SUBSECTION 8.10

Traffic and Transportation

8.10 Traffic and Transportation

This section assesses transportation impacts associated with the proposed project. The analysis primarily quantifies impacts on intersection levels of service expected during construction (the addition of approximately 524 maximum daily vehicles including construction workers and trucks) of the proposed project. Additional transportation factors examined in this section include pedestrian and bicyclist impacts, safety, goods movement, and any potential impacts to air, rail, and waterborne transportation networks.

Descriptions of existing transportation facilities in proximity of the proposed project and an analysis of the proposed project's potential impacts on the existing transportation network are provided. The intersection level of service (LOS) analysis examines the worst-case scenario during construction activities (which would occur for a 2-month duration) to the local study area intersections. The operation of the proposed project would include relatively few peak hour trips, which would be associated with permanent employees (20 employees, or 20 a.m. and 20 p.m. peak hour trips). Once these employee peak hour trips are distributed on the street network, traffic impacts would be immeasurable due to the relatively low volume of traffic generated. An additional 60 trips are anticipated to occur throughout the workday (i.e., materials deliveries, visitors, work-related business trips), but not during the critical peak commute hours.

Information sources include traffic counts, data provided by the City of San Francisco's Department of Parking and Transportation (DPT), the California Department of Transportation (Caltrans) and field observations. This subsection also discusses applicable laws, ordinances, and regulations (LORS) relevant to the potential transportation impacts caused by the proposed project.

8.10.1 Laws, Ordinances, Regulations and Standards

LORS related to traffic and transportation are summarized in the following subsections.

8.10.1.1 Federal

- Title 49, Code of Federal Regulations (CFR), Sections 171-177 (49 CFR 171-177), governs the transportation of hazardous materials, the types of materials defined as hazardous, and the marking of the transportation vehicles.
- 49 CFR 350-399, and Appendices A-G, Federal Motor Carrier Safety Regulations, address safety considerations for the transport of goods, materials, and substances over public highways.
- 49 CFR 397.9, the Hazardous Materials Transportation Act of 1974, directs the U.S. Department of Transportation to establish criteria and regulations for the safe transportation of hazardous materials.

8.10.1.2 State

State laws that apply to this project include the following sections of this California Vehicle Code (CVC), unless specified otherwise:

- California Street and Highways Code (S&HC), Sections 660, 670, 1450, 1460 et seq., 1470, and 1480, regulates right-of-way encroachment and granting of permits for encroachments on state and county roads.
- Sections 13369, 15275, and 15278 address the licensing of drivers and classifications of licenses required for operation of particular types of vehicles. In addition, certificates permitting the operation of vehicles transporting hazardous materials are addressed.
- Sections 25160 et seq. describe requirements for the safe transport of hazardous materials.
- Sections 2500-2505 authorize the issuance of licenses by the Commissioner of the California Highway Patrol (CHP) to transport hazardous materials, including explosives.
- Sections 31303-31309 regulate the highway transportation of hazardous materials, routes used, and restrictions. CVC Section 31303 requires hazardous materials to be transported on state or interstate highways that offer the shortest overall transit time possible.
- Sections 31600-31620 regulate the transportation of explosive materials.
- Sections 32000-32053 regulate the licensing of carriers of hazardous materials and include noticing requirements.
- Sections 32100-32109 establish special requirements for the transportation of substances presenting inhalation hazards and poisonous gases. CVC Section 32105 requires shippers of inhalation or explosive materials to contact the CHP and apply for a Hazardous Material Transportation License. Upon receiving this license, the shipper will obtain a handbook specifying approved routes.
- Sections 34000-34121 establish special requirements for transporting flammable and combustible liquids over public roads and highways.
- Sections 34500, 34501, 34501.2, 34501.3, 34501.4, 34501.10, 34505.5-7, 34506, 34507.5, and 34510-11 regulate the safe operation of vehicles, including those used to transport hazardous materials.
- S&HC, Sections 117 and 660-72, and CVC, Sections 35780 et seq., require permits to transport oversized loads on county roads. California S&HC Sections 117 and 660 to 711 requires permits for any construction, maintenance, or repair involving encroachment on state highway rights-of-way. CVC Section 35780 requires approval for a permit to transport oversized or excessive loads over state highways.
- California State Planning Law, Government Code Section 65302, requires each city and county to adopt a General Plan, consisting of seven mandatory elements, to guide its physical development. Section 65302(b) requires that a circulation element be one of the mandatory elements.
- All construction in the public right-of-way will need to comply with the "Manual of Traffic Controls for Construction and Maintenance of Work Zones" (Caltrans 1996).

- California Department of Transportation (Caltrans) weight and load limitations for state highways apply to all state and local roadways. The weight and load limitations are specified in the CVC Sections 35550 to 35559. The following provisions, from the CVC, apply to all roadways and are therefore applicable to this project.

  General Provisions:

  – The gross weight imposed upon the highway by the wheels on any axle of a vehicle shall not exceed 20,000 pounds and the gross weight upon any one wheel, or wheels, supporting one end of an axle, and resting upon the roadway, shall not exceed 10,500 pounds.

  – The maximum wheel load is the lesser of the following: a) the load limit established by the tire manufacturer, or b) a load of 620 pounds per lateral inch of tire width, as determined by the manufacturer's rated tire width.

  Vehicles with Trailers or Semitrailers:

  – The gross weight imposed upon the highway by the wheels on any one axle of a vehicle shall not exceed 18,000 pounds and the gross weight upon any one wheel, or wheels, supporting one end of an axle and resting upon the roadway, shall not exceed 9,500 pounds, except that the gross weight imposed upon the highway by the wheels on any front steering axle of a motor vehicle shall not exceed 12,500 pounds.

8.10.1.3 Local

The transportation elements of local plans that are applicable to the project are summarized in Table 8.10-1 and in the following subsection.

- The San Francisco General Plan, transportation and circulation elements, sets forth policies that are applicable to the project. They are as follows:

  – The City's level of service standards for the state highway system and specific routes of regional significance shall be those standards adopted in the General Plan.

- Regional Transportation Plan (RTP) represents the blueprint for major transportation investments in the Bay Area region over the 25-year period from 2000 to 2025. The plan provides a vision for the regional transportation system, now and in the future, and is designed to achieve specific goals defined by the Association of Bay Area Governments (ABAG).

8.10.1.4 Compliance with Laws, Ordinances, Regulations, and Standards

All applicable LORS and administering agencies are summarized subsequently. Table 8.10-1 describes how the project will comply with all LORS pertaining to traffic and transportation impacts.

TABLE 8.10-1
Compliance with Laws, Ordinances, Regulations, and Standards

Authority	Administering Agency	Requirements	Compliance (Location in AFC where compliance discussed)
49 CFR, Section 171-177 and 350-300 Chapter II, Subchapter C and Chapter III, Subchapter B	U.S. Department of Transportation and Caltrans	Requires proper handling and storage of hazardous materials during transportation.	Project and transportation will comply with all standards for the transportation of hazardous materials.
CVC §31300 et seq.	Caltrans	Requires transporters to meet proper storage and handling standards for transporting hazardous materials on public roads.	Transporters will comply with standards for transportation of hazardous materials on state highways during construction and operations. The project will conform to CVC §31303 by requiring that shippers of hazardous materials use the shortest route possible to and from the site.
CVC §§31600 - 31620	Caltrans	Regulates the transportation of explosive materials.	The project will conform to CVC 31600 - 31620.
CVC §§32000 - 32053	Caltrans	Regulates the licensing of carriers of hazardous materials and includes noticing requirements.	The project will conform to CVC 32000 - 32053.
CVC §§32100 - 32109 and 32105.	Caltrans	Establishes special requirements for the transportation of substances presenting inhalation hazards and poisonous gases. Requires that shippers of inhalation or explosive materials contact the CHP and apply for a Hazardous Material Transportation License.	The project will conform by requiring shippers of inhalation or explosive materials to contact the CHP and obtain a Hazardous Materials Transportation License.
CVC §§34000 –34121.	Caltrans	Establishes special requirements for the transportation of flammable and combustible liquids over public roads and highways.	The project will conform to CVC §§34000 - 34121.
CVC §§34500, 34501, 34501.2, 34501.3, 34501.4, 34501.10, 34505.5-7, 34506, 34507.5 and 34510-11.	Caltrans	Regulates the safe operation of vehicles, including those used to transport hazardous materials.	The project will conform to these sections in the CVC.
CVC §§35550-35559	Caltrans	Regulates weight and load limitations.	The project will conform to these sections in the CVC.
CVC §§25160 et seq.	Caltrans	Addresses the safe transport of hazardous materials.	The project will conform to these sections in CVC.

TABLE 8.10-1
Compliance with Laws, Ordinances, Regulations, and Standards

Authority	Administering Agency	Requirements	Compliance (Location in AFC where compliance discussed)
CVC §§2500-2505.	Caltrans	Authorizes the issuance of licenses by the Commissioner of the CHP for the transportation of hazardous materials including explosives.	The project will conform to these sections in the CVC.
CVC §§13369, 15275, and 15278.	Caltrans	Addresses the licensing of drivers and classifications of licenses required for the operation of particular types of vehicles. In addition, certificates permitting the operation of vehicles transporting hazardous materials are required.	The project will conform to these sections in the CVC.
S&HC §§117, 660-711	Caltrans	Requires permits from Caltrans for any roadway encroachment during truck transportation and delivery.	Encroachment permits will be obtained by transporters, as required.
CVC §35780; S&HC §660-711; 21 CCR 1411.1-11411.6	Caltrans	Requires permits for any load that exceeds Caltrans weight, length, or width standards for public roadways.	Transportation permits will be obtained by transporters for all overloads, as required.
S&HC §§660, 670, 1450, 1460 *et seq.*, 1470, and 1480	Caltrans	Regulates right-of-way encroachment and the granting of permits for encroachments on state and county roads.	The project will conform to these sections in the CVC.
California State Planning Law, Government Code Section 65302	Caltrans	Project must conform to the General Plan.	Project will comply with General Plan.

CCR California Code of Regulations
CFR Code of Federal Regulations
CVC California Vehicle Code
S&HC California Streets and Highways Code

8.10.2 Affected Environment

8.10.2.1 Project Location and Description

The proposed project involves a power generation facility, and the construction of a water pump station (WPS) at an existing collection station southwest of the project site to a new onsite water treatment system. Figure 8.10-1 illustrates the regional location of the project site and its relative transportation and transit facilities. The proposed power generation facility is located within the existing Potrero Power Plant (Potrero PP) site in the southeastern portion of San Francisco, while the proposed process water supply pipeline and WPS would be generally installed along 23rd, Indiana, Cesar Chavez, Marin Streets (Figure 8.10-2). The project site is at 1201 Illinois Street, east of Third Street and bounded by Humboldt Street to the north and by 23rd Street to the south. A temporary construction "laydown" area (for staging, equipment, and construction worker parking) will be provided two blocks south of the project site, southeast of Maryland Street/25th Street with access from Maryland Street. Construction workers would be shuttled via busses from the lay down area to the project site. The shuttle route would travel within the industrial area along Illinois Street and would not impact through traffic on Third Street. Access to the project site for construction worker shuttles and materials delivery trucks would occur from 23rd Street, east of Illinois Street. The construction crew for the pipeline facilities (crew of eight workers) would be staged in appropriate areas adjacent to pipeline construction activities. The study area is bounded by the San Francisco Bay to the east, Evans Avenue/Hunters Point Boulevard to the south, Evans Avenue to the west, and 16th Street to the north.

The surrounding land uses are primarily warehouses and industrial activities. Port facilities, including dry docks for ship maintenance, lie farther east and south. The proposed facility would result in additional traffic that includes both passenger vehicles related to construction workers and permanent employees, and delivery vehicles transporting commercial equipment, as well as potential impacts related to street closures associated with pipeline installation.

8.10.2.2 Existing Transportation Facilities

8.10.2.2.1 Regional Roadway Facilities. The proposed project lies near primary transportation corridors that traverse the southern and eastern sections of San Francisco, providing access between Peninsula communities and the employment and cultural centers of the City of San Francisco (City). Major freeways in proximity to the proposed project site include Interstate 280 (I-280), U.S. Highway 101 (US 101), and Interstate 80 (I-80).

Interstate 280. Interstate 280 begins in the South of Market (SoMa) district of San Francisco, extends southwest through Daly City, then proceeds south adjacent to suburban Peninsula communities such as Redwood City and Palo Alto, before heading into downtown San Jose. After reaching San Jose, I-280 turns north as Interstate 680 (I-680), extending into East Bay communities such as Walnut Creek, and Concord. I-280 is comprised of 6- to 8-lanes of mixed flow traffic in the area near the proposed project. According to traffic counts conducted by Caltrans in 2002, I-280 carries approximately 92,000 average daily vehicle-trips. Access to the project site from I-280 southbound is by the 25th Street exit, while the Cesar Chavez Street exit provides access from I-280 northbound.

U.S. Highway 101. US 101 serves as one of California's primary western arteries, linking San Francisco to Marin County in the north and to the Peninsula in the south. Access to and from US 101 in the vicinity of the project site is via the Cesar Chavez Street interchange for both northbound and southbound traffic. In the vicinity of the proposed project, US 101 is an 8-lane, limited access freeway that connects to I-80 west of the Bay Bridge. Between I-80 and the Golden Gate Bridge, US 101 continues through San Francisco as a 6-lane surface roadway along Van Ness Avenue, Lombard Street, and Doyle Drive. According to traffic counts conducted by Caltrans in 2002, US 101 carries an average of 249,000 vehicles per day in the vicinity of the project site. US 101 is also the primary route serving the San Francisco International Airport (SFO).

Interstate 80. Interstate 80, which merges with US 101 north of Hunters Point Shipyard and southwest of downtown, is generally an east–west freeway, extending from downtown San Francisco in the west, to Sacramento and beyond to the east. The Bay Bridge is located along this freeway, connecting San Francisco with the East Bay. Per Caltrans, 2002 average daily traffic counts, average daily traffic across this 10-lane bridge is approximately 173,000 vehicles.

8.10.2.2.2 Local Roadway Facilities. San Francisco has an extensive street grid system that connects the proposed project to downtown, neighboring communities, and the major freeways described above. This network is categorized into three primary classifications: major arterial roadways, secondary arterial roadways, and local roadways. Major arterial roadways collect and distribute freeway-bound traffic to accommodate intra-city travel and other medium- and long-distance trips. Secondary arterial roadways collect and distribute traffic generated in the area by major arterial roadways.

Major and secondary arterial roadways within the study area that provide access to and from the project area include Third Street, Bayshore Boulevard, Cesar Chavez Street, 24th Street, and 25th Street. These roadways are briefly described below, while Figure 8.10-2 shows the arrangement of the local roadway network in the vicinity of the project site. Table 8.10-2 provides classification and traffic volume data for the local and regional roadways.

TABLE 8.10-2
Characteristics of Roadways in Project Study Area

Name	Classification	Average Daily Traffic Volume
Local Roadways		
Third Street [a]	Major Arterial	21,000
Evans Avenue [a]	Major Arterial	14,600
Cesar Chavez Street [a]	Major Arterial	12,000
Illinois Street [a]	Collector Road	3,400
Cargo Way [a]	Secondary Arterial	8,800
Regional Roadways		
Interstate 280[b]	Freeway	92,000
U.S. 101[b]	Freeway	249,000
I-80[b]	Freeway	173,000

Notes:
[a] Source: Korve Engineering, 1999
[b] Source: State of California, Department of Transportation (Caltrans), 2002

Third Street. Third Street functions as the principal north–south arterial within the study area. Third street extends north from its interchange with US 101 and Bayshore Boulevard to its intersection with Market Street. It serves as the main commercial street, as well as a primary access route to industrial development along San Francisco's southern waterfront, carrying approximately 21,000 vehicles per day (Korve Engineering, 1999). The Transportation Element of the San Francisco General Plan designates Third Street as a Major Arterial and Primary Transit Route (CCSF Planning Department, 1995). The plan also names Third Street as a Neighborhood Commercial Street and a Citywide Bicycle Route.

In terms of physical design, Third Street in the project area is undergoing construction for the Third Street Light Rail Transit (LRT) Improvement Project. Currently, Third Street is being reconstructed from a 6-lane arterial to a 4-lane arterial with two 11-foot-wide traffic lanes and an 8-foot shoulder in each direction. A center median would contain two LRT tracks. In addition, separate left-turn storage lanes are provided at intersections with major arterial roadways but are not provided at minor street intersections. On-street parking is generally allowed on both sides of the street.

As of December 2003, the Third Street LRT construction ended at 22nd Street; however, full LRT extension to the southern City limits will be completed and in operation by late 2005 (Mr. Drew Howard, MUNI, February 2004).

Cesar Chavez Street. Cesar Chavez Street (formerly Army Street) is a major arterial and a Citywide Bicycle Route carrying approximately 12,000 vehicles per day (Korve Engineering, 1999). This 4-lane major arterial extends to the west, traversing the Mission District until Guerrero Street, where it becomes a local street. Cesar Chavez Street provides direct access to both I-280 and US 101. Vehicles exiting on Cesar Chavez Street, going eastbound, from southbound US 101 are subject to an exit ramp with a tight turn radius. This ramp may be considered to be dangerous by some drivers due to its tight turn radius; and it may not be accessible for most trucks due to horizontal and vertical constraints (curve radius and overhead clearance). Cesar Chavez Street proceeds to Third Street, from which vehicles traveling to the proposed project site can continue north to 23rd Street to access the SFERP facility.

23rd Street. Twenty-third Street provides direct access to the project site, as well as access to adjacent industrial properties. This roadway is undivided and provides one lane of travel in each direction. In addition, there is on-street parking on both sides of the street, and there is a posted speed limit of 25 miles per hour (mph). A traffic signal exists at the intersection of Third Street and 23rd Street.

25th Street. Twenty-fifth Street would provide direct access to the construction lay down area (i.e., staging and construction worker parking area), and access to other adjacent industrial properties. This roadway is undivided and provides one lane of travel in each direction. In addition, there is on-street parking on both sides of the street, and there is a posted speed limit of 25 miles per hour (mph). A traffic signal exists at the intersection of Third Street and 25th Street. Access to I-280 is provided via 25th Street, which leads directly to I-280 northbound at Indiana Street, or via Pennsylvania Avenue to reach I-280 southbound. Traffic headed northbound on US 101 can access the ramp directly from Cesar Chavez Street westbound. However, traffic headed southbound must turn around at Bryant Street and return eastbound along Cesar Chavez Street.

Illinois Street. Illinois Street is a wide 2-lane undivided roadway west of the project site. Illinois Street carries approximately 3,400 vehicles per day (Korve Engineering, 1999). Traffic is controlled at the intersections of Illinois Street and 23rd and 25th streets by a two-way stop sign with 23rd and 25th streets serving as the minor (stopped) streets. Land uses along this street in the immediate vicinity of the proposed project consist of warehouses and industrial uses.

8.10.2.3 Existing and Future Baseline Intersection Levels of Service

Per guidance from the City's DPT, level of service (LOS) is a measure of average control delay at an intersection. Level of service is identified through a letter designation, varying from LOS A (less than 10 seconds of delay) to LOS F (greater than 80 seconds of delay) as described in Table 8.10-3. For urban settings, LOS E (delays of 55 to 80 seconds) represents the least tolerable acceptable condition.

TABLE 8.10-3
Level of Service Criteria for Signalized Intersections

Level of Service	Average Delay (seconds per vehicle)	Traffic Flow Characteristics
A	≤ 10	Most vehicles arrive during the green phase and do not stop at all.
B	> 10 to ≤ 20	More vehicles stop, causing higher delay.
C	> 20 to ≤ 35	Vehicle stopping is significant, but many still pass through the intersection without stopping.
D	> 35 to ≤ 55	Many vehicles stop, and the influence of congestion becomes more noticeable.
E	> 55 to ≤ 80	Very few vehicles pass through without stopping.
F	> 80	Considered unacceptable to most drivers; intersection is not necessarily over capacity even though arrivals exceed capacity of lane groups.

Source: HCM, Transportation Research Board, 2000

This analysis focuses on the following study area intersections during a typical weekday peak hour between 7:00 a.m. to 9:00 a.m., and 4:00 p.m. to 6:00 p.m.

- Third Street/16th Street
- Third Street/20th Street
- Third Street/25th Street
- Third Street/Cesar Chavez Street
- Third Street/Evans Avenue
- Evans Avenue/Cesar Chavez Street

Traffic conditions were evaluated using the Synchro level of service software (Trafficware, Version 5). Synchro is a traffic operations analysis tool that incorporates the methodology of Transportation Research Board's 2000 *Highway Capacity Manual* (TRB, HCM2000). This program assigns a LOS designation based upon average vehicle delay. This methodology complies with the evaluation requirements of the City DPT. Intersection conditions were evaluated for the following scenarios:

- Existing (2000) conditions
- Baseline (2005) conditions

- Baseline plus Project Construction Phase conditions
- Cumulative (2015) conditions.

8.10.2.3.1 Existing Conditions. Figure 8.10-3 illustrates the existing a.m. and p.m. peak hour traffic volumes, intersection geometrics and controls, while Table 8.10-4 shows the results of the existing condition traffic analysis. Under existing conditions, the studied intersections operate at LOS D or better for both the a.m. and p.m. peak periods. The intersections within proximity to the project, Third Street/20th Street and Third Street/25th Street currently operate at LOS A and LOS B during the a.m. and p.m. peak hours, respectively. The intersection of Third Street/Evans Avenue operates at LOS D (37.3 seconds delay) during the a.m. peak hour.

TABLE 8.10-4
Level of Service Summary for Existing, Baseline 2005, and Cumulative (2015) Conditions

Intersection	Peak Hour	Existing (2000)		Baseline (2005)		Cumulative (2015)	
		LOS	Delay [a]	LOS	Delay [a]	LOS	Delay [a]
Third Street/16th Street	a.m.	B	12.1	B	16.8	C	25.7
	p.m.	B	14.5	B	16.7	C	22.0
Third Street/20th Street	a.m.	A	3.1	A	2.7	C	20.1
	p.m.	A	2.8	A	3.6	C	27.4
Third Street/25th Street	a.m.	B	11.9	A	6.7	B	13.2
	p.m.	B	11.3	A	8.2	B	11.7
Third Street/Cesar Chavez Street	a.m.	C	27.1	C	28.3	D	39.9
	p.m.	C	24.5	C	31.0	D	40.0
Third Street/Evans Avenue	a.m.	D	37.3	D	39.6	D	44.7
	p.m.	C	24.0	C	26.5	D	36.0
Evans Avenue/Cesar Chavez Street	a.m.	B	13.6	B	14.0	B	16.6
	p.m.	B	19.4	C	26.6	C	31.1

Note:
[a] Delay in seconds per vehicle.

8.10.2.3.2 Baseline (2005) Conditions. Future a.m. and p.m. peak hour turn movement counts for cumulative year 2015 were provided from the DPT and incorporated into the project's traffic analysis. The cumulative 2015 traffic volumes provided the basis of estimating the 2005 traffic volumes. The 2015 traffic volumes are based on growth and development trends in the Potrero Hill area of the City as determined by DPT transportation modeling staff. Background (2005) a.m. and p.m. peak hour volumes, consistent with the planned year of project construction, were interpolated assuming straight line growth from existing (2000) and future (2015) volumes. Based on the interpolation of DPT's cumulative traffic volumes, the average growth rate applied at the intersection traffic volumes in the study area is approximately 2.6 percent per year.

Figure 8.10-4 illustrates the 2005 baseline (without project construction traffic) a.m. and p.m. peak hour traffic volumes, intersection geometrics and controls, while Table 8.10-4 shows the results of the 2005 baseline traffic analysis. No additional intersection improvements are

planned for the study area intersections, and therefore, the intersection geometrics remain the same as the existing condition. Based on the LOS analysis of the 2005 baseline conditions, all of the study area intersections are forecast to continue to operate at LOS D or better for both a.m. and p.m. peak hours.

8.10.2.3.3 Cumulative (2015) Conditions. As previously stated, cumulative 2015 peak hour traffic volumes were provided by the DPT and based on growth and development trends in the Potrero area of the City as determined by DPT transportation modeling staff. The 2015 traffic condition would be associated with the operations of the proposed project. The operations of the proposed project would generate a total of 100 daily trips, 20 a.m. peak hour, and 20 p.m. peak hour trips. This addition of traffic on the study area would have an immeasurable effect on intersection LOS once the trips are distributed throughout the street network.

Figure 8.10-5 illustrates the 2015 cumulative a.m. and p.m. peak hour traffic volumes, intersection geometrics and controls, while Table 8.10-4 provides the 2015 intersection LOS at the study area intersections. Other than the operation of the MUNI N-Judah light rail line through the center median of Third Street, no additional intersection improvements are planned for the study area intersections. Based on the LOS analysis of the 2015 cumulative conditions, all of the study area intersections are forecast to continue to operate at LOS D or better for both a.m. and p.m. peak hours. Additional traffic from operations will have no significant impact on LOS.

8.10.2.4 Public Transportation

San Francisco is a transit hub served by local and regional bus, rail, and ferry services. Regional service connects downtown San Francisco with the surrounding suburban areas. San Mateo County Transit District (SamTrans) and Bay Area Rapid Transit (BART) serve the Peninsula communities south of the SFERP facility. AC Transit buses and BART serve the East Bay, while Golden Gate Transit serves the North Bay communities. Ferry service also carries passengers to downtown San Francisco from coastal North and East Bay communities. In central eastern San Francisco, BART runs north-south along Mission Street, with the station nearest to the project site located at 24th Street.

8.10.2.4.1 San Francisco Municipal Railway. The San Francisco Municipal Railway (MUNI) currently carries 219 million passengers per year on 85 transit lines. The system provides approximately 5,300 stops throughout San Francisco, with lines providing extensive coverage to all San Francisco neighborhoods. MUNI connects with other Bay Area transit service providers at major transfer centers including the Ferry Building, Transbay Terminal, Embarcadero, and Civic Center BART stations along Market Street, and the Stonestown Shopping Center, and the Daly City BART station.

Major MUNI routes in the vicinity of the project site serve both north-south travel originating in downtown San Francisco or San Mateo counties, and cross-town travel. Below are descriptions of the major routes that serve these travel patterns. Route N – Judah serves as the only light-rail transit (LRT) in the study area, while other MUNI routes are bus routes.

Route N – Judah (Light-rail Transit). This LRT route currently travels in a general east-west fashion from Ocean Beach, through downtown and the Embarcadero, to the Caltrain station at Fourth and King streets. Route N has major stops at the MUNI and BART stations at Van Ness, Civic Center, Powell, Montgomery, and Embarcadero. Route N provides 5- to 9-minute headways during the a.m. peak period, and 4- to 12-minute headways during the p.m. peak period.

The extension of the MUNI Third Street LRT Line past the Caltrain Station, south to the southern City limits, is currently under construction in the vicinity of the project site. According to MUNI, specific portions of this extension project would be completed and operational in 2004, with full completion of the extension to the City's southern limits by late 2005 (Howard, 2004).

Route #15 - Third Street. This route functions as the primary transit line serving the Central Basin and Hunters Point regions. It carries passengers through downtown San Francisco, extending north to Fisherman's Wharf and south to Hunters Point. Route #15 allows connections with other transportation services that reach throughout the Bay Area including Caltrain (terminal at 4th and Townsend streets and Paul Avenue station), BART, and the MUNI subway system (via the Montgomery and Embarcadero stations). Route #15 provides frequent service with articulated buses, running on 5- to 8-minute intervals during peak hours and 10- to 15-minute intervals during off-peak hours. By mid 2004, a portion of the Route N LRT extension will be completed, and will provide service along the Embarcadero in lieu of the current Route #15 lines.

Route #22 – Fillmore. This route travels from Fillmore and Bay streets in the Marina District south through Pacific Heights and Mission Dolores before heading southeast to Third Street. The route turns north at 20th Street, stopping 2 blocks from the proposed project site. Route #22 provides service at 7- to 12-minute intervals during the a.m. peak period and at 5- to 11-minute intervals during the p.m. peak period.

Route #48 – Quintara/24th Street. This route provides crosstown service from the West Portal community to Potrero Hill. This line accesses the MUNI subway at the West Portal Station, as well as BART at 24th and Mission Streets. Passengers are transported within one block of the proposed project site, with a stop at 22nd and Illinois Streets. This line also connects to Route #15 and Route #9, while passing near Caltrain's 22nd Street depot. Route #48 offers service at 6- to 15-minute intervals during the a.m. peak period, and at 10- to 12-minute intervals during the p.m. peak period.

8.10.2.4.2 Caltrain. Caltrain provides commuter rail service between Santa Clara, San Mateo, and San Francisco counties. The station closest to the project site is the 22nd Street and Pennsylvania Avenue station. This station is approximately 6 blocks west of the proposed project along MUNI Route #48, described above. During the week, trains connect this station to Peninsula communities, while all 32 trains continue northbound to the final Caltrain stop at 4th and Townsend Streets. Service runs on 30-minute intervals during the a.m. and p.m. peak periods. During the weekends, 13 trains run approximately every hour on Saturday, while 10 trains run every 1 to 2 hours on Sunday. Currently, however, weekend train service is suspended till approximately spring 2004 for construction associated with new Caltrain express train service.

8.10.2.4.2 Bay Area Ferries. Ferry service is provided between Vallejo, Alameda, Oakland, Tiburon, Sausalito, and downtown San Francisco. Presently MUNI Route #15 provides connections to ferry services only in Fisherman's Wharf and at Piers 41 and 43. In the project vicinity, MUNI Route #15 operates southbound on Second Street and northbound on Third Street. In 2004, MUNI's new Third Street LRT will provide service to Bay Area ferries via connections along the Embarcadero. The following describes the five ferry service providers in the project area.

Vallejo Baylink Ferry. The Red and White Fleet operates this limited commute ferry service from Vallejo to the San Francisco Ferry Building. There are currently 15 trips per weekday in each direction, four of which are via bus, and nine trips per day on weekends, one of which is via bus.

Alameda and Oakland Ferry Service. The Blue and Gold Fleet operates this service, with ferries departing from Alameda and Oakland's Jack London Square for both the San Francisco Ferry Building and Pier 41/Fisherman's Wharf. Thirteen inbound and outbound trips each weekday serve the Ferry Building while 7 inbound and 5 outbound trips serve Pier 41. On the weekends, 4 inbound trips and 5 outbound trips serve the Ferry Building while 6 inbound and outbound trips serve Pier 41.

Harbor Bay Ferry. This ferry provides weekday commuter service between Alameda and the San Francisco Ferry Building. There are six inbound trips and six outbound trips per day.

Red and White Fleet. The Red and White Fleet provides ferry service from San Francisco to Tiburon and Sausalito, Service to these locations is provided from both the Ferry Terminal (during peak commute hours) and from Fisherman's Wharf at Pier 43. Five ferries in each direction travel between San Francisco and Tiburon/Sausalito.

Golden Gate Ferry. This ferry provides daily service between Larkspur and Sausalito in Marin County and the San Francisco Ferry Building. The Larkspur Ferry runs 21 inbound and outbound trips (one trip in each direction is via bus) on weekdays with one Friday night late ferry in each direction during summer months. On weekends and holidays, there are 5 inbound and outbound trips running on 2-hour intervals during the day. The Sausalito Ferry runs 9 trips in each direction on weekdays with a 10th trip provided during summer months. On weekends and holidays, there are 6 trips in each direction with a 7th trip during summer months.

8.10.2.5 Bicycle and Pedestrian Circulation

There are currently several signed on-street bicycle routes in the project vicinity, but no existing pedestrian trails. A Class III route (on-street bike route; signs only) circles around 3Com Park and connects to Third Street, via Gilman, Carroll, Thomas, and Revere avenues. Within the project vicinity, the *San Francisco Master Plan* designates Evans Avenue, Innes Avenue, Cesar Chavez Street, and Third Street as Citywide Bicycle Routes.

Additionally, by August 2004, DPT will be providing Class II (striped) bike lanes on Illinois Street. With the construction of the Third Street Light Rail Line discussed above, cyclists traveling north and south in the Third Street – Illinois Street Corridor would be subject to unsafe conditions on Third Street. Illinois Street is the logical replacement for Third Street as a bicycle route, Illinois Street is one block to the east, and connects to other bicycle routes to the north and south. Since Illinois Street is part of the Bay Trail Plan (see below), the bike lanes would form a continuous connection between Islais Creek and North Beach on bike lanes or paths (Class I, off-street).

Sidewalks exist along Third Street, and with the completion of the Third Street LRT project, more pedestrians are anticipated along Third Street. Sidewalks do not exist on 22nd or 23rd streets, with shops abutting directly onto the street. Parking space is available on both sides of these streets, requiring that pedestrians walk within travel lanes.

8.10.2.5.1 Bay Trail Plan. The Bay Trail Plan was adopted by the Association of Bay Area Governments in 1989 pursuant to Senate Bill 100, and provides an alignment that connects the nine-county Bay Area region with a multi-purpose hiking and bicycle trail, along with a set of policies to guide implementation. Consistent with the Bay Trail Plan, Illinois Street is a designated bikeway in the draft Central Waterfront Neighborhood Plan. Illinois Street in the vicinity of the project site is the designated Bay Trail. However, no dedicated facilities (e.g., a striped bike lane) are currently provided in the vicinity of the project.

The Bay Trail Plan proposes an alignment for what will become a 400-mile recreational "ring around the Bay." Approximately one-third of the trail already exists, either as hiking-only paths, hiking and bicycling paths or as on-street bicycle lanes. When completed, the Bay Trail will create connections between more than 130 parks and publicly-accessible open space areas around San Francisco and San Pablo Bays.

8.10.2.6 Airports

San Francisco International Airport (SFO) is approximately 15 miles south of the proposed project site on US 101. SFO can also be reached via BART (transit) and Interstate 380 (I-380) that connects to I-280 (vehicles). In addition, Oakland International Airport (OAK) sits across the Bay, accessible via BART and I-80 across the Bay Bridge, connecting to Interstate 880 (I-880). San Jose International Airport (SJC) lies farther south, accessible via Caltrain and US 101 or I-280.

8.10.2.7Goods Movement

8.10.2.7.1 Freight Rail Service. Currently no active freight rail service is provided in the immediate vicinity of the proposed project. There is an inactive railroad track operated by the Southern Pacific Corporation (SP) via trackage rights from Caltrain, which connect the Caltrain mainline tracks to the south gate of Hunters Point Shipyard. Currently, the Port of San Francisco (Port) is planning to re-orient freight rail service from Mission Bay to the Port of San Francisco waterfront via the future Illinois Street rail/bicycle bridge.

Immediately north of Hunters Point Shipyard and the India Basin, an Intermodal Container Transfer Facility (ICTF) branch track serves the Evergreen Pier 90 to Pier 96 area. The ICTF branch diverges from the Caltrain mainline just north of Tunnel #3 in the northbound direction.

8.10.2.7.2 Truck Access. The largely industrial land uses near the project site generate truck traffic. A designated truck route between US 101 and I-280 and the project site exists along Cesar Chavez Street, Evans Avenue, and Third Street (north of Evans Avenue). Trucks weighing more than 11,000 pounds are prohibited on Third Street between Evans Avenue and Carroll Avenue, and no through trucks are allowed on Third Street between Jamestown Avenue and Jerrold Avenue.

8.10.2.8 Planned Transportation Improvements

8.10.2.8.1 Third Street Light Rail Project. The MUNI Third Street Light Rail Transit (LRT) Line is currently under construction within the vicinity of the proposed project. This MUNI project will provide a light rail line down Third Street to the City's southern limit, and provide a 4-lane arterial with two 11-foot-wide traffic lanes and 8-foot shoulders in each

direction. An approximately 32-foot-wide center median would contain two LRT tracks for the future extension of the MUNI N Line. As of December 2003, the Third Street LRT construction ended at 22nd Street; however, full LRT extension to the southern City limits will be completed and in operation by late 2005 (Howard, 2004).

In the vicinity of the project, left-turn lanes will remain on Third Street for Evans, Cesar Chavez Street, 25th Street (northbound only), 23rd Street, and 20th Street. In addition to the light rail line, the project area includes a new Metro East Operating and Maintenance Facility at Illinois and 25th streets. This facility would store, maintain, and dispatch light rail vehicles on a site of approximately 13 acres.

8.10.2.8.2 Bicycle Facility Improvements. DPT's Bicycle Program Manager provided the following information on planned bicycle facility improvements. (Tannen, 2003).

Illinois Street Bicycle Route (16th Street to Cesar Chavez Street). DPT received a Transportation Funding for Clean Air (TFCA) grant from the Bay Area Air Quality Management District (BAAQMD) to provide Class II (striped) bike lanes on Illinois Street. With the construction of the Third Street Light Rail Line, cyclists traveling north and south in the Third Street – Illinois Street Corridor would be subject to unsafe conditions on Third Street. Illinois Street is the logical replacement for Third Street as a bicycle route. It is one block to the east and connects to other bicycle routes to the north and south.

In addition, Illinois Street is part of the Bay Trail bicycle route in San Francisco. The Illinois Street bike lanes would form a continuous connection between Islais Creek and North Beach on bike lanes or paths (Class I, off-street). The bicycle connection would include the future (funded) Illinois Street Bridge over Islais Creek, the existing Terry A. Francois Boulevard bike lanes, the Pac Bell Park Promenade, and The Embarcadero Promenade bike lanes for a total of 4.75 miles. The Illinois Street bike lanes project will be completed by August 2004.

Cesar Chavez Street Bicycle Route (US 101 to I-280). The Cesar Chavez Street bike route would provide for Class II (striped) bike lanes on Cesar Chavez Street, between US 101 and I-280. As a result of this project, existing on-street parking on the north side of Cesar Chavez Street (westbound) would be removed. Colored bike lane treatments across the US 101 and I-280 on- and off-ramps would also be used to help highlight the presence of bicycles across these potential high-conflict areas. This segment would make use of the existing asphalt path underneath US 101. Other crossing treatments would be needed to allow bicyclists to cross safely.

8.10.3 Environmental Consequences

This subsection discusses potential environmental impacts of the proposed project. Potential traffic impacts during construction of the plant, as well as plant operation after construction, have been analyzed. Significance criteria were developed based upon Appendix G of the CEQA *Guidelines*, which identifies significant impacts to be caused by a project if it results in an increase in traffic that is substantial relative to the amount of existing traffic and the capacity of the surrounding roadway network. In addition, impacts are assessed in accordance with the criteria used by the City Planning Department. The more stringent of these two sets of criteria were used to determine project-related impacts.

Project area reconnaissance was performed by CH2M HILL in November 2003 to examine the proposed project area, document roadway characteristics, identify physical constraints, and assess general traffic conditions.

When completed, the operational phase of the proposed project would generate approximately 20 additional employee commutes and other off-peak hour trips (i.e., materials deliveries, visitors, business-related trips), or 100 daily trips. During the peak construction phase, the project is expected to generate approximately 484 average daily construction worker trips. To analyze the "worst-case" scenario, traffic impacts associated with construction traffic were analyzed. Consequently, a quantitative traffic analysis was not conducted for the long-term operations phase since it would generate a low volume of peak hour trips (20 a.m. and 20 p.m. peak hour employees trips). This would not have a measurable impact on the study area intersections.

8.10.3.1 Thresholds of Significance

The following presents the significance criteria regarding transportation used by the Planning Department for the determination of impacts associated with a proposed project:

- The operational impact on signalized intersections is considered significant when project-related traffic causes the intersection level of service to deteriorate from LOS D or better to LOS E or F, or from LOS E to LOS F. The project may result in significant adverse impacts at intersections that operate at LOS E or F under existing conditions depending upon the magnitude of the project's contribution to the worsening of the average delay per vehicle. In addition, the project would have a significant adverse impact if it would cause major traffic hazards or contribute considerably to cumulative traffic increases that would cause deterioration in levels of service to unacceptable levels.

- San Francisco does not consider parking supply as part of the permanent physical environment. Parking conditions are not static, as parking supply and demand varies from day-to-day, from day-to-night, from month-to-month, etc. Hence, the availability of parking spaces (or lack thereof) is not a permanent physical condition, but changes over time as people change their modes and patterns of travel.

- The project would have a significant effect on the environment if it would cause a substantial increase in transit demand that could not be accommodated by adjacent transit capacity, resulting in unacceptable levels of transit service; or cause a substantial increase in delays or operating costs such that significant adverse impacts in transit service levels could result. With the MUNI and regional transit screenlines analyses, the project would have a significant effect on the transit provider if project-related transit trips would cause the capacity utilization standard to be exceeded during the PM peak hour.

- The project would have a significant effect on the environment if it would result in substantial overcrowding on public sidewalks, create potentially hazardous conditions for pedestrians, or otherwise interfere with pedestrian accessibility to the site and adjoining areas.

- The project would have a significant effect on the environment if it would create potentially hazardous conditions for bicyclists or otherwise substantially interfere with bicycle accessibility to the site and adjoining areas.

- Loading impacts were assessed by comparing the proposed loading space supply to the *Planning Code* requirements and by the estimated loading demand during the peak hour of loading activities.
- Construction-related impacts generally would not be considered significant due to their temporary and limited duration.

8.10.3.2 Intersection Levels of Service

8.10.3.2.1 Construction Impacts. Peak hour traffic operations were evaluated for the weekday a.m. and p.m. peak periods (7:00 to 9:00 a.m. and 4:00 to 6:00 p.m.) for the local roadway network adjacent to the project site during construction. The peak hour analysis examined the worst-case scenario of the impact of 258 daily employees during construction of the project.

Trip Generation. Construction of the proposed project is anticipated to begin in 2005 and last approximately 12 to 14 months. A peak workforce is approximately 258 workers per day over a 2-month period during months 6 and 7 of construction.

Construction would generally be scheduled to occur between 7:00 a.m. and 8:00 p.m., 5 days a week, although additional hours may be necessary to make up schedule deficiencies or to complete critical construction activities. Based on the regular schedule, most worker trips to the project site would occur during the a.m. (inbound to site) and p.m. (outbound from site) peak commute hours. The delivery of construction materials and the hauling of materials from the project site would also occur during the day, but not during the peak hours. Table 8.10-5 summarizes the total daily and peak-hour construction vehicle trip generation for the peak construction period.

TABLE 8.10-5
Construction Trip Generation for the Proposed Project

		AM Peak Hour		PM Peak Hour	
Vehicle Type	**ADT**	**In**	**Out**	**In**	**Out**
Construction Personnel [a]	484	226	11	11	226
Delivery Trucks [b]	10	0	0	0	0
Heavy Vehicles and Trucks	30	0	0	0	0
Total	**524**	**226**	**11**	**11**	**226**

Source: CH2M HILL, 2004

[a] Approximately 10 construction personnel trips (5 inbound and 5 outbound) associated with lunch and other business-related trips would occur from 9:00 a.m. to 4:00 p.m. (outside of peak hours)
[b] Delivery and other truck trips would occur on weekdays, from 9:00 a.m. to 4:00 p.m. (outside of peak hours)

During the peak construction period, using a average vehicle occupancy (AVO) factor of 1.14 persons per vehicle for commuting (National Personal Transportation Survey, Table 7.16, Average Vehicle Occupancy by Trip Purpose, FHWA, 1990), construction workers would generate an estimated 484 daily trips, 237 a.m. peak hour trips, and 237 p.m. peak hour trips. During this period, approximately 40 truck trips would occur (inbound and outbound trips for 5 delivery trucks to plant site, 8 heavy trucks to plant site, and 7 heavy

trucks to pipeline construction areas), with no truck trips occurring during the a.m. and p.m. peak commute periods. Also, approximately 10 construction personnel trips (5 inbound and 5 outbound) associated with lunch and/or business-related trips would occur outside of the peak hours. Therefore, the total peak construction trip generation would be 524 daily trips, 237 a.m. peak hour trips, and 237 p.m. peak hour trips.

Trip Distribution. Trip distribution percentages for the construction employees are based on assumptions of regional demographics of construction workers, review of existing traffic counts from DPT, and recent surveys of the project site (i.e., drive-by windshield surveys). The construction worker trip distribution has been determined to be: 25 percent within the City of San Francisco (local trips); 15 percent would originate in Marin County and points north; 40 percent would originate from the East Bay; and the remaining 20 percent would originate from San Mateo County and points south.

To arrive at the construction lay down area, two blocks south of the project site, construction worker trips from Marin County would use US 101 and exit on Cesar Chavez Street and proceed to Third Street. Trips from the East Bay would use I-80 to US 101, and exit on Cesar Chavez Street. Trips from within the City would use 16th Street and Third Street to reach project location. Trips from San Mateo County would use I-280, exit at Evans Avenue and Third Street. The construction crew for the pipeline facilities (crew of eight workers) would be staged in appropriate areas adjacent to pipeline construction activities.

Figure 8.10-6 illustrates the construction worker trip assignment that incorporates the trip generation and the distribution of construction workers. These volumes serve as the basis for the traffic impact analyses to determine the LOS impacts likely to be imposed by construction of the proposed project.

Background plus Project Conditions. As previously discussed, the proposed project would add approximately 237 a.m. and 237 p.m. peak hour trips to the study area street network in the 2005 construction year. These peak hour trips were added to the 2005 baseline condition, and Figure 8.10-7 illustrates the 2005 plus project construction traffic a.m. and p.m. peak hour volumes, as well as the intersection geometrics and traffic controls. Table 8.10-6 summarizes the intersection LOS for the 2005 plus construction traffic condition.

TABLE 8.10-6
Level of Service Summary for 2005 Plus Project Construction Conditions

		Baseline (2005)		2005 Plus Project	
Intersection	**Peak Hour**	**LOS**	**Delay***	**LOS**	**Delay ***
Third Street/16th Street	a.m.	B	16.8	C	23.8
	p.m.	B	16.7	B	18.2
Third Street/20th Street	a.m.	A	2.7	A	5.4
	p.m.	A	3.6	A	3.2
Third Street/25th Street	a.m.	A	6.7	A	7.3
	p.m.	A	8.2	B	13.1
Third Street/Cesar Chavez Street	a.m.	C	28.3	D	52.8
	p.m.	C	31.0	D	39.6

TABLE 8.10-6
Level of Service Summary for 2005 Plus Project Construction Conditions

		Baseline (2005)		2005 Plus Project	
Intersection	**Peak Hour**	**LOS**	**Delay***	**LOS**	**Delay ***
Third Street/Evans Avenue	a.m.	D	39.6	D	43.2
	p.m.	C	26.5	C	32.4
Evans Avenue/Cesar Chavez Street	a.m.	B	14.0	B	16.7
	p.m.	C	26.6	C	23.1

Note:

* Delay in seconds per vehicle

Based on the traffic analysis, addition of the construction worker traffic volumes would change LOS during one or both peak hours at the following intersections:

- Third Street/16th Street: LOS B to LOS C in the a.m. peak hour
- Third Street/25th Street: LOS A to LOS B in the p.m. peak hour
- Third Street/Cesar Chavez Street: LOS C to LOS D in the a.m. and p.m. peak hours

Although the construction trips associated with the project would change LOS at these intersections, all study area intersections are forecast to continue to operate at LOS D or better. Therefore, the addition of project construction traffic would have a less-than-significant impact on intersection levels of service in the study area. In addition, it is important to note that this peak construction activity would only occur for a 2-month period.

Construction impacts related to the WPS and process water supply pipeline component are primarily related to the placement pipeline and associated materials along streets in the study area. A crew of eight pipeline construction personnel would be working during the peak months (months 6 and 7). This crew would park adjacent to their worksites, rather than the laydown area on 25th Street. The construction methods for the pipeline would consist of open-cut trenching and tunneling methods such as microtunneling or jack-and-bore along the following roadway segments:

- Marin Street, west of Mississippi Street
- Mississippi Street, Cesar Chavez Street to Marin Street
- Cesar Chavez Street, Mississippi Street to Indiana Street
- 23rd Street, Indiana Street to project site

The project would be required to prepare a Traffic Management Plan (TMP) to offset traffic impacts associated with construction of the pipeline. The 7 a.m. peak hour, and 7 p.m. peak hour trips (using 1.14 AVO for eight workers) would not have a measurable impact on the streets in the study area.

The roadways providing access to the project site and plant and pipeline lay down areas would continue to provide adequate capacity to accommodate the additional vehicle trips expected during construction. A TMP will be required to address the potential impacts to affected streets due to the installation of the WPS and process water supply pipeline. Therefore, impacts during construction are expected to be less-than-significant.

8.10.3.2.2 Operational Impacts. The permanent addition of 20 employees and other plant-associated trips (i.e., materials deliveries, visitors, business-related trips) for operations would generate 100 daily, 20 a.m. peak hour, and 20 p.m. peak hour trips. Once these trips are distributed on the study area network, they would result in a less-than-significant impact, as their traffic volumes would be immeasurable in terms of intersection LOS. The remaining 60 non-peak hour trips would be associated with regular plant deliveries, visitors, and employee business-related trips. Since these trips would be spread throughout the day, and would not occur during the peak commute hours, they would also have a less-than-significant impact on traffic operations.

8.10.3.3 Parking Facilities

Construction of the proposed project would not impact on-street parking. A vacant lot to the south of the project site at Maryland Street/25th Street will be used as a lay down area (staging, and construction worker parking lot) for the construction worker parking demand. From the lay down area, construction workers would be bussed two blocks north (via Illinois Street) to the project site.

When completed, the project would contain adequate onsite parking to accommodate the permanent 20 employees. In addition, street parking will continue to be available along Illinois Street and 23rd Street. Street parking spaces would not be eliminated as part of the proposed project. Therefore, no significant impacts to parking are anticipated.

8.10.3.4 Public Transportation

MUNI Route 48 has a stop at Illinois Street/22nd Street, which is the nearest stop to the project site. Approximately 23 percent (58 employees) of the construction workforce is anticipated to either carpool or use alternative transportation modes to and from the project site, and the remaining 192 employees would drive their automobiles to the lay down area. A portion of the 58 construction workers and a portion of the 20 permanent employees would not significantly impact the operations of MUNI bus routes, and the future Third Street Light Rail Line (for permanent employees).

8.10.3.5 Bicycle and Pedestrian Circulation

By 2005, planned bicycle routes on Third Street, Cesar Chavez Street, and Illinois Street will be completed. Pedestrian sidewalks will continue to exist along on Third Street, while Illinois Street, 23rd Street, and 25th Street will offer little space to accommodate pedestrians. Construction-related traffic would be temporary in nature and would circulate during the a.m. and p.m. peak hours only, while operational traffic of the project would be relatively low. The addition of construction and operational traffic is not expected to significantly impact pedestrian or bicycle facilities along Third Street, Cesar Chavez Street, and Illinois Street.

8.10.3.6 Goods Movement

Construction and operation of the proposed project would not impact adjacent freight rail lines, and air or shipping routes. Therefore, the project would not have a significant impact on goods movement.

8.10.3.7 Safety

The roadways in the vicinity of the proposed project site would continue to provide adequate sight distances. Accident rates at nearby intersections are relatively low averaging approximately 2.5 per year (Korve Engineering, 1999). Truck traffic within the area would continue to use designated truck routes (Cesar Chavez Street) to access the proposed project site. In addition, the project site is located in an industrial zone one block east of Third Street, with no neighboring commercial retail businesses or residences. Impacts to vehicle, pedestrian, and bicycle safety as a result of construction and operation of the project would be less-than-significant.

8.10.3.8 Air, Rail, and Waterborne Traffic

The proposed project would have no impacts on air, rail, or waterborne traffic.

8.10.3.9 Hazardous Materials Transport

Construction of the proposed project would generate hazardous wastes consisting primarily of batteries, asbestos containing materials, and various liquid wastes (e.g., cleaning solutions, solvents, paint and antifreeze). Prior to construction, solids from contamination clean-up efforts could be generated.

Operation of the project would result in the generation of additional wastes including lubricants, water treatment chemicals, herbicides and pesticides, and sludge. In addition, operation of the project will require transportation of aqueous ammonia. Aqueous ammonia will be delivered to the plant by truck transport using designated truck routes (see discussion below). The truck loading area will be located within a bermed area adjacent to the storage tank onsite. The use of 29 percent aqueous ammonia will require approximately 14 deliveries of ammonia per year, or 28 truck trips per year. This would equate to approximately 1 to 2 deliveries per month, or 2 to 4 truck trips per month (inbound and outbound). These occasional truck trips would generally occur during the non-peak commute hours. If the plant uses lower concentrations of aqueous ammonia, more frequent delivery would be required.

Standards for the transport of hazardous materials are contained in the Code of Federal Regulations, Title 49 and enforced by the U.S. Department of Transportation. Additionally, the State of California has promulgated rules for hazardous waste transport that can be found in the California Code of Regulations, Title 26. Additional regulations for the transportation of hazardous materials are outlined in the California Vehicle Code (Sections 2500-505, 12804-804.5, 31300, 3400, and 34500-501). The two state agencies with primary responsibility for enforcing federal and state regulations governing the transportation of hazardous wastes are the California Highway Patrol (CHP) and Caltrans.

For those materials that require offsite removal, a licensed hazardous waste transporter would move these substances to one of three Class I hazardous waste landfills in proximity to the project site. Access by waste haulers to the project site would be via Illinois Street. Vehicles can then proceed south along Third Street to Cesar Chavez Street to reach southbound I-280 to US 101 (hazardous wastes cannot be transported on the Bay Bridge (I-80)). Specific outbound truck routes in the City from the project site to southbound I-280 to US 101 are as follows:

1. Project site (23rd Street) to Third Street – southbound
2. Third Street to Cesar Chavez Street – westbound
3. Cesar Chavez Street to Pennsylvania Avenue – northbound
4. Pennsylvania Avenue to I-280 southbound on-ramp
5. I-280 southbound to US 101 southbound

Specific inbound truck routes in the City to the project site from northbound 1-280 from US 101 are as follows:

1. US 101 northbound to I-280 northbound
2. I-280 northbound to Evans Avenue/Cesar Chavez Street off-ramp
3. Evans Avenue – eastbound, to Third Street
4. Third Street – northbound, to project site (23rd Street)

These inbound and outbound truck routes serving the project site to I-280/US 101 would travel through predominantly industrial areas within the City. Once established, these routes would not allow truck travel through sensitive residential neighborhood areas.

For outbound trucks, once on US 101, trucks would proceed around the south end of the Bay to I-580 and I-5 via I-880 and SR 238. Alternatively, haulers could continue through Stockton to State Route 99 (SR 99) that parallels I-5 but runs slightly east through the Central Valley communities of Merced and Fresno. I-5 and SR 99 provide access to California's three Class I hazardous waste facilities including:

- Safety Kleen, Buttonwillow (Kern County)
- Safety Kleen, Imperial County
- Chemical Waste Management, Kettleman Hills (Kings County)

The major highways and interstates that would be used to carry hazardous wastes from the project site to the appropriate landfills contain adequate capacity to accommodate these vehicle trips. Hauling would be carried out in accordance with local, state, and federal regulations that include the Resource Conservation and Recovery Act (42 U.S. Code 6901 et seq.), the California Integrated Waste Management Act (Public Resources Code Sections 40000 et seq.), and the San Francisco Department of Public Health.

In addition, the federal government prescribes regulations for transporting hazardous materials. These regulations are described in the Code of Federal Regulations, Number 49, Part 171. These laws and ordinances place requirements on various aspects of hazardous waste hauling, from materials handling to vehicle signs, to ensure public safety. Transporting and handling of chemicals and wastes are discussed in Subsection 8.12, Hazardous Materials Handling, including the transport of ammonia.

8.10.4 Cumulative Impacts

As described previously, the available capacity of the regional state routes and local roads in the project area shows the regional and local transportation system has the capacity to accommodate future traffic including that resulting from the proposed construction and operation of project.

According to MUNI, the Third Street LRT project is anticipated to be completed and in operation by the end of 2005. Based on discussions with MUNI staff (Velmo Garcia, MUNI,

February 2004), Segment B of the LRT extension (16th Street to 23rd Street) would be completed and in operation by August 2004, while Segment C (23rd Street to Cesar Chavez Street) would be completed and in operation by early 2005. The remaining segments (south to the City limits) would be completed an in operation by late 2005. Segment C is the closest to the project site. Construction of the proposed project in 2005 (construction months 6 and 7), would potentially coincide with the completion stage of Segment C of the LRT project. Since Segment C would be near completion at the time of the peak construction months of the proposed project, it is anticipated that there would be no significant construction timing issues relating to peak hour trips of construction forces and truck trips. There are no other known proposed projects whose workforce and/or material deliveries would concurrently have a significant amount of traffic on the same state routes and local roadways. Therefore, there would be no significant cumulative traffic impacts.

8.10.5 Mitigation Measures

8.10.5.1 Construction Impacts

Construction of proposed project would add a moderate amount of traffic to state routes and local roadways during the peak construction period. However, because existing intersection capacity is adequate, these project-related traffic increases will not result in significant impacts.

During operation and construction, access to the facility will be provided via Third Street to 23rd and 25th streets. The construction contractor will prepare a construction traffic control plan and construction management plan, also known as a Traffic Management Plan (TMP), that addresses timing of heavy equipment and building material deliveries, potential street and/or lane closures associated with pipeline installation, signing, lighting, traffic control device placement, and establishing work hours outside of peak traffic periods.

Methods for mitigating potential traffic impacts caused by construction may include such activities as stationing flag persons at the access road into the site, and placing advance warning flashes, flag persons, and signage along the roadways. Figures 8.10-8 and 8.10-9 illustrate traffic control systems, as developed by Caltrans, that would be implemented during the construction phases of the project. Damage to any roadway opened during construction will be restored to or near its preexisting condition. The construction contractor will work with the local agency's engineer to prepare a schedule and mitigation plan for the roadways along the construction routes.

It should be noted that most trip reduction strategies are not feasible for the construction phase of the project, primarily because of the differing schedules of tradespersons and the need to transport tools and materials to the job site.

8.10.5.2 Operation Impacts

The operations-related and maintenance-related traffic associated with the project is considered to be minimal; state routes and local roadways have adequate capacity to accommodate operations-related traffic. Consequently, no operations-related mitigation measures are required.

8.10.6 Involved Agencies and Agency Contacts

The proposed project lies in proximity to roadways operated by the City of San Francisco. The relevant agencies and appropriate contacts are shown in Table 8.10-7 below.

TABLE 8.10-7
Agency Contacts

Agency	Contact/Title	Telephone
San Francisco, Planning Department	Tim Blomgren Environmental Group 30 Van Ness Avenue, 4th Floor San Francisco, CA 94102	(415) 558-5979
San Francisco County Transportation Authority	Tilly Chang Manager of Planning 100 Van Ness Avenue, 25th Floor San Francisco, CA 94102	(415) 522-4832
San Francisco, Department of Parking and Traffic	Ricardo Olea 25 Van Ness Avenue, Suite 410 San Francisco, CA 94102	(415) 554-2310
Federal Motor Carrier Safety Administration	Bob Brown Materials Specialist 201 Mission Street, Suite 2100 San Francisco, CA 94105	(415) 744-2646

8.10.7 Permits Required and Permit Schedule

Traffic studies for projects in San Francisco require consultation with the City Planning Department to comply with its extensive traffic analysis requirements. The short duration of the construction, in conjunction with the minute permanent addition of 100 trips, impose a relatively insignificant addition to existing traffic levels. The City will consult with Planning Department staff to determine the extent to which the traffic analysis requirements should be applied in the case of the SFERP.

The relevant permits required for work performed within city streets in San Francisco are identified in Table 8.10-8 below.

TABLE 8.10-8
Required Permits

Responsible Agency	Permit/Approval	Schedule
CCSF, Department of Public Works – Bureau of Street-Use and Mapping	Utility Permit	45-60 days
CCSF, Department of Parking and Traffic – Bureau of Traffic Engineering	Extralegal Truck Permit (if necessary)	24 hours

8.10.8 References

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FIGURE 8.10-1 (COLOR)

FIGURE 8.10-2 (COLOR)

FIGURE 8.10-3 (B&W)

FIGURE 8.10-4 (B&W)

FIGURE 8.10-5 (B&W)

FIGURE 8.10-6 (B&W)

FIGURE 8.10-7 (B&W)

FIGURE 8.10-8 (B&W)

FIGURE 8.10-9 (B&W)