports will include, at a minimum the
 2 following components.

- 3 • Total amount of offset fees received.
- 4 • Total fees distributed to offsite projects.
- 5 • Total fees remaining.
- 6 • Projects funded and associated pollutant reductions realized.
- 7 • Total emission reductions realized.
- 8 • Total emissions reductions remaining to satisfy the requirements of Mitigation Measure AQ-
 9 4b.
- 10 • Overall cost-effectiveness of the projects funded.

11 If a sufficient number of emissions reduction projects are not identified to meet the required
 12 performance standard, DWR will consult with SJVAPCD, the ARB, or a qualified air quality expert
 13 employed by or retained by DWR to ensure conformity is met through some other means of
 14 achieving the performance standards of achieving net zero (0) for emissions in excess of General
 15 Conformity *de minimis* thresholds (where applicable) and of achieving quantities below
 16 applicable SJVAPCD CEQA thresholds for other pollutants.

17 **22E.6 Regulatory Procedures**

18 The general conformity regulations establish certain procedural requirements that must be followed
 19 when preparing a general conformity evaluation. The major applicable procedural issues associated
 20 with the general conformity demonstration and a description of how these requirements are met
 21 are presented in this section. As previously indicated, the partially recirculated Draft EIS/EIR
 22 presents the general conformity determination for public and agency review. The final general
 23 conformity determination will be published concurrent with the ROD for the Federal action
 24 pursuant to 40 CFR §93.156.

25 **22E.6.1 Use of Latest Planning Assumptions**

26 The general conformity regulations require that the analysis use the latest planning assumptions
 27 based on data (e.g., population, employment, travel, and congestion) made available by the area's
 28 Metropolitan Planning Organizations (MPOs) (40 CFR §93.159[a]).

29 As the analysis of emissions resulting from construction and O&M activities would not require the
 30 use of population, employment, travel, and congestion data, this section is not applicable to the
 31 project.

32 **22E.6.2 Use of Latest Emissions Estimation Techniques**

33 The general conformity regulations require the use of the latest and most accurate emission
 34 estimation techniques available, unless such techniques are inappropriate (40 CFR §93.159[b]).

35 Per guidance from the Plan Area air districts, construction and O&M emissions were estimated using
 36 the most recent modeling software, including CalEEMod (version 2013.2.2), OFFROAD2007,

1 EMFAC2014, and the Federal Aviation Administration’s (FAA) Emissions and Dispersion Modeling
 2 System (EDMS), version 5.1.4. Refer to Appendix 22A, *Air Quality Analysis Methodology*, for detailed
 3 information on the emissions estimation techniques.

4 **22E.6.3 Major Construction Phase Activities**

5 Project-specific data, including construction equipment lists and the construction schedule, were
 6 used to forecast construction emissions associated with the project using construction activity data
 7 provided by DWR. Calculations were performed for each year of construction (2016-2029). O&M
 8 calculations were based on detailed equipment and employee forecasts prepared by DWR.

9 **22E.6.4 Emissions Scenarios**

10 The general conformity regulations require that the analysis reflect certain emission scenarios
 11 (40 CFR §93.159[d]). Specifically, these scenarios generally include the evaluation of the direct and
 12 indirect emissions from a proposed project for the following years.

- 13 1. The year mandated in the CAA for attainment and for maintenance areas, the farthest year for
 14 which emissions are projected in the approved maintenance plan.
- 15 5. The year during which the total of direct and indirect emissions for the Federal action are
 16 projected to be the greatest on an annual basis.
- 17 6. Any year for which the applicable SIP specifies an emissions budget.

18 The analysis of construction activities evaluates the construction period of 2016 to 2029, with
 19 maximum direct and indirect emissions expected between 2022 and 2026 (see Table 22E-11
 20 below). The O&M analysis considers emissions under two time horizons (ELT and LLT) to capture
 21 changes in vehicle technologies and engine emission factors.

22 **22E.7 Applicability Analysis**

23 The general conformity rule applies to all federal actions located in nonattainment and maintenance
 24 areas that are not exempt from general conformity (are either covered by Transportation
 25 Conformity or listed in the rule), are not covered by a presumed-to-conform approved list¹¹, or do
 26 not have clearly *de minimis* emissions. The first step in a general conformity evaluation is to
 27 determine whether the project is located in a Federal nonattainment or a maintenance area.

28 **22E.7.1 Attainment Status of the Plan Area**

29 As indicated in Table 22E-8 and Figures 22E-1 through 22E-4, equipment and material deliveries
 30 would be located along haul routes that traverse areas currently designated maintenance for the
 31 federal CO standard and PM10 standards. The entire project area, including all haul routes and the
 32 water conveyance facility, is designated a nonattainment area for the federal ozone and PM2.5
 33 standards. Consequently, to fulfill general conformity requirements, an analysis must be undertaken

¹¹ Category of activities designated by a federal agency as having emissions below *de minimis* levels or otherwise do not interfere with the applicable SIP or the attainment and maintenance of the national ambient air quality standard.

1 to identify whether the proposed project's emissions of ROG and NO_x (ozone/PM precursors), CO,
 2 PM10, PM2.5, and SO₂ (PM2.5 precursor) located in nonattainment and maintenance areas are
 3 below the appropriate general conformity *de minimis* levels indicated in Table 22E-7.

4 **22E.7.2 Exemptions from General Conformity Requirements**

5 As previously indicated, the general conformity rule applies to all federal actions located in
 6 nonattainment and maintenance areas that are not exempt from general conformity (are either
 7 covered by Transportation Conformity or listed in the rule), are not covered by a presumed-to-
 8 conform approved list, or do not have clearly *de minimis* emissions. In addition, the general
 9 conformity rule applies only to direct and indirect emissions associated with the portions of any
 10 federal action that are subject to New Source Review for which a federal permitting agency has
 11 directly caused or initiated, has continued program responsibility for, or can practically control (i.e.,
 12 do not include stationary industrial sources requiring air quality permits from local air pollution
 13 control agencies). None of these exemptions from general conformity apply to the proposed project.

14 **22E.7.3 Applicability for Federal Action**

15 If it is determined a project is not exempt from general conformity, the applicability of the general
 16 conformity requirements to the federal action is evaluated by comparing total direct and indirect
 17 emissions for each calendar year of to the appropriate general conformity *de minimis* thresholds
 18 indicated in Table 22E-7.

19 In the event that total direct and indirect emissions of a pollutant attributable to the Federal action
 20 are below the *de minimis* thresholds for a pollutant, that pollutant is excluded from general
 21 conformity requirements and no further analysis is required, as it is assumed these pollutants would
 22 conform to the SIP. Those pollutants that could not be excluded from applicability must undergo a
 23 general conformity evaluation.

24 If the general conformity evaluation indicates that total direct and indirect emissions of a pollutant
 25 attributable to the Federal action are in excess of any of the general conformity *de minimis*
 26 thresholds, the applicant must perform a conformity determination. A conformity determination is
 27 made by satisfying any of the following requirements.

- 28 • Showing that the emission increases caused by the Federal action are included in the SIP.
- 29 • Demonstrating that the State agrees to include the emission increases in the SIP.
- 30 • Offsetting the action's emissions in the same or nearby area.
- 31 • Mitigating to reduce the emission increase.
- 32 • Utilizing a combination of the above strategies.

33 **22E.7.4 *de minimis* Emissions Rates**

34 General conformity *de minimis* thresholds applicable to the project are summarized in Table 22E-7.

22E.8 Construction Activities Considered

The partially recirculated Draft EIS/EIR estimates construction-related emissions for 16 alternatives currently being considered for the BDCP. However, this conformity determination only includes an analysis of Alternative 4/4A because it has been selected as the APA, as discussed in Section 22E.1.2 above. For additional information on the BDCP Alternatives, please refer to Chapter 3, *Description of Alternatives*, and Chapter 22, *Air Quality and Greenhouse Gases*.

Construction of Alternative 4/4A would generate criteria pollutant emissions that would result in short-term impacts on ambient air quality in the study. Emissions would originate from off-road equipment exhaust, marine vessel exhaust, tunneling locomotive exhaust, employee and haul truck vehicle exhaust, helicopter exhaust, site grading and earth movement, paving, and concrete batching. Construction-related emissions vary substantially depending on the level of activity, length of the construction period, specific construction operations, types of equipment, number of personnel, wind and precipitation conditions, and soil moisture content.

Emissions for major construction activities were calculated based on information provided by DWR and standard and accepted software tools, techniques, and emission factors, as summarized below. A full list of assumptions used to quantify criteria pollutant emissions can be found in Appendices 22A, *Air Quality Analysis Methodology*, and 22B, *Air Quality Assumptions*.

- **Off-Road Equipment:** Emission factors for diesel-powered off-road construction equipment (e.g., loaders, graders, bulldozers) were obtained from the CalEEMod (version 2013.2.2) User's Guide appendix, which provides values per unit of activity (in grams per horsepower-hour) by calendar year (ENVIRON 2013). Default equipment emission factors for gasoline-powered equipment were obtained from the ARB's OFFROAD2011 model. Criteria pollutant and GHG emissions from off-road equipment were estimated by multiplying the CalEEMod and OFFROAD emission factors by the equipment inventory provided by DWR.
- **Marine Vessels:** Criteria pollutant emission factors for marine vessels were quantified using the ARB's (2012) *Emissions Estimation Methodology for Commercial Harbor Craft Operating in California*. Calculated emission factors were multiplied by the marine vessel activity data provided by DWR.
- **Tunneling Locomotives:** Emissions from diesel-powered locomotives were quantified using the ARB's (2010) off-road diesel engine emission standards and a locomotive inventory provided by DWR. All locomotives were assumed to utilize a 150 horsepower engine.
- **Helicopters:** Helicopters would be used during line stringing activities for the 115/230 kV transmission lines. Two light-duty helicopters were assumed to operate four hours a day to install new poles and lines. Helicopter emissions were estimated using emission factors from FAA's EDMS, version 5.1.4.
- **Onroad Vehicles:** Onroad vehicles (e.g., pick-up trucks, flatbed trucks) would be required for material and equipment hauling, tunnel segment hauling, onsite crew and material movement, employee commuting, and as-needed supply and equipment pick-up. Exhaust emissions from onroad vehicles were estimated using the EMFAC2014 emissions model and activity data provided by DWR. Fugitive re-entrained road dust emissions associated with the vehicle trips were estimated using EPA's (2006a; 2011) *Compilation of Air Pollutant Emission Factors* (AP-42), Sections 13.2.1 and 13.2.2.

- 1 • **Site Disturbance and Paving:** Fugitive emissions from earth movement (i.e., site grading,
2 bulldozing, and truck loading) and paving were quantified using emission factors from
3 CalEEMod and EPA's (1998) AP-42, Section 11.9. Data on the total graded and paved acreage
4 and quantity of borrow, excavated, and dredged material for each construction phase, as well as
5 the estimated maximum acreage and material that would be disturbed and paved in any one
6 day, were provided by DWR.
- 7 • **Concrete Batching:** Fugitive dust emissions from concrete batching were estimated using
8 concrete data from DWR and emission factors from EPA's AP-42 (2006b) Section 11.12, and
9 SMAQMD's (2011) Concrete Batching Operations Policy Manual.

10 Table 22E-9 summarizes the emission sources or project features that would occur in each air basin.
11 Several features cross multiple air districts or air basins. The proportion of activity within each air
12 district and basin was based on the number of miles or acres constructed within each air district and
13 basin. Please refer to Appendix 22B, *Air Quality Assumptions*, for additional information.

14 **Table 22E-9. Project Features Located in the YSAQMD, SMAQMD, BAAQMD, and SJVAPCD (Alternative**
15 **4/4A)**

Project Feature	YSAQMD	SMAQMD	BAAQMD	SJVAPCD
Geotechnical Investigations		X	X	X
Temporary Utilities		X		X
Equipment and Material Delivery	X	X	X	X
Tunnel Reach 7/Combined Pumping Plant			X	
Tunnel Reaches 1, 2, 3		X		
Tunnel Reach 4		X		
Tunnel Reach 6				X
Tunnel Reach 5				X
Intakes		X		
Clifton Court Forebay			X	
Intermediate Forebay		X		
Permeant Utilities			X	X

SMAQMD = Sacramento Metropolitan Air Quality Management District.

YSAQMD = Yolo-Solano Air Quality Management District.

BAAQMD = Bay Area Air Quality Management District.

16
17 Construction would occur in multiple phases (e.g., mobilization, land clearing). A detailed
18 construction schedule for Alternative 4/4A was provided by DWR. Geotechnical work would begin
19 in 2016, following by temporary utilities in 2017. Construction of the physical water conveyance
20 facility would begin in 2018. Table 22E-10 outlines the expected construction schedule for each
21 major feature. Refer to Table 22B-1 in Appendix B, *Air Quality Assumptions*, for a detailed schedule
22 by construction phase.

1 **Table 22E-10. General Construction Schedule (Alternative 4/4A)**

Project Feature	Construction Time Frame	
	Start	Days
Geotechnical Investigations	1/1/2016	823
Temporary Utilities	8/1/2017	- ^a
Equipment and Material Delivery	8/1/2017	4,362
Tunnel Reach 7/Combined Pumping Plant	1/2/2018	2,878
Tunnel Reaches 1, 2, 3	7/3/2018	2,164
Tunnel Reach 4	11/6/2018	2,462
Tunnel Reach 6	3/5/2019	2,141
Tunnel Reach 5	3/3/2020	1,503
Intakes	11/1/2021 11/1/2020	2,016 2,285
Clifton Court Forebay	12/29/2023	1,561
Intermediate Forebay	7/1/2024	1,300
Permeant Utilities	1/1/2027	128

^a Number of days varies between 325 to 520, depending on the location of the temporary line.

2 **22E.9 O&M Activities Considered**

3 Operations and maintenance include both routine activities and yearly maintenance. Routine
4 activities would occur on a daily basis throughout the year, whereas yearly maintenance would
5 occur annually or every five years. Emissions associated with vehicle traffic and maintenance
6 equipment were estimated using the EMFAC2014 and CalEEMod models, respectively. Employee
7 and equipment data were provided by DWR. Emissions were quantified for both ELT and LLT.
8 Detailed assumptions used in the emissions modeling are provided in Appendix 22A, *Air Quality*
9 *Analysis Methodology*.

10 **22E.10 Estimated Emissions Rates and Comparison to** 11 ***de Minimis* Thresholds**

12 Annual criteria pollutant emissions resulting from construction and O&M (ELT and LTT time
13 periods) of Alternative 4/4A in nonattainment and maintenance areas are presented in Table 22E-
14 11. Emissions estimates include implementation of onsite environmental commitments (see Section
15 22E.1.5.1). Violations of the federal *de minimis* thresholds are shown in underlined text.

1 **Table 22E-11. Criteria Pollutant Emissions from Construction and O&M of Alternative 4/4A in**
 2 **Nonattainment and Maintenance Areas of the SVAB, SJVAB, and SFBAAB (tons/year)**

Year	Sacramento Valley Air Basin					
	ROG	NO _x ^a NO _x	CO ^b CO ^a	PM10 ^c PM10 ^b	PM2.5	SO ₂
2016	<1<1	33	<1<1	<1<1	<1<1	<1<1
2017	<1<1	44	<1<1	14	14	<1<1
2018	14	99	14	99	33	<1<1
2019	55	4545	14	2124	55	<1<1
2020	66	6462	14	3028	54	<1<1
2021	107	8762	32	4030	75	<1<1
2022	119	8281	34	4042	77	1<1
2023	1040	7378	22	3837	66	<1<1
2024	1145	83144	36	3642	79	14
2025	1442	106495	64	4139	88	14
2026	1345	90402	14	3438	67	1<1
2027	1140	7974	<1<1	3333	66	<1<1
2028	35	2030	<1<1	1920	33	<1<1
2029	3<1	194	<1<1	134	2<1	<1<1
ELT	0.13	0.80	1.65	0.27	0.08	<0.01
LLT	0.11	0.68	1.58	0.26	0.07	<0.01
<i>De Minimis</i>	25	25	100	100	100	100
Year	San Joaquin Valley Air Basin					
	ROG	NO _x ^a NO _x	CO ^b CO ^a	PM10	PM2.5	SO ₂
2016	<1<1	44	0<1	<1<1	<1<1	<1<1
2017	14	55	0<1	14	14	<1<1
2018	33	2020	0<1	99	33	<1<1
2019	66	4242	0<1	2727	55	<1<1
2020	1242	9595	44	4848	77	22
2021	1444	104104	77	4747	77	33
2022	1646	112442	1343	4747	88	66
2023	1444	9292	1343	3535	66	66
2024	1242	7474	1343	2424	55	66
2025	1040	6262	88	1949	44	44
2026	66	3939	0<1	1545	22	<1<1
2027	44	2727	0<1	1444	22	<1<1
2028	22	1040	0<1	77	14	<1<1
2029	00	00	00	00	00	00
ELT	0.01	0.08	0.14	0.02	0.01	0.00
LLT	0.01	0.07	0.13	0.02	0.01	0.00
<i>De Minimis</i>	10	10	100	100	100	100
Year	San Francisco Bay Area Air Basin					
	ROG	NO _x ^a NO _x	CO ^b CO	PM10 ^c PM10 ^e	PM2.5	SO ₂
2016	<1<1	14	<1<1	--	<1<1	<1<1
2017	<1<1	14	<1<1	--	<1<1	<1<1
2018	33	2020	14	--	22	<1<1
2019	22	1949	00	--	22	<1<1
2020	55	4646	1747	--	55	77
2021	88	7274	3130	--	77	1242
2022	1040	9898	4949	--	99	1949
2023	1040	9998	4949	--	99	1949
2024	1545	129430	4950	--	1144	2020
2025	1949	148448	3232	--	1144	1343
2026	1040	6767	22	--	66	14
2027	99	5859	22	--	66	14
2028	66	4039	14	--	44	14
2029	<1<10	14	<1<1	--	14	<1<1
ELT	0.19	1.15	2.42	-	0.11	0.01
LLT	0.16	0.97	2.33	-	0.10	0.01
<i>De Minimis</i>	100	100	100	-	100	100

Year	Sacramento Valley Air Basin					
	ROG	NO _x ^a NO _x	CO ^b CO ^a	PM10 ^c PM10 ^b	PM2.5	SO ₂
Notes	<p>^a <u>NO_x emissions in excess of 100 tons per year within federally designated PM10 and PM2.5 nonattainment or maintenance areas trigger a secondary PM10 and PM2.5 precursor threshold. NO_x emissions in excess of this secondary threshold could conflict with the applicable PM10 and PM2.5 SIPs. Accordingly, NO_x offsets pursued for the purposes of general conformity must occur within the federally-designated PM2.5 nonattainment and PM10 maintenance areas, as applicable.</u></p> <p>^b <u>The proposed water conveyance facility is located within a federally designated CO attainment area. Accordingly, CO emissions generated by construction of CM1 are not subject to the General Conformity Rule and are excluded from the emissions summary and general conformity analysis (40 CFR Part 51 and 93, Section III.A). Emissions presented in the table are limited those generated by haul trucks, which would occur in federally designated CO maintenance area.</u></p> <p>^c <u>There are no federally designated PM10 maintenance areas in Yolo County. Accordingly, PM10 emissions generated by construction of CM1 in Yolo County are not subject to the General Conformity Rule and are excluded from the emissions summary and general conformity analysis for the SVAB (40 CFR Part 51 and 93, Section III.A). Emissions presented in the table are limited those generated within Sacramento County.</u></p> <p>^d <u>96.2 tons would be generated in SMAQMD and 9.7 tons would be generated in YSAQMD.</u></p> <p>^e <u>There are no federally designated PM10 nonattainment or maintenance areas in the SFBAAB. Accordingly, PM10 emissions generated by construction of CM1 are not subject to the General Conformity Rule and are excluded from the emissions summary and general conformity analysis (40 CFR Part 51 and 93, Section III.A).</u></p> <p>^a The proposed water conveyance facility is located within a federally designated CO attainment area. Accordingly, CO emissions generated by construction of CM1 are not subject to the General Conformity Rule and are excluded from the emissions summary and general conformity analysis (40 CFR Part 51 and 93, Section III.A). Emissions presented in the table are limited those generated by haul trucks, which would occur in federally designated CO maintenance area.</p> <p>^b There are no federally designated PM10 maintenance areas in Yolo County. Accordingly, PM10 emissions generated by construction of CM1 in Yolo County are not subject to the General Conformity Rule and are excluded from the emissions summary and general conformity analysis for the SFNA (40 CFR Part 51 and 93, Section III.A). Emissions presented in the table are limited those generated within Sacramento County.</p> <p>^c There are no federally designated PM10 nonattainment or maintenance areas in the SFBAAB. Accordingly, PM10 emissions generated by construction of CM1 are not subject to the General Conformity Rule and are excluded from the emissions summary and general conformity analysis (40 CFR Part 51 and 93, Section III.A).</p>					

1 22E.11 Regional Effects

2 As shown in Table 22E-11, implementation of Alternative 4/4A would exceed the following federal
 3 *de minimis* thresholds. ~~There would be no violations of any other *de minimis* thresholds.~~

- 4 • SVAB—NO_x: 2019-2027~~8~~
- 5 • SJVAB—NO_x: 2018-2028 and ROG: 2020-2025
- 6 • SFBAAB—NO_x: 2024-2025

7 ROG and NO_x are precursors to ozone, for which the SVAB, SJVAB, and SFBAAB are in nonattainment
 8 for the NAAQS. Since project emissions exceed the federal *de minimis* threshold for ROG (SJVAB
 9 only) and NO_x, a general conformity determination must be made to demonstrate that total direct
 10 and indirect emissions of ROG (SJVAB only) and NO_x would conform to the appropriate ~~SFNASVAB~~,
 11 SJVAB, and SFBAAB SIP for each year of construction in which the *de minimis* thresholds are
 12 exceeded.

13 NO_x is also a precursor to PM and can contribute to PM formation. As discussed above, Sacramento
 14 County and the SJVAB are currently designated maintenance for the PM10 NAAQS, whereas the
 15 SJVAB, SFBAAB, and portions of the SVAB are designated nonattainment for the PM2.5 NAAQS. NO_x
 16 emissions in excess of 100 tons per year in Sacramento County and SJVAB trigger a secondary PM10
 17 precursor threshold, whereas NO_x emissions in excess of 100 tons per year in the SVAB, SJVAB, or

1 SFBAAB trigger a secondary PM2.5 precursor threshold. Since NO_x emissions can contribute to PM
 2 formation, NO_x emissions in excess of these secondary precursor thresholds could conflict with the
 3 applicable PM10 and PM2.5 SIPs.

4 As shown in Table 22E-11, NO_x emissions generated by construction activities in SVAB would
 5 exceed 100 tons in 2025. However, only 96 of these tons would be generated in Sacramento County.
 6 Accordingly, the project does not trigger the secondary PM10 precursor threshold in Sacramento
 7 County, but would trigger the secondary PM2.5 precursor threshold in 2025. The PM2.5 precursor
 8 threshold would also be exceeded in the SFBAAB in 2024 and 2025. The PM10 and PM2.5 precursor
 9 thresholds would be exceeded in the SJVAB in 2021 and 2022. Accordingly, secondary PM2.5 and
 10 PM10 (SJVAB only) effects must be considered in the general conformity determination.

11 No additional analyses are required for the other pollutants during construction or O&M activities as
 12 emission would not exceed the federal *de minimis* thresholds.

13 22E.12 General Conformity Evaluation

14 As disused in Section 22E.1.1.2, *General Conformity Requirements*, a positive general conformity
 15 determination can be made through one of five criteria (project inclusion in the SIP, revision to the
 16 SIP, offsets, additional mitigation, and/or a combination of strategies). This section summarizes the
 17 findings that were used to make the determination for the BDCP.

18 22E.12.1 Conformity Requirements for the Applicant- 19 Preferred Alternative

20 As described in Section 22E.1.2, Alternative 4/4A has been selected as APA. As shown in Table 22E-
 21 11, construction-related NO_x emissions generated by Alternative 4/4A in the SVAB and SFBAAB
 22 exceed the federal *de minimis* threshold between 2019 and 202~~8~~7 and 2024 and 2025, respectively.
 23 Construction-related ROG and NO_x emissions in the SJVAB would exceed the federal *de minimis*
 24 threshold between 2020 and 2025 and 2018 and 2028, respectively. The highest annual NO_x
 25 emissions (~~114 tons~~) in the SVAB (106 tons) and SFBAAB (148 tons) occur in 20242025, whereas
 26 the highest annual NO_x emissions in the SFBAAB (148 tons) occur in 2025. The highest annual ROG
 27 and NO_x emissions in the SJVAB occur in 2022 and are 16 ton and 112 tons, respectively. Because
 28 NO_x emissions exceed the federal *de minimis* threshold in the SVAB and SFBAAB and ROG and NO_x
 29 emissions exceed the federal *de minimis* threshold in the SJVAB, a conformity determination is
 30 required for construction-related ROG (SJVAB only) and NO_x emissions generated by Alternative
 31 4/4A for all years in excess of the federal *de minimis* thresholds (See Table 22E-11). Since NO_x
 32 emissions exceed 100 tons per year in federally designated PM2.5 nonattainment areas and a PM10
 33 maintenance area (SJVAB), and because NO_x is a precursor to PM, secondary PM2.5 and PM10
 34 (SJVAB only) effects must also be considered in the general conformity determination for those
 35 years in which NO_x emission exceed 100 tons.

36 No additional analyses are required for the other pollutants during construction or O&M activities as
 37 emission would not exceed the federal *de minimis* thresholds.

1 22E.12.2 Compliance with Conformity Requirements

2 The Federal lead agencies herein demonstrate that construction-related ROG (SJVAB only) and NO_x
3 emissions generated by the APA would not result in a net increase in regional ROG (SJVAB only) or
4 NO_x emissions. This will be achieved by offsetting ROG (SJVAB only) and NO_x emissions generated
5 during all years in excess of the federal *de minimis* thresholds to net zero. Purchasing offsets is
6 consistent with the general conformity rule, which states that a positive conformity determination
7 may be reached if project-related emissions are offset to net zero for all years in which pollutants
8 exceed applicable *de minimis* thresholds (refer to Section 22E.1.1.2).

9 Within the SVAB, project emissions would not result in a net increase in regional NO_x emissions, as
10 construction-related NO_x would be fully offset to zero through implementation of Mitigation
11 Measures AQ-1a and 1b, which require additional onsite mitigation and/or offsets (see Section
12 2E.1.5.2). NO_x offsets for 2025 must occur within the federally designated PM2.5 nonattainment
13 area of the SVAB. The nonattainment boundary for PM2.5 includes all of Sacramento County and
14 portions of Yolo, El Dorado, Solano, and Placer counties. Mitigation Measures AQ-1a and 1b will
15 ensure the requirements of the mitigation and offset program are implemented and conformity
16 requirements for NO_x are met in the SVAB.

17 Within SJVAB, project emissions would not result in an increase in regional ROG or NO_x emissions,
18 as construction-related ROG and NO_x emissions would be fully offset to zero through
19 implementation of Mitigation Measures AQ-4a and AQ-4b, which require additional onsite
20 mitigation and/or offsets (see Section 2E.1.5.2). NO_x offsets for 2021 and 2022 must occur within
21 the federally designated PM10 maintenance and PM2.5 nonattainment areas of the SJVAB, which are
22 consistent with the nonattainment boundary for ozone. Mitigation Measures AQ-4a and AQ-4b will
23 ensure the requirements of the mitigation and offset program are implemented and conformity
24 requirements for ROG and NO_x are met in the SJVAB.

25 Within the SFBAAB, project emissions would not result in a net increase in regional NO_x emissions,
26 as construction-related NO_x would be fully offset to zero through implementation of Mitigation
27 Measures AQ-3a and 3b, which require additional onsite mitigation and/or offsets (see Section
28 2E.1.5.2). NO_x offsets must occur within the federally designated PM2.5 nonattainment area of the
29 SFBAAB, which is consistent with the nonattainment boundary for ozone. Mitigation Measures AQ-
30 3a and 3b will ensure the requirements of the mitigation and offset program are implemented and
31 conformity requirements for NO_x are met in the SFBAAB.

32 The BDCP proponents have undergone extensive coordination with YSAQMD, SMAQMD, BAAQMD,
33 and SJVAPCD to confirm the feasibility of Mitigation Measures 1a, 1b, 3a, 3b, 4a, and 4b. Based on the
34 performance of current incentive programs and reasonably foreseeable future growth, the Plan Area
35 air districts have confirmed that sufficient emissions reduction credits would be available to offset
36 ROG (SJVAB only) and NO_x emissions generated by Alternative 4/4A for all years in excess of the
37 federal *de minimis* thresholds (see Table 22E-11). Please refer to Attachment 22E-1 for copies of the
38 air district consultation and confirmation letters. Consultation with SMAQMD and YSAQMD is still
39 ongoing.

1 **22E.13 Reporting**

2 The Federal lead agencies are issuing this general conformity determination for public and agency
 3 review for a ~~45~~-day period as required by 40 CFR §§93.155 and 93.156. Emissions from
 4 construction and O&M of Alternative 4/4A have been assessed and quantified using standard and
 5 accepted tools, techniques, and emission factors. Additional technical details are provided in the
 6 partially recirculated Draft EIS/EIR. The air quality analysis, including this draft conformity
 7 determination, is based on consultation with YSAQMD, SMAQMD, BAAQMD, and SJAPCD.

8 **22E.13.1 General Conformity Determination**

9 The general conformity determination will be available for a ~~45~~-day public review in conjunction
 10 with the partially recirculated Draft EIS/EIR. The Federal lead agencies will provide copies of this
 11 general conformity determination to the appropriate regional offices of the EPA, ARB, YSAQMD
 12 SMAQMD, BAAQMD, SJVAPCD, and other coordinating agencies consistent with general conformity
 13 public noticing requirements. The Federal lead agencies will also announce the availability of the
 14 general conformity determination in conjunction with the public noticing of the Final EIS and NEPA
 15 Record of Decision. Such notice will be published, at a minimum, in the Federal Register. A copy of
 16 this conformity determination will be made available on Reclamation's, USFWS', and NMFS'
 17 websites, as well as at local libraries.

18 **22E.13.2 Revaluation and Redetermination of General** 19 **Conformity**

20 General conformity determinations are valid for a period of 5 years after the date of public
 21 notification for the final documentation (40 CFR §93.157(a)). Ongoing federal activities at a given
 22 site that show continuous progress after a 5-year period do not require a redetermination so long as
 23 the activities are within the scope of the final conformity determination.

24 **22E.14 Findings and Conclusions**

25 Pursuant to 40 CFR Part 93 Subpart B, the Federal lead agencies have conducted a general
 26 conformity evaluation as part of the environmental review of the BDCP. The project is subject to the
 27 general conformity rule because it is located an area that is designed nonattainment for the 8-hour
 28 ozone and PM_{2.5} standards and a partial maintenance area for the CO and PM₁₀ standards. The
 29 Federal agencies conducted the general conformity evaluation in consultation with air districts in
 30 the Plan Area (YSAQMD, SMAQMD, BAAQMD, and SJVAPCD). The emissions analyses are based on
 31 accepted standards and are in compliance with all applicable regulatory criteria and procedures.

32 Based on project-specific construction analysis, NO_x emissions generated by the APA in the SVAB
 33 and SFBAAB would exceed the federal *de minimis* threshold between 2019 and 202~~7~~8 and 2024 and
 34 2025, respectively. Construction-related ROG and NO_x emissions in the SJVAB would exceed the
 35 federal *de minimis* threshold between 2020 and 2025 and 2018 and 2028, respectively. The Federal
 36 agencies concluded that construction emissions would not result in a net increase in regional ROG
 37 (SJVAB only) or NO_x emissions, as construction-related ROG (SJVAB only) and NO_x emissions would
 38 be fully offset to zero through implementation of Mitigation Measures AQ-1a, AQ-1b, AQ-3a, AQ-3b,
 39 AQ-4a, and AQ-4b, which require the payment of offsite mitigation fees. Accordingly, the Federal

1 lead agencies have determined that the APA, as designed, will conform to the approved SIPs, based
 2 on the findings below.

- 3 • A commitment from the BDCP Proponents that ROG (SJVAB only) and NO_x emissions generated
 4 by the APA will be offset consistent with the applicable federal regulations through development
 5 of a mitigation contract with Plan Area air districts or through the development of an alternative
 6 offsite mitigation program managed by DWR. The following actions will be taken to execute the
 7 conformity determination contained herein under an air district sponsored offset program:
 - 8 ○ BDCP Proponents will enter into a contractual agreement with SMAQMD and BAAQMD to
 9 mitigate NO_x emissions in excess of the federal *de minimis* threshold to net zero.
 - 10 ○ BDCP Proponents will enter into a contractual agreement with SJVAPCD to mitigate ROG and
 11 NO_x emissions in excess of the federal *de minimis* threshold to net zero.
 - 12 ○ BDCP Proponents will surrender moneys to the following air district approved incentive
 13 programs to fund grants for projects that achieve the necessary emission reductions.
 - 14 • SMAQMD's HDLEVIP
 - 15 • BAAQMD's Carl Moyer Program and TFCA
 - 16 • SJVAPCD's Incentive Programs
 - 17 ○ SMAQMD, BAAQMD, and SJVAPCD will seek and implement the necessary emission
 18 reduction measures, using BDCP Proponent funds.
 - 19 ○ SMAQMD, BAAQMD, and SJVAPCD will serve in the role of administrator of the emissions
 20 reduction projects and verifier of the successful mitigation effort.

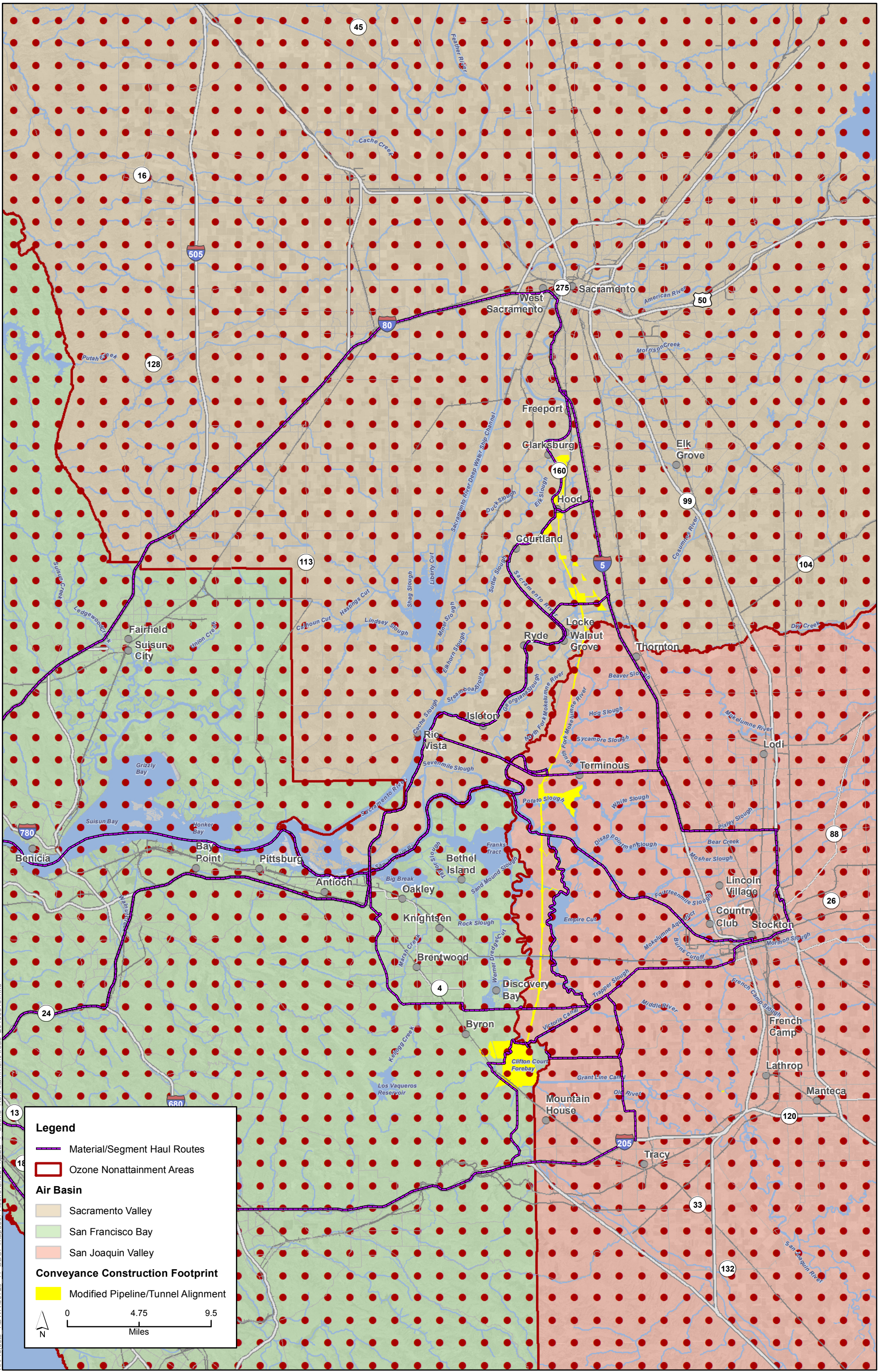
21 The following actions will be taken to execute the conformity determination contained herein
 22 under a DWR-sponsored offset program:

- 23 ○ DWR will develop an offsite mitigation program to fund emission reduction projects through
 24 grants and similar mechanisms.
- 25 ○ DWR will develop pollutant-specific formulas to monetize, calculate, and achieve emissions
 26 reductions in a cost-effective manner.
- 27 ○ DWR will conduct annual reporting to verify and document that emissions reductions
 28 projects achieve a 1:1 reduction with construction emissions to ensure claimed offsets meet
 29 the required performance standard.
- 30 ○ DWR will serve in the role of administrator of the emissions reduction projects and verifier
 31 of the successful mitigation effort.

32 Therefore, the federal lead agencies herewith conclude that the APA, as designed, conforms to the
 33 purpose of the approved SIP and is consistent with all applicable requirements.

22E.15 References

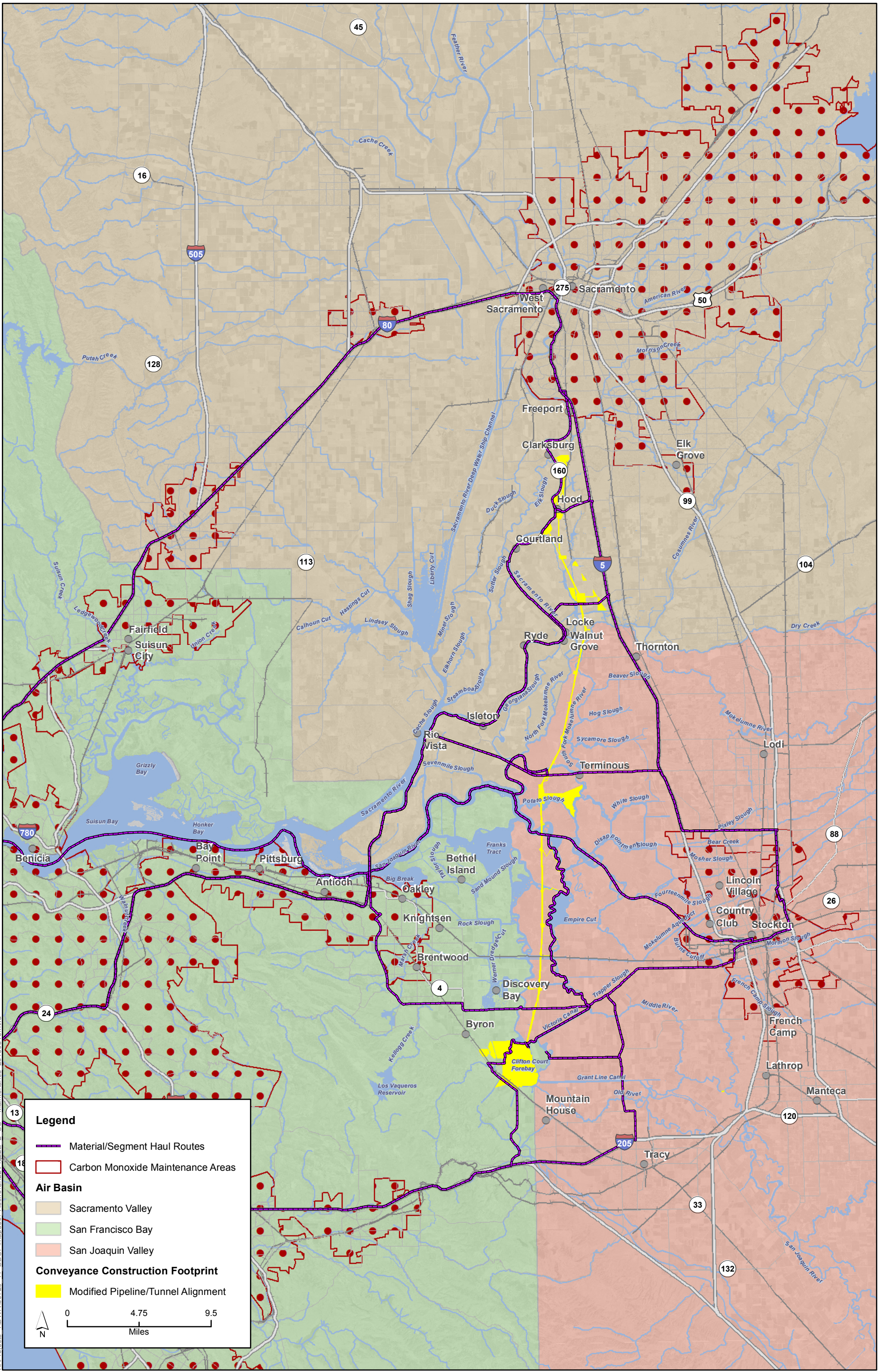
- California Air Resources Board. 2010. Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling: Compression-Ignition. NR-009d
- California Air Resources Board. 2012. *Emissions Estimation Methodology for Commercial Harbor Craft Operating in California*. February.
- California Air Resources Board. 2013. Almanac Emission Projection Data (published in 2013). Available: <<http://www.arb.ca.gov/ei/maps/statemap/cntymap.htm>>. Accessed: March 11, 2015.
- California Air Resources Board. 2014a. *iADAM Air Quality Data Statistics*. Available: <<http://www.arb.ca.gov/adam/index.html>>. Accessed: September 18, 2014.
- California Air Resources Board. 2014b. *Area Designations Maps/ State and National*. Last Revised: August 22, 2014. Available: <<http://www.arb.ca.gov/desig/adm/adm.htm>>. Accessed: September 18, 2014.
- ENVIRON. 2013. California Emissions Estimator MODEL User's Guide. Version 2013.2. July.
- U.S. Environmental Protection Agency. 1994. General Conformity Guidance: Questions and Answers. July 13. Available: <http://www.epa.gov/ttn/oarpg/conform/gcgqa_71394.pdf>.
- Sacramento Metropolitan Air Quality Management District. 2011. *Concrete Batching Operations Policy Manual*. March.
- U.S. Environmental Protection Agency. 1998. *Compilation of Air Pollutant Emission Factors*. Section 11.9 Western Surface Coal Mining. Available: <<http://www.epa.gov/ttn/chief/ap42/index.html>>. Accessed: October 2014.
- U.S. Environmental Protection Agency. 2006a. *Compilation of Air Pollutant Emission Factors*. Section 13.2.2, Unpaved Roads. Available: <<http://www.epa.gov/ttn/chief/ap42/index.html>>. Accessed: October 2014.
- U.S. Environmental Protection Agency. 2006b. *Compilation of Air Pollutant Emission Factors*. Section 11.12, Concrete Batching. Available: <<http://www.epa.gov/ttn/chief/ap42/index.html>>. Accessed: October 2014
- U.S. Environmental Protection Agency. 2011. *Compilation of Air Pollutant Emission Factors*. Section 13.2.1, Paved Roads. Available: <<http://www.epa.gov/ttn/chief/ap42/ch13/bgdocs/b13s0201.pdf>>. Accessed: October 2014.
- U.S. Environmental Protection Agency. 2014a. *Monitor Values Report*. Last Revised: July 11, 2014. Available: <http://www.epa.gov/airdata/ad_rep_mon.html>. Accessed: September 18, 2014.
- U.S. Environmental Protection Agency. 2014b. *The Greenbook Nonattainment Areas for Criteria Pollutants*. Last Revised: July 2, 2014 Available: <<http://www.epa.gov/oar/oaqps/greenbk/>>. Accessed: September 18, 2014.



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Sources: Plan Area, ICF 2012; Area of Additional Analysis, ICF 2012; ROA, SAIC 2010; Nonattainment/Maintenance Areas, EPA 2013; Air Basins, CARB 2004; Constructability (Rev 10), DHCCP DWR 2012; Constructability (Rev 3b), DHCCP DWR 2012; Constructability (Rev 4b), DHCCP DWR 2014

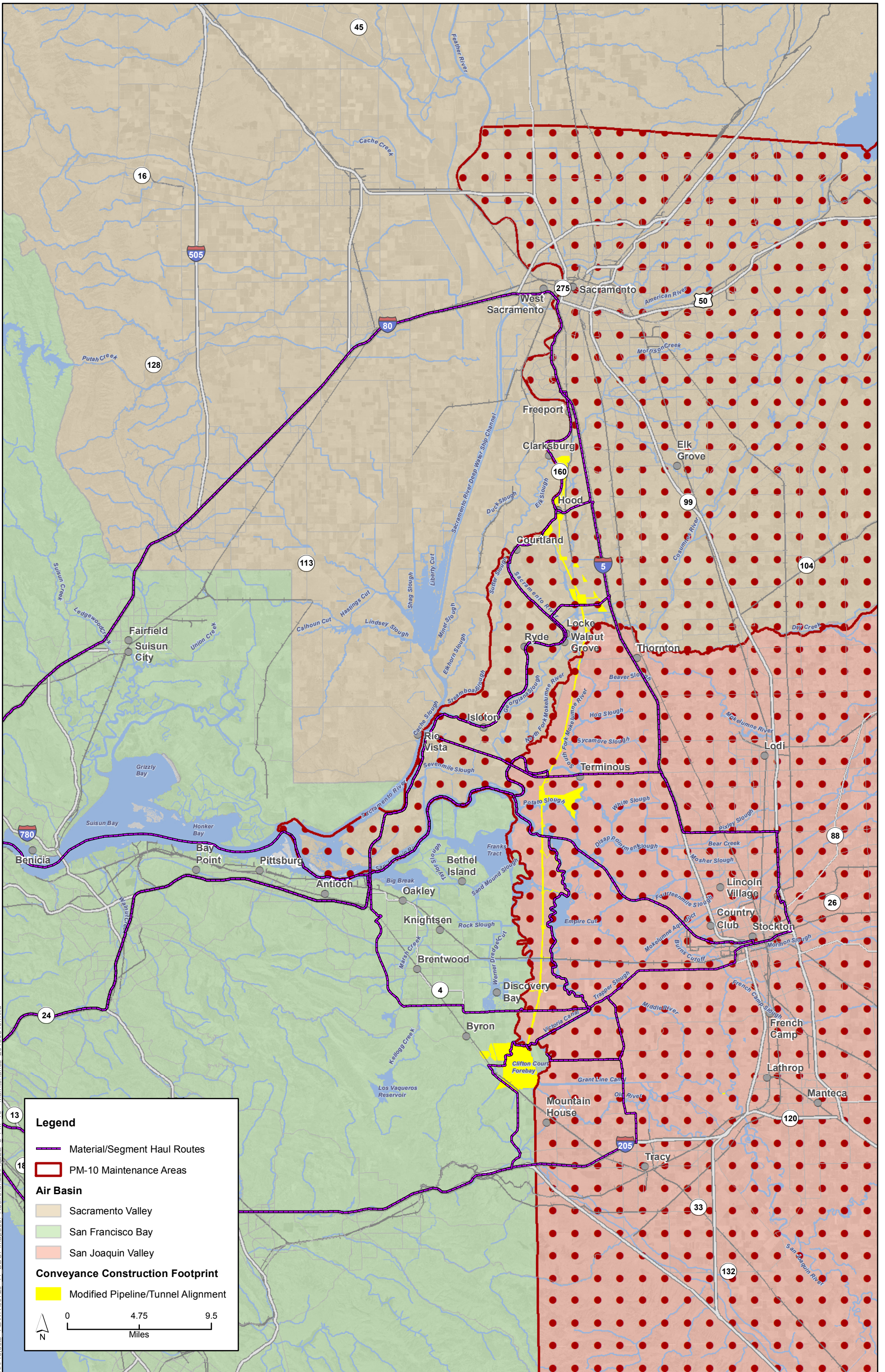
Figure 22E-1
Ozone Nonattainment Areas



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Sources: Plan Area, ICF 2012; Area of Additional Analysis, ICF 2012; ROA, SAIC 2010; Nonattainment/Maintenance Areas, EPA 2013; Air Basins, CARB 2004; Constructability (Rev 10), DHCCP DWR 2012; Constructability (Rev 3b), DHCCP DWR 2012; Constructability (Rev 4b), DHCCP DWR 2014

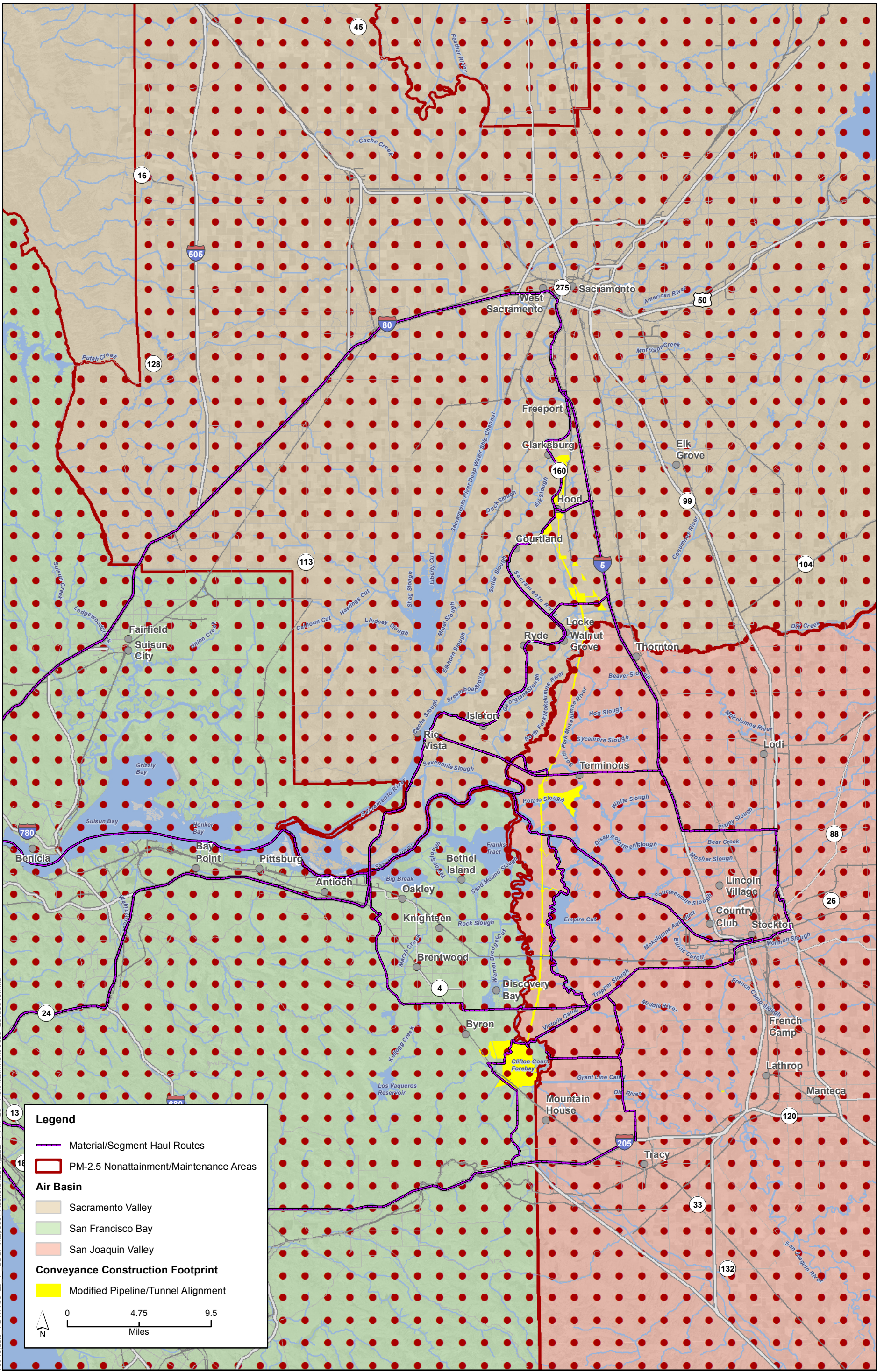
Figure 22E-2
Carbon Monoxide Maintenance Areas



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Sources: Plan Area, ICF 2012; Area of Additional Analysis, ICF 2012; ROA, SAIC 2010; Nonattainment/Maintenance Areas, EPA 2013; Air Basins, CARB 2004; Constructability (Rev 10), DHCCP DWR 2012; Constructability (Rev 3b), DHCCP DWR 2012; Constructability (Rev 4b), DHCCP DWR 2014

Figure 22E-3
PM - 10 Maintenance Areas



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Sources: Plan Area, ICF 2012; Area of Additional Analysis, ICF 2012; ROA, SAIC 2010; Nonattainment/Maintenance Areas, EPA 2013; Air Basins, CARB 2004; Constructability (Rev 10), DHCCP DWR 2012; Constructability (Rev 3b), DHCCP DWR 2012; Constructability (Rev 4b), DHCCP DWR 2014

Figure 22E-4
PM - 2.5 Nonattainment and Maintenance Areas

1
2

Attachment 22E-1
Air District Coordination Letters

From: [Alison Kirk](#)
To: [Heiland, Brian@DWR](mailto:Heiland_Brian@DWR)
Cc: [Yoon, Laura](#); [Hatcher, Shannon](#); [David Vintze](#); [William Guy](#); [Anthony Fournier](#); [Henry Hilken](#); [CHARLENE McGHEE](#); [LARRY ROBINSON](#)
Subject: Bay Delta Conservation Plan construction emissions in the San Francisco Bay Area Air Basin
Date: Thursday, April 02, 2015 9:02:53 AM

Dear B.G.,

The purpose of this email is to confirm with the Department of Water Resources (DWR) the Bay Area Air Quality Management District's (Air District) intention to work with DWR to mitigate the construction related air quality impacts in the San Francisco Bay Area Air Basin associated with the Bay Delta Conservation Plan (BDCP). According to the analysis in the draft environmental impact report (DEIR), implementation of the BDCP will exceed the air quality significance thresholds for approximately 7 years of construction activity, and will exceed the federal general conformity de minimis thresholds in one of those years. In the San Francisco Bay Area Air Basin the general conformity de minimis threshold is 100 tons per year for the following pollutants: reactive organic gases (ROG), oxides of nitrogen (NOx), carbon monoxide (CO), particulate matter 2.5 (PM2.5), and sulfur dioxide (SO2). Based on the most recent BDCP project emissions estimate provided by DWR, construction emissions associated with preferred Alternative 4 exceeds this de minimis threshold for NOx emissions in years 2024 and 2025.

DWR has proposed mitigating the BDCP air quality impacts through an offsite mitigation program administered by the Air District to reduce all emissions above the CEQA thresholds and the general conformity de minimis threshold in the Bay Area. DWR would provide the funding necessary for the Air District to provide incentives for emission reduction projects that are not required by law to reduce their emissions, thereby offsetting the BDCP construction emissions. The Air District has implemented this type of incentive program for approximately the past 20 years.

DWR and the Air District would need to develop a memorandum of understanding establishing the methodology and process for the offsetting of the BDCP construction emissions, such as the cost per ton of emissions to be reduced, the timing of the payments and the administrative costs to the Air District. The Air District is confident that the amount of emission reductions needed by the project can be achieved and endeavors to work with DWR to offset the BDCP significant air quality impacts.

We look forward to working with the DWR to improve air quality in the Air District.

Please contact me with any questions.

Sincerely,

Alison Kirk, AICP
Senior Environmental Planner
Bay Area Air Quality Management District

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Cassandra Enos-Nobriga
Department of Water Resources
1416 Ninth Street
P.O. Box 942836
Sacramento, CA 94236-0001

Subject: Availability of Emission Reductions for the Proposed Voluntary Emission Reduction Agreement for the Bay Delta Conservation Plan

Dear Ms. Enos-Nobriga:

The San Joaquin Valley Air Pollution Control District (District) has received your correspondence seeking confirmation from the District whether emissions reductions needed for each of the water conveyance facility alternatives can be achieved through a Voluntary Emissions Reduction Agreement (VERA) with the District as outlined under Mitigation Measure AQ-4 of the Draft Environmental Impact Report/Statement (EIR/EIS) for the Bay Delta Conservation Plan project (Project).

Based on currently estimated construction emissions and reasonably foreseeable emission reduction projects in the San Joaquin Valley Air Basin, the District is confirming that it anticipates sufficient quantities of emissions reductions to be available to mitigate each of the water conveyance facility alternatives, as outlined under Mitigation Measure AQ-4.

Furthermore, since 2005, the District has been developing and implementing VERAs with project proponents to mitigate air quality impacts of their projects through its highly successful incentive programs. The District has entered into 26 VERAs, received over \$13.5 million, and achieved total emission reductions of over 1,530 tons of Nitrogen Oxides (NO_x), 185 tons Volatile Organic Compounds (VOC), and 113 tons of Particulate Matter 10 microns or less in size (PM₁₀).

Over the years, the District has built a reputation for excellence in the implementation of these programs, as highlighted in multiple audits by state agencies that lauded the District's incentive programs for their efficiency and effectiveness. The District's incentive programs have invested over \$1 billion in public and private funding for clean air projects reducing more than 100,000 tons of emissions.

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The District appreciates your efforts to mitigate the air quality impacts of the Project through a VERA and the ongoing discussions, and looks forward to developing a VERA to reduce construction emissions and avoid adverse effects to the regional and local air quality.

If you have any questions, please contact Patia Siong.

Sincerely,

Arnaud Marjollet
Director of Permits Services

Chay Thao
Program Manager

AM: ps

cc: Laura Yoon, ICF International