

Chapter 16. Transportation and Traffic

This chapter addresses the potential effects of construction and operation of the two CWP alternatives on transportation and traffic. This chapter describes existing roadways and transit facilities; discusses applicable state and local regulations; identifies potential impacts that could occur from construction and operation; and proposes mitigation measures to reduce any significant impacts to a less than significant level.

16.1 Existing Setting

This section describes the existing roadway network, bicycle and pedestrian facilities, and transit service in the vicinity of the Program Area. Information on existing traffic levels and how intersection level of services is determined is presented in the Section 16.3.

16.1.1 Regional and Local Roadways

Regional access to the Program Area is provided via US-101 and SR-92. Local access to the WWTP is provided primarily from SR-82, Norfolk Street, 3rd Avenue, J. Hart Clinton Drive, Detroit Drive, Foster City Boulevard, Chess Drive, and Metro Center Boulevard. A description of the roadways is provided below:

US-101 is an eight-lane, north-south freeway in the vicinity of the Program Area. US-101 extends northward through San Francisco and southward through San José. Access to the WWTP will be provided via the full interchange at 3rd Avenue/J. Hart Clinton Drive. Northbound on and off ramps are also provided at Kehoe Avenue. US-101 carries 260,000 average daily trips (ADT) between SR-92 and 3rd Avenue (California Department of Transportation [Caltrans], 2015).

SR-92 is a four- to six-lane, east-west highway that provides access to the Program Area via US-101. SR-92 extends from Half Moon Bay in west San Mateo County to Hayward in Alameda County. SR-92 carries 142,000 ADT between US-101 and Mariners Island Boulevard and 120,000 ADT between Mariners Island Boulevard and Foster City Boulevard (Caltrans, 2015).

SR-82 (S. El Camino Real) is an east-west state highway that begins at I-880 in San José to the south to I-280 in San Francisco to the north. SR-82 follows the San Francisco Peninsula and parallels the Caltrain Line along much of the route. Locally, SR-82 is referred to as El Camino Real. Within San Mateo, SR-82 is a four- to six-lane arterial and carries between 29,500 to 46,500 ADT between SR-92 and 3rd Avenue (Caltrans, 2015). Caltrans plans to improve and reconstruct the existing SR-82/SR-92 interchange to a partial cloverleaf interchange. The project would realign and widen the diagonal off-ramps and construct signalized intersections at the off-ramp terminals; add exclusive right turn lanes to the loop on-ramps on SR-82; construct a concrete barrier between the on-ramps and diagonal off-ramps; realign and widen the diagonal and loop on-ramps; provide maintenance vehicle pullouts and California Highway Patrol (CHP) enforcement areas on the on-ramps; construct soundwalls and retaining walls at the on-ramps and off-ramps; and add provisions for safe bicyclist travel in the northbound and southbound direction on SR-82 within the ramp intersections. The project is scheduled to be constructed in 2019 (Caltrans, 2014a).

Norfolk Street is a two- to four-lane collector street east of US-101 that provides access to the WWTP via 3rd Avenue/J. Hart Clinton Drive and Detroit Drive. Norfolk Street is approximately 3 miles long and is parallel to US-101 from Huron Avenue in the north to La Selva Street/Los Prados Street in the south.

3rd Avenue is an east-west roadway through central San Mateo from Crystal Springs Road in the west to Norfolk Street in the east. From US-101 to Delaware Street, 3rd Avenue is a one-way, westbound, two-to-three-lane roadway that forms a two-way couplet with 4th Avenue. From US-101 to Norfolk Street, 3rd Avenue is a two-way, four-lane roadway. East of Norfolk Street, 3rd Avenue becomes J. Hart Clinton Drive.

J. Hart Clinton Drive is a four-lane collector street from Norfolk Street to Mariners Island Boulevard. East of Mariners Island Boulevard the roadway becomes 3rd Avenue in Foster City. J. Hart Clinton Drive provides access to the WWTP via Detroit Drive.

Detroit Drive is a two-lane undivided local street approximately 0.25 mile long that terminates at J. Hart Clinton Drive. Detroit Drive provides direct access to the WWTP via an existing driveway.

Foster City Boulevard is a four- to six-lane arterial that extends from East 3rd Avenue, across SR-92, to Beach Park Boulevard. It is a major north-south arterial in Foster City and provides access to SR-92 via Chess Drive and Metro Center Boulevard.

Chess Drive is a two- to four-lane road extending from Bridgepointe Parkway (to the east) across Foster City Boulevard and then curving to the north and west to intersect again with Foster City Boulevard at Vintage Park Drive. Access to westbound SR-92 is provided via hook ramps just west of Foster City Boulevard. Chess Drive is four lanes wide west of Foster City Boulevard and two lanes wide to north and east of Foster City Boulevard.

Metro Center Boulevard is a four-lane, east-west roadway that runs parallel to SR-92 to the south and extends between Edgewater Boulevard and Foster City Boulevard, where it becomes Triton Drive. Access to eastbound SR-92 is provided via hook ramps just west of Foster City Boulevard.

16.1.2 Bicycle Facilities

The City has installed approximately 40 miles of bikeways, including 12 miles of Class I multiuse paths (separated path), 13 miles of Class II bike lanes (on-street striped bike lane), and 15 miles of Class III bike routes (signed bike route only, no striping). The existing bicycle facilities are illustrated on Figure 16-1. The longest bikeway, Shoreline Path, is approximately 3.6 miles long and runs from Airport Boulevard to the southern City limit (Alta Planning + Design, 2011).

In the vicinity of the WWTP, Detroit Drive is a Class III bike route. Detroit Drive provides a connection between the Class I bike paths adjacent to the shoreline throughout San Mateo and Foster City and the short, Class I bike path between Detroit Drive and Dale Avenue. There are Class II bike lanes on Norfolk Street from 3rd Avenue/ J. Hart Clinton Drive to Roberta Drive; on Norfolk Street from the river crossing near Waters Park Drive to Marina Court; and on Kehoe Avenue from Norfolk Street to Cobb Street. Roberta Drive between Norfolk Street and Kehoe Avenue is a Class II bike route.

16.1.3 Pedestrian Facilities

Pedestrian facilities near the WWTP consist of a few non-continuous sidewalks, nearby Class I bike paths, and crosswalks at signalized intersections. Sidewalks exist along the west side of Detroit Drive from J. Hart Clinton Drive to the Class I bike path adjacent to the WWTP Site. There are no sidewalks along the frontage of the WWTP Site.

There are sidewalks on J. Hart Clinton Drive east of Detroit Drive but none west of Detroit Drive. However, pedestrians may use the Class I bike path adjacent to J. Hart Clinton Drive to walk to Norfolk Street and 3rd Avenue.

16.1.4 Transit Service

San Mateo County Transit District (SamTrans) and the Peninsula Corridor Joint Powers Board (Caltrain) provide transit service throughout San Mateo County and into adjoining San Francisco and Santa Clara counties. The Redi-Wheels program operated by SamTrans and private taxi companies provides paratransit services (City of San Mateo, 2012). Transit routes are shown on Figure 16-2.

16.1.4.1 Bus Service

Several SamTrans routes operate in San Mateo, with major transfer points at the downtown San Mateo Caltrain Station in the northern portion of the City and El Camino Real and Hillsdale Boulevard in the southern portion. Express lines operate daily to San Francisco during the morning and return in the evening. Most of the local routes are in midtown, extending in a north-south direction on arterials such as El Camino Real, Alameda de las Pulgas, Delaware Street, and Norfolk Street. Service is also provided on Hillsdale

Boulevard, SR-92, Parrott Drive, and Polhemus Road to the outlying east–west regions (City of San Mateo, 2012).

In the vicinity of the WWTP, SamTrans Route 250 provides weekday and weekend bus service on Norfolk Street between the College of San Mateo, the Hillsdale Caltrain station, downtown San Mateo, and the San Mateo Caltrain station. This bus service has 30-minute headways during the a.m. and p.m. peak commute periods. The nearest bus stop on the main route is located approximately 0.5 mile from the WWTP Site, at the intersection of Norfolk Street and Dale Avenue. A Route 250 connector provides limited service on Kehoe Avenue, with a stop at the Bayside STEM Academy near the corner of Kehoe Avenue and Van Buren Street (SamTrans, 2015).

16.1.4.2 Shuttle Service

Free commuter shuttles are available at the Hillsdale Caltrain Station and within the Bridgepointe business area. The shuttles operate between transit stations and major employment areas during commute hours. The Norfolk Area Shuttle serves the areas in the vicinity of SR-92 between Delaware Street and Norfolk Street. The Campus Drive Area Shuttle operates between the Hillsdale Station and the Campus Drive office development. The Mariners Island Area Shuttle operates from the Hillsdale Station, serving businesses on Saratoga Drive before continuing to Foster City, near SR-92. The Mariners Island Area Shuttle stops along Mariners Island Boulevard, adjacent to the Bridgepointe Shopping Center in San Mateo. The North Foster City Shuttle also serves the Bridgepointe Shopping Center area. The shuttle takes riders to Millbrae Station for Bay Area Rapid Transit (BART) and Caltrain connections (City of San Mateo, 2012).

16.1.4.3 Commuter Rail

Caltrain provides regional commuter rail throughout the Bay Area. There are three Caltrain stations in San Mateo: Downtown, Hayward Park, and Hillsdale. The Downtown Station is located at 2 North B Street, north of First Avenue. The Hayward Park Station is located near SR-92 and Concar Drive, on the east side of the railroad tracks. The Hillsdale Station, the most heavily used station in the City, provides transit access to several major destinations, including the Hillsdale Shopping Mall, Bay Meadows Phase II Specific Plan transit-oriented development, and the San Mateo County Events Center. Hillsdale Station is located on the west side of the railroad tracks, on El Camino Real, north of Hillsdale Boulevard (City of San Mateo, 2012).

16.2 Regulatory Framework

Transportation-related regulations applicable to the CWP include the Caltrans policy on level of service (LOS) (Caltrans, 2002) and the Circulation Element of the General Plan (City of San Mateo, 2010). The regulations are described in the following sections.

16.2.1 State Regulations

16.2.1.1 California Department of Transportation

Caltrans is responsible for planning, designing, constructing, operating, and maintaining all state-owned roadways. Federal standards for interstate highways are implemented in California by Caltrans. In the vicinity of the Program Area, Caltrans operates and maintains US-101 and SR-92, which provide regional access to the San Mateo and the neighboring cities.

According to the *Guide for the Preparation of Traffic Impact Studies* (Caltrans, 2002), “Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on state highway facilities; however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the target LOS. If an existing State highway facility is operating at less than the appropriate target LOS, the existing LOS should be maintained.” In addition, a proposed project may have a significant transportation or circulation effect if it will result in a safety hazard to pedestrians or motorists.

16.2.2 Local Regulations

16.2.2.1 General Plan – Circulation

The General Plan (City of San Mateo, 2010) provides the framework for all zoning and land use decisions within the City. State law requires that the General Plan include a comprehensive, long-term plan for a City's physical development. City policy requires that the General Plan be periodically reviewed and updated. The 2010 update extends of the General Plan to the year 2030 (City of San Mateo, 2012).

The Circulation Element of the General Plan describes existing and proposed roadways and other transportation such as public transit, bikeways, pedestrian routes, and parking facilities. It analyzes traffic conditions and needed improvements so that existing and projected circulation needs may be adequately met (City of San Mateo, 2012).

The Circulation Element notes City goals to make it convenient for residents to travel to work and school, obtain services, shop, and recreate without always using single-occupant vehicle trips. The Circulation Element focuses on improving public transit, bikeways, pedestrian routes, roadways, and parking facilities. The Circulation Element includes goals and policies to reduce single-occupant vehicle trips and embraces a "complete streets" approach by considering all modes of transportation by addressing pedestrian and bicycle master planning, bike parking facilities, and transit improvements. Other important components of the Circulation Element address the Transportation Fee Ordinance, high-speed rail, transit-oriented development, transportation demand measures, and the establishment of a Transportation Management Association to reduce vehicle trips, encourage transit use, and promote bicycle and pedestrian accessibility and funding. The Rail Corridor Plan focuses high-density development along public transit routes.

Goal 2 of the Circulation Element and its associated policies are relevant to the CWP:

GOAL 2: Maintain a street and highway system which accommodates future growth while maintaining acceptable LOS.

Policy C 2.1: Acceptable Levels of Service. Maintain a Level of Service (LOS) no worse than mid LOS D, average delay of 45.0 seconds, as the acceptable Level of Service for all intersections within the City.

Policy C 2.7: Exceeding the Acceptable Level of Service. In addition to paying the transportation impact fee, a development project may be required to fund offsite circulation improvements which are needed as a result of project generated traffic, if:

- The level of service at the intersection drops below mid-level LOS D (average delay of more than 45 seconds) when the project traffic is added, and
- An intersection that operates below its level of service standard under the base year conditions experiences an increase in delay of four or more seconds, and
- The needed improvement of the intersection(s) is not funded in the applicable 5-year City Capital Improvement Program from the date of application approval

16.3 Assessment Methods and Thresholds of Significance

The traffic analysis for the CWP was conducted in accordance with the methodologies and procedures outlined in the *Highway Capacity Manual* (Transportation Research Board, 2010). Potential CWP impacts were also evaluated against the City's traffic impact thresholds.

ADT volumes from Caltrans (2015) for US-101 and SR-92 (see Section 16.1) and the potential daily increase in traffic on these highways was evaluated for project conditions. Daily roadway volumes were not available for local roadways in the City. A.M. and P.M. peak hour intersection LOS information was obtained from the *San Mateo Corporation Yard Draft Traffic Impact Analysis* (Hexagon Transportation Consultants, Inc., 2013)

and the *Lincoln Centre Life Sciences Research Campus Project Draft EIR* (Urban Planning Partners, Inc., 2015) for the following signalized intersections:

- J. Hart Clinton Drive/3rd Avenue/Norfolk Street
- J. Hart Clinton Drive/Detroit Drive
- Mariners Island Boulevard/3rd Avenue
- Foster City Boulevard/3rd Avenue
- SR-92 Westbound Ramps/Chess Drive
- Foster City Boulevard/Chess Drive
- SR-92 Eastbound Ramps/Metro Center Boulevard
- Foster City Boulevard/Metro Center Boulevard

The *San Mateo Corporation Yard Draft Traffic Impact Analysis* is based on peak hour turning movement counts conducted in April 2013, and the *Lincoln Centre Life Sciences Research Campus Project Draft EIR* is based on peak hour turning movement counts conducted in 2014. The *Lincoln Centre Life Sciences Research Campus Project Draft EIR* noted that traffic volumes have increased substantially along East 3rd Avenue (as well as on Foster City Boulevard and through the SR-92/Metro Center Boulevard interchange) during the P.M. peak hour between 2012 and 2014. According to the study, traffic volumes on eastbound East 3rd Avenue between Norfolk Street and Foster City Boulevard have increased by approximately 90 to 200 percent during the P.M. peak hour and between 20 to 40 percent during the A.M. peak hour since 2012. The report notes that although some development has occurred since 2012, much of the increase in traffic is due to traffic bypassing congestion at the US-101/SR-92 interchange to reach the San Mateo Bridge or destinations in Foster City.

16.3.1 Intersection Level of Service

LOS is a qualitative description of traffic operating conditions that range from LOS A (free-flow conditions with little or no delay) to LOS F (forced-flow conditions with extreme delays). The City's adopted methodology for determining LOS at signalized intersections is to evaluate the average intersection delay, which is calculated by summing the average delay (in seconds) for vehicles in each lane for all intersection approaches (City of San Mateo, 2012). General descriptions of LOS and the corresponding control delays are provided in Table 16-1. The City's LOS threshold is mid-LOS D (45 seconds of delay) or less for signalized intersections.

TABLE 16-1

LOS Criteria for Signalized Intersection Operations

Programmatic Environmental Impact Report, City of San Mateo Clean Water Program

| LOS | Control Delay (seconds per vehicle) | Traffic Flow Characteristics |
|-----|--|--|
| A | ≤10.0 | Very low delay occurring with exceptionally favorable progression or short cycle lengths. Most vehicles arrive during the green indication and travel through the intersection without stopping. |
| B | >10.0 and ≤20.0 | Operations with low delay occurring with highly favorable progression or short cycle lengths. |
| C | >20.0 and ≤35.0 | Operations with average delays with favorable progression or moderate cycle lengths. Individual cycle failures begin to appear. |
| D | >35.0 and ≤55.0 | Operations with longer delays due to a combination of ineffective progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable. |
| E | >55.0 and ≤80.0 | Operations with high delay values indicating unfavorable progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent. |

TABLE 16-1

LOS Criteria for Signalized Intersection Operations*Programmatic Environmental Impact Report, City of San Mateo Clean Water Program*

| | | |
|---|-------|---|
| F | >80.0 | Operation with unacceptable delays to most drivers occurring due to very high V/C ratios, very poor progression, and long cycle lengths. Most cycles fail to clear the queue. |
|---|-------|---|

Source: Transportation Research Board (2010)

Notes:

> = greater than

≤ = less than or equal to

V/C = volume to capacity

16.3.2 Existing Traffic Conditions

US-101 currently carries 260,000 ADT between SR-92 and 3rd Avenue. SR-92 carries 142,000 ADT between US-101 and Mariners Island Boulevard and 120,000 ADT between Mariners Island Boulevard and Foster City Boulevard and SR-82 carries 29,500 to 46,500 ADT between SR-92 and 3rd Avenue (Caltrans, 2015).

Table 16-2 summarizes the existing LOS for the study intersections. As shown in Table 16-2, two of the study intersections do not meet the City's LOS thresholds. The J. Hart Clinton Drive/3rd Avenue/ Norfolk Street intersection is currently operating at LOS E during the morning peak hour and the Foster City Boulevard/Chess Drive intersection is operating at LOS E during the afternoon peak hour.

TABLE 16-2

Existing Intersection LOS Summary*Programmatic Environmental Impact Report, City of San Mateo Clean Water Program*

| Intersection | A.M. Peak Hour | | P.M. Peak Hour | |
|--|-----------------|----------------|-----------------|-----|
| | Delay (seconds) | LOS | Delay (seconds) | LOS |
| J. Hart Clinton Drive/3rd Avenue/ Norfolk Street | 55.9 | E ^a | 43.2 | D |
| J. Hart Clinton Drive/Detroit Drive | 3.4 | A | 2.9 | A |
| Mariners Island Boulevard /3rd Avenue | 18.3 | B | 20.1 | C |
| Foster City Boulevard/3rd Avenue | 9.4 | A | 10.8 | B |
| SR-92 Westbound Ramps/Chess Drive | 20.6 | C | 23.4 | C |
| Foster City Boulevard/Chess Drive | 25.5 | C | 75.1 | E |
| SR-92 Eastbound Ramps/Metro Center Boulevard | 16.8 | B | 29.0 | C |
| Foster City Boulevard/ Metro Center Boulevard | 28.6 | C | 34.2 | C |

^a The *San Mateo Corporation Yard Draft Traffic Impact Analysis* shows the J. Hart Clinton Drive/3rd Avenue/ Norfolk Street intersection operating at LOS D (41.4 seconds of delay). However, the *Lincoln Centre Life Sciences Research Campus Project Draft EIR* is based on more recent traffic counts and has been used as a more conservative analysis.

16.3.3 Key Assumptions Used in Analysis

Analysis is presented for two CWP alternatives, each of which includes multiple capital projects described in Chapter 2. Under either alternative, the CWP would be constructed over a 10- to 20-year period, starting in ~~2016~~2017. Analysis is also presented for two individual CWP projects, the New Headworks project and Primary Clarifier Project. All project scheduling would be based on technical requirements, financing, and other implementation considerations. The construction schedule and activities, equipment needs, and workforce requirements would generally be the same for both alternatives.

Multiple projects are expected to be under construction at any given time. An expected scenario for more intensive periods of CWP construction would include simultaneous construction of two major new facilities at the WWTP Site, two large pipeline projects, three small/medium pipeline projects, and two pump station

wet well expansions. Because of the similarity in construction approaches and daily construction activities, the pump station wet well expansion would also reflect construction conditions for in-system storage. Construction approaches for individual projects are discussed in Chapter 2.

It is assumed the each employee would generate two trips (one incoming and one outgoing trip). Table 16-3 shows the estimated peak construction daily trip generation, based on these assumptions and the project descriptions in Chapter 2.

TABLE 16-3

Peak Construction Daily Trips^a*Programmatic Environmental Impact Report, City of San Mateo Clean Water Program*

| Trip Type | New WWTP Facilities (2 projects) | Large Pipeline (2 projects) | Small/ Medium Pipeline (3 projects) | Pump Station (2 projects) | TOTAL |
|---------------------------------------|----------------------------------|-----------------------------|-------------------------------------|---------------------------|------------|
| Import/Export Heavy Haul Trips | 40 | 18 | 30 | 16 | 104 |
| Equipment/Pipeline Haul Trips | 10 | 4 | 6 | 2 | 22 |
| PCE Trucks Trips (1.5) ^b | 75 | 33 | 54 | 27 | 189 |
| Workforce Trips ^c | 100 | 40 | 60 | 20 | 220 |
| Total Daily Construction Trips | 175 | 73 | 114 | 47 | 409 |

^a Assumes concurrent construction of two WWTP projects, two large pipeline projects, three small/medium pipeline projects, and two pump station projects.

^b Truck trips were converted into a PCE at a rate of 1.5.

^c Assumes each employee would generate one incoming and one outgoing trip (e.g., 50 employees would generate 100 trips).

Note:

PCE = passenger car equivalent

Table 16-4 summarizes the projected peak hour trip generation for the CWP. It is assumed the each employee would generate one incoming trip during the morning peak hour and one outgoing trip during the afternoon peak hour. It is assumed that the truck trips would be scheduled to occur outside of peak hours. As a result, construction of the CWP would generate 110 trips during the morning peak hour and 110 trips during the afternoon peak hour.

TABLE 16-4

Peak Construction Daily and Peak Hour Trips^a*Programmatic Environmental Impact Report, City of San Mateo Clean Water Program*

| Trip Type | ADT | AM Peak Hour | | | PM Peak Hour | | |
|---|------------|--------------|----------|------------|--------------|------------|------------|
| | | In | Out | Total | In | Out | Total |
| PCE Truck Trips (1.5) ^b | 189 | 0 | 0 | 0 | 0 | 0 | 0 |
| Workforce Trips | 220 | 110 | 0 | 110 | 0 | 110 | 110 |
| Total Daily and Peak Hour Construction Trips | 409 | 110 | 0 | 110 | 0 | 110 | 110 |

^a Assumes concurrent construction of two WWTP projects, two large pipeline projects, three small/medium pipeline projects, and two pump station projects.

^b Truck trips were converted into a PCE at a rate of 1.5.

The City would identify a dedicated parking area for construction workers. If space is not available at the Detroit Drive parcel, the City would develop a temporary agreement for use of another site, such as the Anchor Road parking lot (see Figure 2-5 in Chapter 2), which is owned by City of San Mateo Parks and Recreation.

The City would also identify designated areas for temporary stockpiling of excavated soils and for equipment staging for CWP projects. These areas may include the existing WWTP, the Detroit Drive parcel, or other City-owned property.

Encroachment permits will be obtained prior to issuance of any City permits and prior to any work in the City's right-of-way. Street improvement plans for all work in public rights-of-way will be prepared by a licensed civil engineer and approved by the Public Works Department. Because of the project's anticipated truck traffic, some streets may need to be restored or reconstructed. Road repairs will be coordinated with and approved by the city engineer.

Impacts on transportation and traffic may occur if the CWP would result in the following:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways, freeways, pedestrian and bicycle paths, and mass transit.
- Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities or otherwise decrease the performance or safety of such facilities.

16.4 Environmental Impacts

This section discusses potential transportation and traffic impacts as a result of implementing the CWP. Table 16-5 summarizes the impacts and level of significance.

TABLE 16-5
Summary of Transportation and Traffic Impacts
Programmatic Environmental Impact Report, City of San Mateo Clean Water Program

| Impact | In-System Storage Program | Full Conveyance Program | New Headworks Project | Primary Clarifier Project |
|---|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| Impact 16-1. Construction of the CWP could conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways, freeways, pedestrian and bicycle paths, and mass transit. | Less than significant with mitigation |
| Impact 16-2. Construction of the CWP could conflict with an applicable congestion management program including but not limited to LOS standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways. | Less than significant with mitigation |

TABLE 16-5

Summary of Transportation and Traffic Impacts*Programmatic Environmental Impact Report, City of San Mateo Clean Water Program*

| Impact | In-System Storage Program | Full Conveyance Program | New Headworks Project | Primary Clarifier Project |
|--|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| Impact 16-3. Implementation of the CWP could substantially increase hazards due to a design feature (e.g., sharp curve or dangerous intersection) or incompatible uses. | Less than significant with mitigation |
| Impact 16-4. Implementation of the CWP could result in inadequate emergency access. | Less than significant with mitigation |
| Impact 16-5. Implementation of the CWP could conflict with adopted policies, plans, or programs regarding public transit, bicycle, and pedestrian facilities or otherwise decrease the performance or safety of such facilities. | Less than significant with mitigation |
| Impact 16-6. Operation of the CWP would not result in a significant traffic increase in conflicts with local plans, policies, and ordinances. | Less than significant | Less than significant | Less than significant | Less than significant |

Impact 16-1: Construction of the CWP could conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways, freeways, pedestrian and bicycle paths, and mass transit.

In-System Storage Program

In-System Storage Program construction activities would occur continuously for approximately 10 years, then intermittently for an additional 10 years until all projects are complete. Potential increases in vehicle trip generation as a result of implementing qualifying projects under the In-System Storage Program would vary based on the project type, location, schedule, equipment needs, and other factors. For the purposes of this analysis, the potential traffic-related impacts were evaluated based on the expectation that at any one time, up to two WWTP projects, two large pipeline projects, three small/medium pipeline projects, one pump station wet well expansion, and one in-system storage basin are under construction. The construction associated with these projects would generate vehicle trips associated with equipment and materials hauling and construction worker trips (employee travel to and from work sites). Construction-related traffic would be short term for each individual project but would be cumulatively long term given that construction would be ongoing for at least 10 years.

At a maximum, it is estimated that the concurrent construction described above would generate up to 409 daily trips and 110 peak hour trips.

The distribution of construction trips on the regional and local road network will also depend on the location of individual projects and the project staging areas. However, the majority of In-System Storage Program construction-related trips (vehicle and truck trips) would occur on US-101, SR-92, J. Hart Clinton Drive/3rd Avenue, Detroit Drive, Foster City Boulevard, Chess Drive, and Metro Center Boulevard. The additional trips (assumed to be a maximum of 409 daily trips) represent a 0.2 percent increase in ADT on US-101 and a 0.3 percent increase in ADT on SR-92. This is a minimal increase in traffic compared to the existing highway volumes, and no changes to the existing LOS are anticipated. Existing ADT are not available for other local roadways.

The J. Hart Clinton Drive/3rd Avenue/Norfolk Street intersection is currently operating at LOS E during the morning peak hour and the Foster City Boulevard/Chess Drive intersection is operating at LOS E during the afternoon peak hour (see Table 16-2). The City's LOS threshold (General Plan Policy C 2.1 and C 2.7) is mid-LOS D (45 seconds of delay) or less for signalized intersections. Construction activities could obstruct traffic and degrade the LOS of these and other nearby intersections if traffic management during construction is not appropriately planned. However, with implementation of **Mitigation Measure 16-1 Prepare and implement a traffic management plan**, impacts ~~could~~would be minimized to less than significant. The traffic management plan (TMP) identifies measures, such as scheduling deliveries of heavy equipment and construction materials during periods of minimum traffic flow, to avoid substantial LOS degradation.

Construction of projects associated with the In-System Storage Program would also require full or partial lane closures, depending on the type of project being constructed. Implementation of the TMP would minimize impacts on public transit and non-motorized travel by maintaining access to transit, bicycle, and pedestrian facilities along the project construction area or by providing an alternative route during full road closures. The TMP would include procedures for notifying and coordinating with all affected agencies, including transit operators, in advance of construction activities.

With implementation of **Mitigation Measure 16-1**, conflicts with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, would be minimized to less than significant.

Full Conveyance Program

Full Conveyance Program construction activities would occur continuously for approximately 10 years, then intermittently for an additional 10 years until all projects are complete. Potential increases in vehicle trip generation as a result of implementing qualifying projects under the Full Conveyance Program would vary based on the project type, location, schedule, equipment needs, and other factors. For the purposes of this analysis, the potential traffic-related impacts were evaluated based on the expectation that at any one time, up to two WWTP projects, two large pipeline projects, three small/medium pipeline projects, and two pump station projects are under construction. The construction associated with these projects would generate vehicle trips associated with equipment and materials hauling and construction worker trips (employee travel to and from work sites). Construction-related traffic would be short term for each individual project but would be cumulatively long term given that construction would be ongoing for at least 10 years.

At a maximum, it is estimated that the concurrent construction described above would generate up to 409 daily trips and 110 peak hour trips. Therefore, impacts of the Full Conveyance Program would be the same as described for the In-System Storage Program, and impacts could be potentially significant. However, with implementation of **Mitigation Measure 16-1 Prepare and implement a traffic management plan**, impacts ~~could~~would be minimized to less than significant. The TMP identifies measures, such as scheduling deliveries of heavy equipment and construction materials during periods of minimum traffic flow, to avoid substantial LOS degradation.

Construction of projects associated with the In-System Storage Program would also require full or partial lane closures, depending on the type of project being constructed. During the construction of the expanded pump station the existing bus stop at the corner of Norfolk Street and Dale Avenue would be closed for several months and would need to be temporarily relocated. Implementation of the TMP would minimize impacts on public transit and non-motorized travel by maintaining access to transit, bicycle, and pedestrian facilities along the project construction area or by providing an alternative route during full road closures. The TMP would include procedures for notifying and coordinating with all affected agencies, including transit operators, in advance of construction activities.

With implementation of **Mitigation Measure 16-1**, conflicts with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, would be minimized to less than significant.

New Headworks Project and Primary Clarifier Project

Vehicle trips that would occur during construction of the New Headworks Project and Primary Clarifier Project were included in the analysis of the In-System Storage Program impacts. Therefore, impacts could be potentially significant. However, with implementation of **Mitigation Measure 16-1 Prepare and implement a traffic management plan**, impacts ~~could~~would be minimized to less than significant. The TMP identifies measures, such as scheduling deliveries of heavy equipment and construction materials during periods of minimum traffic flow, to avoid substantial LOS degradation.

Impact 16-2: Construction of the CWP could conflict with an applicable congestion management program including but not limited to LOS standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.

In-System Storage Program

As described for Impact 16-1, construction of the In-System Storage Program would result in an increase in local traffic due to construction-related workforce traffic and material deliveries. Construction efforts could obstruct traffic and degrade the LOS at study intersections and nearby intersections if traffic management during construction is not appropriately planned. However, with implementation of **Mitigation Measure 16-1 Prepare and implement a traffic management plan**, impacts on LOS standards and other standards would be minimized to less than significant.

Full Conveyance Program

As described for Impact 16-1, construction of the Full Conveyance Program would result in an increase in local traffic due to construction-related workforce traffic and material deliveries. Construction efforts could obstruct traffic and degrade the LOS at study intersections and nearby intersections if traffic management during construction is not appropriately planned. However, with implementation of **Mitigation Measure 16-1 Prepare and implement a traffic management plan**, impacts on LOS standards and other standards would be minimized to less than significant.

New Headworks Project and Primary Clarifier Project

As described for Impact 16-1, construction of the New Headworks Project and Primary Clarifier Project would result in an increase in local traffic due to construction-related workforce traffic and material deliveries. Construction efforts could obstruct traffic and degrade the LOS at study intersections and nearby intersections if traffic management during construction is not appropriately planned. However, with implementation of **Mitigation Measure 16-1 Prepare and implement a traffic management plan**, impacts on LOS standards and other standards would be minimized to less than significant.

Impact 16-3: Implementation of the CWP could substantially increase hazards due to a design feature (e.g., sharp curve or dangerous intersection) or incompatible uses.

In-System Storage Program

Implementation of the In-System Storage Program has the potential to substantially increase hazards due to anticipated road or lane closures. Although the majority of In-System Storage Program construction would occur onsite and outside of public rights-of-way, construction of the collection system projects would require temporary, intermittent closure of lanes and the potential for full road closures along some roadways. These temporary closures would occur intermittently throughout the duration of construction. In some cases, traffic would need to be re-routed. However, implementation of **Mitigation Measure 16-1 Prepare and implement a traffic management plan** would minimize impacts to a less than significant level. No other design features are proposed that would substantially increase hazards.

A portion of Detroit Drive or other roads within the WWTP Site may ultimately be closed to public use and incorporated into the WWTP facility. This would be done as a safety measure to minimize conflicts on the roads as WWTP vehicles move among the different parcels that would comprise the final WWTP layout. This

would provide a safety benefit. Emergency access to the WWTP on Detroit Drive and safe access to adjacent parcels, such as the storage business, would be maintained. The In-System Storage Program is not expected to result in any other permanent changes to roadways and would not create hazards due to permanent road design features.

Full Conveyance Program

The impacts of the Full Conveyance Program would be the same as described for the In-System Storage Program. Implementation of **Mitigation Measure 16-1 Prepare and implement a traffic management plan** would reduce impacts to a less than significant level.

New Headworks Project and Primary Clarifier Project

The impacts of the New Headworks Project and Primary Clarifier Project would be the same as described for the In-System Storage Program. Implementation of **Mitigation Measure 16-1 Prepare and implement a traffic management plan** would reduce impacts to a less than significant level.

Impact 16-4: Implementation of the CWP could result in inadequate emergency access.

In-System Storage Program

Implementation of the In-System Storage Program has the potential to result in inadequate emergency access due to road and lane closures. However, **Mitigation Measure 16-1 Prepare and implement a traffic management plan** would be implemented to minimize impacts on emergency access, including notifying emergency responders prior to construction and providing access for emergency vehicles to and around construction areas. All applicable local, state, and federal traffic control measures would be implemented for the safety of local traffic and construction traffic. With implementation of **Mitigation Measure 16-1**, impacts on emergency access would be less than significant.

Full Conveyance Program

Implementation of the Full Conveyance Program has the potential to result in inadequate emergency access due to road and lane closures. However, **Mitigation Measure 16-1 Prepare and implement a traffic management plan** would be implemented to minimize impacts on emergency access, including notifying emergency responders prior to construction and providing access for emergency vehicles to and around construction areas. All applicable local, state, and federal traffic control measures would be implemented for the safety of local traffic and construction traffic. With implementation of **Mitigation Measure 16-1**, impacts on emergency access would be less than significant.

New Headworks Project and Primary Clarifier Project

Implementation of the New Headworks Project and Primary Clarifier Project have the potential to result in inadequate emergency access due to road and lane closures. However, **Mitigation Measure 16-1 Prepare and implement a traffic management plan** would be implemented to minimize impacts on emergency access, including notifying emergency responders prior to construction and providing access for emergency vehicles to and around construction areas. All applicable local, state, and federal traffic control measures would be implemented to for the safety of local traffic and construction traffic. With implementation of **Mitigation Measure 16-1**, impacts on emergency access would be less than significant.

Impact 16-5: Implementation of the CWP could conflict with adopted policies, plans, or programs regarding public transit, bicycle, and pedestrian facilities or otherwise decrease the performance or safety of such facilities.

In-System Storage Program

Implementation of the In-System Storage Program has the potential to conflict with adopted policies, plans, or programs regarding public transit, bicycle, and pedestrian facilities or otherwise decrease the performance or safety of such facilities due to the anticipated lane and road closures. Sidewalks and bicycle

facilities are located throughout the Program Area. Public transit also operates in the vicinity of the Program Area and could be affected by construction.

Implementation of **Mitigation Measure 16-1 Prepare and implement a traffic management plan** would minimize impacts on public transit and non-motorized travel by maintaining access to transit, bicycle, and pedestrian facilities along the project construction area or by providing an alternative route during full road closures. The TMP would include procedures for notifying and coordinating with all affected agencies, including transit operators, in advance of construction activities. With implementation of **Mitigation Measure 16-1**, impacts on policies, plans, or programs supporting alternative transportation would be less than significant.

Full Conveyance Program

The impacts of the Full Conveyance Program would be the same as described for the In-System Storage Program. Public transit also operates in the vicinity of the Program Area and during construction of the new pump station, the existing bus stop at the corner of Norfolk Street and Dale Avenue would be closed for several months and would need to be temporarily relocated. With implementation of **Mitigation Measure 16-1 Prepare and implement a traffic management plan**, impacts on policies, plans, or programs supporting alternative transportation would be less than significant.

New Headworks Project and Primary Clarifier Project

The impacts of the New Headworks Project and Primary Clarifier Project would be the same as described for the In-System Storage Program. With implementation of **Mitigation Measure 16-1 Prepare and implement a traffic management plan**, impacts on policies, plans, or programs supporting alternative transportation would be less than significant.

Impact 16-6. Operation of the CWP would not result in a significant traffic increase in conflicts with local plans, policies, and ordinances.

In-System Storage Program

No major changes to WWTP or collection system operations would occur as a result of operation of the In-System Storage Program. When completed, pipelines and pump stations would be operated as currently done. Because of the resulting improvements in reliability, fewer worker trips would be required for maintenance and repairs. The current staff of approximately 25 permanent employees at the WWTP would be sufficient to operate the new treatment facilities, which would be more reliable than current facilities and may provide a higher degree of automation. There could be a minor increase in the number of trucks, up to one to two trips per day, for delivery of materials or hauling of biosolids due to the minor expected increase in average dry weather flows. No significant effects on traffic or circulation would occur.

Full Conveyance Program

The impacts of the Full Conveyance Program would be the same as described for the In-System Storage Program. Impacts would be less than significant.

New Headworks Project and Primary Clarifier Project

The impacts of the New Headworks Project and Primary Clarifier Project would be the same as described for the In-System Storage Program. Impacts would be less than significant.

16.5 Mitigation Measures

Mitigation Measure 16.1. Prepare and implement a traffic management plan.

Construction of some of the CWP projects would require temporary lane closures, traffic detours, and the use of oversized equipment. Implementation of the CWP shall include a TMP that would minimize impacts on through traffic as a result of construction activities. The TMP would be prepared in accordance with the

California Manual of Uniform Traffic Control Devices (MUTCD) Caltrans, 2014b) and all applicable requirements of the San Mateo Department of Public Works Conditions of Approval. The TMP shall be approved by the City of San Mateo Department of Public Works prior to construction and implemented at all times during construction of the project. If construction requires use of or detours on the rights-of-way of other communities, permits and approvals may be required from these local agencies. The City of San Mateo and its contractors shall cooperate with other communities to obtain the necessary approvals.

The TMP shall be prepared by a qualified transportation engineer and include recommendations for appropriately managing traffic during the construction period by implementing measures such as construction schedule restrictions, signage, and flaggers. Such measures would promote traffic movement during construction to avoid substantial LOS degradation (i.e., LOS levels that are less than the City's adopted LOS threshold).

The TMP would include but not be limited to the following measures:

- Temporarily close of travel lanes or disruptions to street segments and intersections during trenching activities within road rights-of-way or while utilities are being connected.
- Prepare temporary traffic control plans for each site location. In accordance with the San Mateo Public Works Department Conditions of Approval, prior to issuance of a permit, the contractor shall submit applicable pedestrian or traffic detour plans, to the satisfaction of the city engineer, for all lane or sidewalk closures. The detour plan shall comply with Part 6, Temporary Traffic Control, of the MUTCD, and standard construction practices. The temporary traffic control plans will identify the need for flaggers for directing traffic, temporary signage, lighting, traffic control devices, and other measures, if required.
- Identify oversize and overweight load haul routes. Transporters will comply with state and county regulations for transportation of oversized and overweight loads on all state and county roads. Such regulations typically include provisions for time of day, pilot cars, law enforcement escorts, speed limits, flaggers, and warning lights. In accordance with the San Mateo Public Works Department Conditions of Approval, for material delivery vehicles equal to or larger than two-axle, six-tire, single-unit truck size (as defined by Federal Highway Administration Standards), the contractor will submit a truck hauling route that conforms to City of San Mateo Municipal Code Section 11.28.040 for the approval of the city engineer. Contractors will be prohibited from using trucks with "compression release engine brakes" on residential streets. The contractor will submit a letter to and obtain approval from, the Department of Public Works confirming the intention to use the hauling route prior to the issuance of any City permits. All material hauling activities shall comply with applicable City ordinances and conditions of approval.
- Schedule deliveries of heavy equipment and construction materials during periods of minimum traffic flow. In accordance with the San Mateo Public Works Department Conditions of Approval, earth hauling and materials delivery to and from the site, including truck arrivals and departures to and from the site, will be prohibited (to the extent possible) between the weekday hours of 4:00 p.m. to 5:30 p.m. Signs outlining these restrictions will be posted at conspicuous locations on site.
- Limit construction activities (to the extent feasible) to the weekday between 7:00 a.m. and 7:00 p.m. and between 7:00 a.m. and 5:00 p.m. for work within City rights-of-way, in accordance with the San Mateo Public Works Department Conditions of Approval. During night work at the WWTP Site, the contractor will coordinate with the Public Works Department to obtain an exemption to perform construction activities outside of these times.
- Post the approved hours of construction activity at the construction site in a place and manner that can be easily viewed by any interested member of the public.
- Determine the need for construction work hours and arrival and departure times outside peak traffic periods.

- Determine the need for construction scheduling outside of legal holidays and special events to avoid affecting large fluxes in traffic volumes. In accordance with the San Mateo Public Works Department Conditions of Approval, within the vicinity of Hillsdale Mall and within the downtown area during the holiday season (November 20 to January 1), there shall be no construction activities within rights-of-way that would create lane closures, eliminate parking, create pedestrian detours, or other activities that may create a major disturbance, as determined by the city engineer. Prohibition on El Camino Real will be along its entire length within the City limits. For Hillsdale Shopping Center, construction prohibition streets shall include Hillsdale Boulevard between US-101 and SR-92, 31st Avenue between El Camino Real and Hacienda Street, and Edison Street and Hacienda Street in the vicinity of the shopping center. The limits of the downtown area shall be defined as: between El Camino Real on the west and Delaware Street on the east, Tilton Avenue on the north, and Fifth Avenue on the south. The prohibition shall also include the 3rd and 4th Avenue corridors between Delaware Street and US-101.
- Identify vehicle safety procedures for entering and exiting site access roads.
- Notify and coordinate with emergency responders regarding potential road closures prior to construction.
- Provide access for emergency vehicles to and around the project site.
- Maintain access to adjacent properties. In accordance with the San Mateo Public Works Department Conditions of Approval the contractor will notify residential and commercial occupants of property adjacent to the construction site of the hours of construction activity which may impact the area. The notifications will be provided 3 days prior to the start of the extended construction activity.
- Notify and coordinate with transit operators regarding potential road closures prior to construction.
- Maintain access to transit, bicycle, and pedestrian facilities along project routes.
- Notify and coordinate with mail service and waste haulers regarding potential road closures prior to construction.
- Provide a construction-parking plan that minimizes the effect of construction worker parking in the neighborhood. Include an estimate of the number of workers that will be present on the site during the various phases of construction, indicate where sufficient off-street parking will be used, and identify all locations for offsite material deliveries. The plan will be approved by the city engineer prior to issuance of City permits and will be complied with at all times during construction.
- Implement a Transportation Demand Management Program using programs in compliance with the City/County Association of Governments of San Mateo County Guidelines for Trip Reduction. These programs, will be on-going throughout project construction. The plan may include those actions listed in the project trip reduction plan, including secure bicycle storage, shower changing facilities, guaranteed ride home program, information on transportation alternatives, carpool matching program, preferential parking for carpools/vanpools, employee transportation coordinator, TMA participation, parking reduction, carsharing, shuttle participation, flexible work hours/telecommuting, and an option to participate in the Caltrain GO Pass Program.

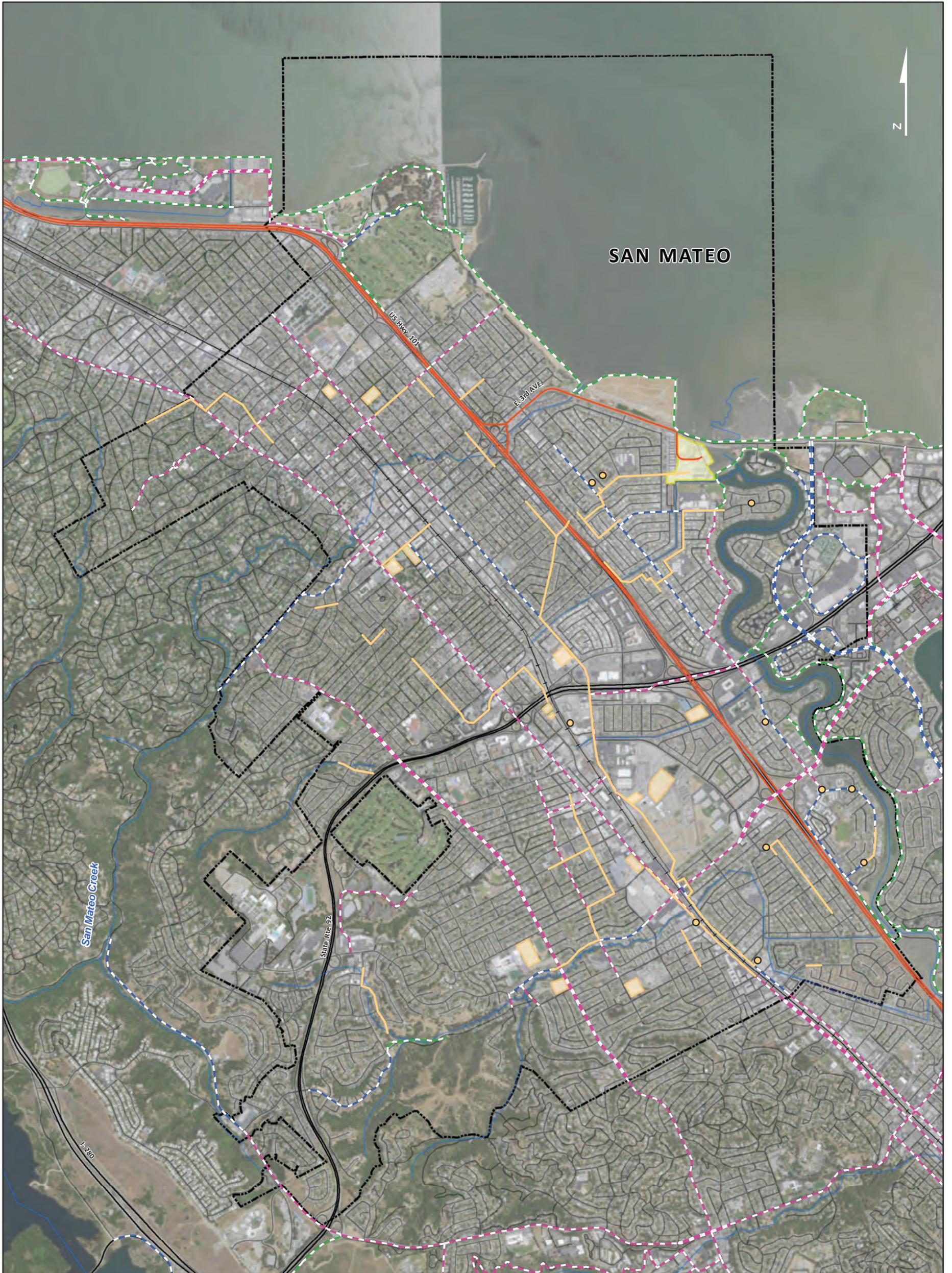
Signs would be provided to control traffic and assist with safety along CWP access routes and at designated road crossings. These signs will adhere to the MUTCD and will include regulatory signs (e.g., stop, speed limits, and yield) and warning signs and construction signs (e.g., temporary lane closures and flaggers). All signs will be maintained throughout CWP construction.

Public information will be distributed by using local news television and radio broadcasts, informational flyers and mailers, Web sites, and other outreach options. Signs would be installed and public notices would be distributed regarding construction work before disruptions occur; the notifications would identify

detours to maintain access. In addition, flagmen or escort vehicles would control and direct traffic flow, and work would be scheduled during periods of minimum traffic flow.

16.6 References

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- Urban Planning Partners, Inc. 2015. *The Lincoln Centre Life Sciences Research Campus Project Draft EIR*. April.



Legend

- Pump Station Project
- Pipeline Project
- In System Storage Location
- WWTP Site
- Program Area
- Designated Haul Route

Bicycle Routes

- Class 1 - Multi Use Path
- Class 2 - Bicycel Lane
- Class 3 - Signed Bicycle Route

- Railroad
- Watercourse
- Road

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



**FIGURE 16-1
Bicycle Network**

Programmatic Environmental Impact Report
City of San Mateo Clean Water Program

CH2MHILL.

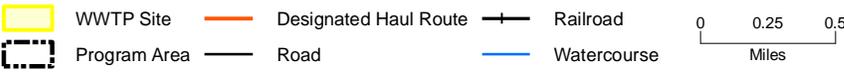
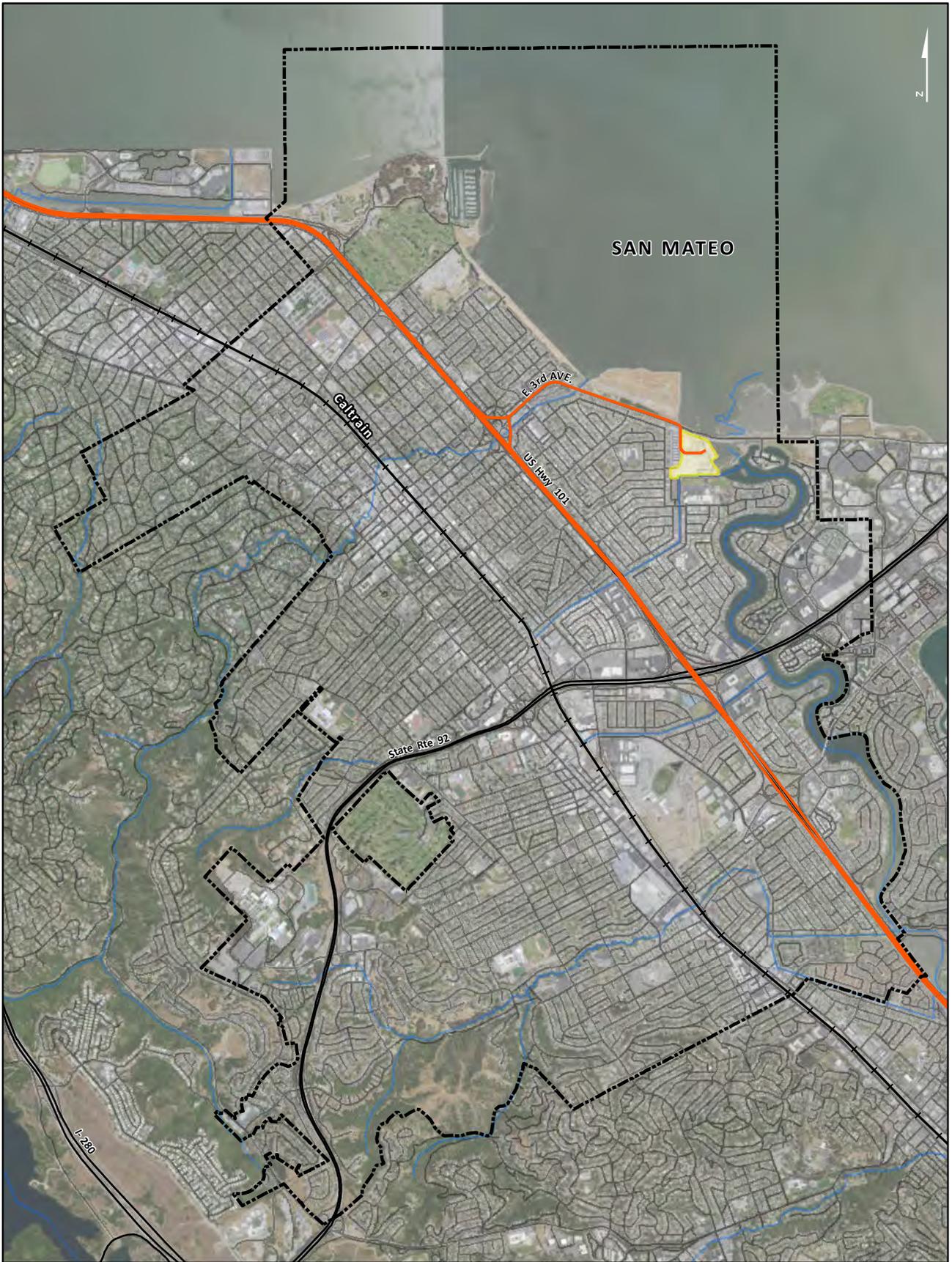


Figure 16-2
Transportation and Highway Network
 Programmatic Environmental Impact Report
 City of San Mateo Clean Water Program

Coordinate System: NAD 1983 UTM Zone 10N. Source: Esri Map Services, County of San Mateo, Metropolitan Transport Commission