Appendix E

Conformity Analysis Estimate

Appendix E

Conformity Analysis Estimate

The air quality analysis for ozone precursors examined two aspects of construction:

- On-site excavation, loading, and vehicle activity
- Worker vehicle travel

An emissions estimate was prepared for the organic gases (ROG), and oxides of nitrogen (NOx), due to the non-attainment status of the San Francisco Bay Area for ozone.

A conservative yearly estimate was used to compare with EPA and BAAQD conformity thresholds for ozone precursors. All construction activity during was assumed to be conducted 8 hours a day for 60 days per year.

Construction Vehicle Activity Emissions Estimates

This section describes the methodology used to estimate the construction equipment and vehicles on-site, number of workers, and worker commute trips associated with enhancement, creation, or restoration of habitat.

Construction Equipment and Vehicles On-Site

The type and number of construction vehicles needed for habitat restoration activities were estimated. For this project, it is presumed a maximum of one scrapers/excavators (to move soil on-site), one loader (to fill trucks), and one dump truck, and one flat-bed or water truck were assumed to be needed on-site. A total of four construction vehicles are assumed to be used on-site at the peak of restoration activity.

Construction Employees

Restoration activities are presumed to require one work crew. Assuming one employee per construction vehicle, plus supervisor and monitors, it is assumed that 6-8 employees would be present.

Daily Worker Commute Trips

The number of daily worker trips was estimated. Each worker was presumed to arrive in his or her own personal vehicle. Thus, sixteen daily commute trips were estimated for this project: 8 trips during the morning commute and 8 trips during the evening commute. In addition, 8 additional trips during the lunch hour were presumed, assuming that half of the workers go off-site for lunch or to run errands.

Emissions Estimate

The assumptions above were then used to estimate the maximum yearly emissions. As shown in Table E-1, the estimates of total annual emissions from construction activity during restoration activities of NOx and ROG are 1.31 tons and 0.11 tons, respectively. These amounts are less than the EPA conformity thresholds of 50 tons per year.

Table E-1. Emissions Estimate for Construction Vehicles

Assumptions – Construction				
Number of workers	8			
Duration of construction	60 days			
Commute Assumptions – Construction	**Commute**	**Lunch**	**Trucks**	
Miles (one-way average)	45	20	50	
trips/day	16	8	2	
miles/day	720	160	100	
Emission Factors (lbs/hr) – Construction	**ROG**	**NO_x**	**Load Factor**	**#**
Scraper	0.27	3.84	0.66	1
Tracked Loader	0.095	0.83	0.465	1
Off-Highway Truck	0.19	4.17	0.41	1
Emission Factors (grams/mile) – Construction	**ROG**	**NO_x**	**Load Factor**	**#**
Dump Truck	1.22	8.45	1	1
Pick up Truck	0.24	0.6	1	4
Auto	0.2	0.39	1	4
Emission in Tons/Year – Construction				
Emission for Construction	0.09	1.18		
Emission for Commute/Lunch	0.01	0.02		
Total Construction Vehicles	0.1	1.2		