

# Chapter 1. Introduction

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The City of San Mateo (City or San Mateo) is evaluating two potential Clean Water Program (CWP) alternatives, each consisting of a series of projects to upgrade and increase the capacity of its wastewater treatment plant (WWTP) and collection system. This chapter discusses the background and existing setting for the WWTP, its service area, and the objectives of the CWP. This chapter also describes the California Environmental Quality Act (CEQA) environmental review processes relevant to the CWP.

## 1.1 Background

San Mateo collects, conveys, and treats wastewater for the citizens of San Mateo. The City's collection system includes approximately 234 miles of sanitary sewer pipeline, 5,555 sewer manholes and 26 pump stations. The City's WWTP also treats wastewater from the following surrounding communities: Foster City and Estero Municipal Improvement District (EMID), Town of Hillsborough, City of Belmont, Crystal Springs County Sanitation District (CSCSD), and other portions of unincorporated San Mateo County. All of these communities are responsible for collecting and conveying their wastewater to the WWTP. Figure 1-1 shows the regional location of the City of San Mateo. Figure 1-2 shows the entire service area for the WWTP.

The San Mateo WWTP operates under a Joint Powers Agreement (JPA) between the City of San Mateo and the EMID. Foster City acquired an interest in the San Mateo WWTP to ensure adequate future treatment capacity. San Mateo currently owns approximately 75 percent of the San Mateo WWTP, and EMID owns approximately 25 percent. The original JPA (dated 1974) has been subsequently amended to address expansions and use by each party.

The City's collection system consists primarily of sewer pipes that have an average lifespan of 50 to 60 years; most of the sewer pipes were constructed between 1900 and 1960. Although the City's current minimum sewer diameter standard is 8 inches, approximately 60 percent of the existing collection system comprises pipes with diameters of 6 inches or smaller. The small diameter pipes likely contribute to a high number of dry weather blockages, because sewer mains less than 8 inches in diameter are typically susceptible to frequent blockages. San Mateo's 26 pump stations are located mostly in the eastern (flatter) half of the City to assist in the conveyance of wastewater to the WWTP. Some of the pump stations are also undersized.

There are other challenges to existing sewer pipe infrastructure. Prior to 1940, pipelines were often constructed in short pipe segments, requiring a higher number of pipe joints through which tree roots and water can infiltrate. Improvements in pipe joints occurred around 1960, reducing infiltration. Approximately 78 percent (944,200 linear feet) of the City's collection system was installed before 1960, with 26 percent (319,330 linear feet) installed before 1940.

The WWTP has a permitted capacity of 15.7 million gallons per day (mgd) for average dry weather flow (ADWF). The current ADWF is approximately 11 mgd. Future dry weather flows to the WWTP were projected using a per capita method. This method assumes that flows and loads will increase proportionally to the increase in population anticipated with future growth. With a 2010 census-based service area population of approximately 143,100, and assuming a 16 percent increase in population over the planning period, the 2035 service area population was estimated to be 166,400. Using this method, the 2035 ADWF was estimated to be 13.9 mgd (Carollo Engineers, Inc., 2014). The influent loadings are expected to increase similarly. Therefore, expansion of permitted capacity for dry conditions is not anticipated to be needed over the 20-year planning period.

The permitted peak wet weather flow (PWWF) for the WWTP is 40 mgd, based on secondary treatment capacity. However, flows often exceed 40 mgd during peak wet weather events. When flows exceed 40 mgd, primary and secondary effluent are blended for discharge of up to 60 mgd, which is the outfall capacity limitation. This 60 mgd limitation and the insufficient capacity of portions of the City's collection system have historically caused backups in the system, resulting in sanitary sewer overflows (SSO).

San Mateo has recently updated the collection system model to better estimate peak flows and to project flows through 2035. According to the 2014 model, the PWWF that would be conveyed to the plant in 2035 (assuming there is adequate conveyance), is projected to be 98 mgd (Carollo Engineers, Inc., 2014). To manage the PWWF, projects are needed that increase pump station capacity, upsize pipelines and relief lines in the collection system, and increase capacity at the WWTP.

As previously discussed, San Mateo provides wastewater treatment services to surrounding communities. These communities own and manage their own collection system infrastructure. EMID maintains the sanitary sewer collection and pumping system within Foster City. The CSCSD sanitary sewer collection system serves an unincorporated area of San Mateo County. The CSCSD uses the San Mateo County Department of Public Works personnel to maintain its collection system. Sewage from the CSCSD collection system flows through the Town of Hillsborough's collection system via the Crystal Springs/El Cerrito Trunk Sewer, and subsequently to the San Mateo WWTP. The majority of the sewage from the Hillsborough collection system also flows through Crystal Springs/El Cerrito Trunk Sewer before it is treated at the San Mateo WWTP. The remaining sanitary sewage from Hillsborough flows to the City of Burlingame WWTP.

The operation of the sanitary sewer collection system and WWTP is regulated by the San Francisco Bay Regional Water Quality Control Board (RWQCB). In March 2009, the RWQCB issued a Cease and Desist Order jointly to the City of San Mateo, the Town of Hillsborough, and the CSCSD mandating elimination of sanitary sewer overflows (SSO) in the collection system and requiring specific corrective actions. In response, the City developed a sewer system management plan that focuses on operation and maintenance of the treatment facilities and a capital improvement program (CIP) that primarily focuses on the collection system.

The WWTP was largely constructed from 1940 to 1980 and has many assets that are over 30 years old. Similar to most other Bay Area WWTPs, these aging assets are reaching the end of their useful service life, and rehabilitation or replacement is necessary. In November 2011, the City initiated the development of a WWTP plan to evaluate the facility needs for future growth, existing and future regulations, and replacement or repair of aging infrastructure. The results of the evaluation were documented in *The City of San Mateo Integrated Wastewater Master Plan* (Carollo Engineers, Inc., 2014), which identified projects and improvements needed to address current plant reliability issues, projected increases in wet weather flows reaching the plant, and increasingly restrictive regulatory requirements over the next 20 years.

The 2013 National Pollutant Discharge Elimination System (NPDES) waste discharge permit for the WWTP requires the elimination of "blending" (i.e., bypassing primary effluent around the secondary treatment process during wet weather flow events) by the year 2020. Eliminating blending requires increasing the capacity of the secondary treatment process. The NPDES permit also requires a reduction of infiltration and inflow (I/I) issues. In addition, the City anticipates future regulatory limits on total nitrogen and phosphorus that the existing WWTP cannot meet.

The 2013 WWTP operation permit issued by the RWQCB requires that CIPs for the collection system and the WWTP be coordinated. Carollo Engineers, Inc., prepared an integrated CIP that addresses flow projections through year 2035 (Carollo Engineers, Inc., 2014).

## 1.2 Clean Water Program Objectives

The CWP is a series of capital projects to upgrade and increase the capacity of the San Mateo WWTP and collection system to eliminate SSOs and meet current and future regulatory requirements. The following are specific objectives of the CWP:

- Provide adequate system capacity to efficiently convey and treat the PWWF.
- Meet current regulatory requirements regarding blending, SSOs, and I/I reduction.
- Meet anticipated future regulatory requirements, including total nitrogen and total phosphorous concentrations, pathogens, and recycled water use.

- Meet San Mateo’s sustainability objectives, including more efficient use of energy and recycled water.
- Provide space planning to support implementation of projects addressing the objectives above within the limitations of the sites available for WWTP facilities.

### 1.3 California Environmental Quality Act Environmental Review Process

This Draft Programmatic Environmental Impact Report (Draft PEIR) serves as the primary environmental compliance document for implementation of the CWP. Additional environmental review may be required for specific projects proposed within the CWP.

This document is both a PEIR and a project EIR because it studies both the CWP to be implemented over multiple years as a set of related projects and two individual projects currently defined in the CWP.

Pursuant to CEQA, a public agency should prepare a PEIR when it proposes a program or series of actions that are linked geographically; are logical parts of a chain of contemplated events, rules, regulations, or plans that govern the conduct of a continuing program; or are individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects that could be mitigated in similar ways. PEIRs generally analyze broad environmental effects of the program, acknowledging that site-specific environmental review may be required for portions of the program. Pursuant to CEQA, a project environmental impact report (EIR) examines the environmental effects of an individual activity or specific project and focuses on the changes in the physical environment that would result from its development.

As provided for in CEQA, the focus of this Draft PEIR is limited to specific issues and concerns identified by the City of San Mateo as potentially significant. A Notice of Preparation (NOP) of this Draft PEIR was circulated to the California State Clearinghouse, Estero Municipal Improvement District, Foster City, Town of Hillsborough, City of Belmont, City of Burlingame, Crystal Springs County Sanitation District, California Department of Public Health, Bay Area Air Quality Management District (BAAQMD), U.S. Army Corps of Engineers (USACE) Sacramento District, U.S. Fish and Wildlife Service, and NOAA Fisheries. The NOP was released to the public on March 2, 2015, for a 30-day review period. In addition, the NOP was provided in the Peninsula Examiner and the San Mateo Journal.

The NOP listed each issue identified as significant or potentially significant and would, therefore, require analysis in the PEIR. The purpose of the NOP was to solicit comments from the public and from public agencies on issues germane to that agency that should be considered in the PEIR. The NOP included a project description, project location, and the following list of resource areas proposed to be addressed in the PEIR: Land Use Plans, Transportation, Air Quality, Noise, Utilities, Public Services, Hydrology and Water Quality, Hazardous Materials, Geology and Soils, Biological Resources, Cultural Resources, Aesthetics, Public Services, Recreation, and Population and Housing. Members of the public were given an additional opportunity to comment on the scope of the PEIR at a Public Works Commission meeting on March 11, 2015, at San Mateo City Hall. Comments were submitted by the following agencies and individuals:

- The State Water Resources Control Board (SWRCB) sent a comment letter describing additional environmental review requirements if the City chooses to apply for Clean Water State Revolving Fund (SRF) grants. These requirements are discussed in several sections throughout this Draft PEIR.
- California Department of Transportation (Caltrans) sent a comment letter describing its criteria for traffic impact studies and related processes and permit for encroachments across the state highway system. Potential traffic and transportation impacts are discussed in Chapter 16, Transportation and Traffic.
- San Mateo County sent a comment letter requesting a copy of the public Draft PEIR.

- One individual, Mr. John Ebnetter, sent a comment letter requesting that the City’s design criteria and feasibility study consider a holistic approach to the wastewater system, including integrating the related issue of water supply (e.g., consideration of potable reuse). The wastewater system is addressed throughout this Draft PEIR in various ways; water supply is discussed in Chapter 17, Utilities and Service Systems.
- Three individuals provided oral comments at the meeting. The comments focused on the collection system improvements to optimize effectiveness and minimize costs, and how in-system storage could negatively affect neighborhoods and property values. Potential impacts on resources in neighborhoods are discussed throughout the Draft PEIR.
- Public Works Commissioners provided oral comments at the meeting. The comments included the extent of improvements to the in-system storage facilities, how in-system facilities would be maintained (e.g., for odor control), and the potential need to consider local sewer laterals in addition to larger sewer mains. The extent of improvements is described in Chapter 2, Program Description; odor control is discussed in Chapter 4, Air Quality. Alternatives to the CWP are discussed in Chapter 19, Alternatives.

## 1.4 Organization and Scope of Document

This Draft PEIR is organized to allow the reader to quickly and logically review a summary of the analysis, review the recommended mitigation measures, and identify the residual environmental impacts after mitigation, if any. The environmental setting and impact discussions are provided at the following scales, as appropriate and identified in the text:

- **Service area:** The geographic area for which the City of San Mateo provides wastewater treatment services; it includes the City of San Mateo, Foster City and EMID, Town of Hillsborough, City of Belmont, CSCSD, and other portions of unincorporated San Mateo County (see Figure 1-1).
- **Program Area or CWP Area:** The area where CWP projects would be constructed and operated, generally within the City of San Mateo.
- **WWTP Site:** The area in which wastewater treatment projects would be located, on or near the existing WWTP (see Section 2.2.2).

This Draft PEIR is organized into the following sections:

**Executive Summary:** Summarizes the Draft PEIR by providing an overview of the CWP. The environmental impacts that could result, mitigation measures that would reduce or eliminate those impacts, and alternatives considered.

**Chapter 1, Introduction:** Provides an overview that describes the intended use and organization of this Draft PEIR and some of the assumptions critical to the environmental analysis.

**Chapter 2, Program Description:** Describes the two CWP alternatives under evaluation and their individual projects to the degree currently defined.

**Chapter 3, Aesthetics:** Discusses the potential visual impacts the WWTP projects may have on the surrounding environment.

**Chapter 4, Air Quality:** Discusses the potential impacts of the Program alternatives on air quality, including odors due to the construction and operation of the CWP.

**Chapter 5, Biological Resources:** Discusses biological resources potentially present in the Program Area, applicable state and federal regulations, results of surveys, and potential impacts on biological resources.

**Chapter 6, Cultural Resources:** Discusses applicable regulations and the potential for cultural resources to occur in the Program Area.

**Chapter 7, Geology and Soils:** Describes the geology and soils in the Program Area and related impacts.

**Chapter 8, Greenhouse Gases:** Discusses state and local plans and policies, including the City’s Climate Action Plan (CAP) (Pacific Municipal Consultants, 2015), related to greenhouse gases (GHG) and estimates GHG emissions resulting from the CWP.

**Chapter 9, Hazards and Hazardous Materials:** Discusses the locations of known hazardous materials sites that may be in the Program Area, including hazardous materials sites compiled pursuant to government codes, and hazardous materials that will be used in CWP operations.

**Chapter 10, Hydrology and Water Quality:** Discusses regulations and standards for water quality and hydrology in the Program Area and potential impacts on those resources.

**Chapter 11, Land Use:** Discusses the potential issues related to zoning and *City of San Mateo General Plan – Vision 2030* (General Plan) land use designations.

**Chapter 12, Noise:** Describes General Plan policies and zoning codes related to noise and potential noise impacts from construction and operation of the CWP.

**Chapter 13, Population and Housing:** Discusses the expected increase in population and housing in the service area and potential impacts on population and housing as a result of the CWP.

**Chapter 14, Public Services:** Discusses the location of and potential impacts on San Mateo’s public services (e.g., fire, police, schools, and hospitals) as a result of the CWP.

**Chapter 15, Recreation:** Discusses the locations of and potential impacts on parks and recreation facilities in the Program Area as a result of the CWP.

**Chapter 16, Transportation and Traffic:** Discusses potential impacts on roadways, traffic, and alternative transportation in the Program Area as a result of the CWP.

**Chapter 17, Utilities:** Discusses potential impacts of the CWP on utilities (e.g., water, wastewater, solid waste, and energy) in San Mateo.

**Chapter 18, Other Required California Environmental Quality Act Considerations:** Discusses potential cumulative and growth-inducing impacts as a result of the CWP.

**Chapter 19, Alternatives:** Presents a reasonable range of alternatives to the CWP, an explanation of how those alternatives were selected, and compares the relative impacts of each alternative to those of the CWP.

**Chapter 20, Report Preparation:** Presents a list of contributors to this Draft PEIR.

**Appendices:** Includes documents relevant to preparation of this Draft PEIR.

## 1.5 Uses of this Document

Consistent with CEQA requirements, the purpose of this document is to:

- At a programmatic level, identify potential direct and indirect environmental impacts associated with two potential CWP alternatives.
- Describe mitigation measures that avoid potentially significant impacts or reduce them to a less-than-significant level.
- Identify and evaluate the potential for growth inducement due to the two potential CWP alternatives.
- Discuss potential alternatives that would avoid or reduce one or more of the identified significant impacts of the In-System Storage Program or the Full Conveyance Program.
- Provide project-level CEQA review for two CWP projects: New Headworks Project and Primary Clarifier Project.

After review, the City will consider this Draft PEIR in selecting one of the two CWP alternatives for implementation. When a CWP is selected and approved, individual projects would move forward for detailed design and construction. At the time the selected CWP is considered for approval, the New Headworks and Primary Clarifier Projects would also be considered for approval. No additional CEQA review for these two projects is anticipated after certification of the Draft PEIR. Prior to implementation of additional individual projects, each project would be evaluated for consistency with this Draft PEIR and, depending on the nature and extent of the project, additional CEQA evaluation may be needed. Project-level CEQA reviews, when needed, are expected to take the form of Negative Declarations, Mitigated Negative Declarations, or Categorical Exemptions. Additional EIR-level reviews are not expected, but could be necessary, depending on the potential for significant impacts from individual projects.

In addition, the City would use this document to provide required CEQA review for other discretionary decisions to support the CWP or for individual projects as they are proposed for implementation. Other agencies with regulatory authority over these projects would use this document when considering their independent regulatory actions. Specific approvals would depend on the project and location and may include, but are not limited to, the following:

- City of San Mateo (special use permit, site plan and design review [SPAR], grading or building permits)
- Foster City, Town of Hillsborough, San Mateo County (temporary or permanent easements or encroachment permits as needed)
- The RWQCB (Clean Water Act [CWA] Section 401 Water Quality Certification, CWA Section 401 NPDES, Construction General Permit)
- Bay Conservation and Development Commission (BCDC) Permit
- BAAQMD
- California Department of Fish and Wildlife (Fish and Game Code Section 1602 Lake or Streambed Alteration Agreement, Section 2081 Incidental Take Permit)
- California Department of Transportation (encroachment permit)
- U.S. Army Corps of Engineers (USACE) (CWA Section 404 Authorization for Fill of Waters or Wetlands of the U.S.)
- U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NOAA Fisheries) (Endangered Species Act consultation)
- Federal Emergency Management Agency (FEMA) (Conditional Letter of Map Revision, Floodplain Development Permit)

The City of San Mateo intends to apply to the Clean Water and Drinking Water State Revolving Fund Program for funding of some CWP projects. Environmental review that meets certain federal requirements must be completed to apply for funding. This Draft PEIR addressed the required environmental review elements for the New Headworks Project and Primary Clarifier Project.

## 1.6 Public Review and Comment

California Code of Regulations Section 15087 requires that a lead agency provide public notice of the availability of a Draft EIR at the same time it sends notice to the Office of Planning and Research. Notice was provided to the Office of Planning and Research and mailed directly to property owners within 500 feet of any proposed project location on October 20, as well as individuals and agencies that requested notice in writing and submitted written comments during the scoping period. Agencies and interested members of the public will have 60 days to review and provide comment on this Draft PEIR.

Written comments on the Draft PEIR will be accepted from October 20, 2015 to December 18, 2015, by fax to (510) 622-9203, email to [andrea.gardner@ch2m.com](mailto:andrea.gardner@ch2m.com), or U.S. Mail to the following address:

Andrea Gardner  
San Mateo City Hall  
Public Works Engineering PMO  
330 W. 20th Avenue  
San Mateo, CA 94403

A digital copy of the Draft PEIR is available for download on the Clean Water Program website at <http://www.cleanwaterprogramsanmateo.org/>. Hard copies are available for viewing at the following locations:

- City Hall, 330 West 20th Avenue
- San Mateo Main Library, 55 West 3rd Avenue (Reference Desk)
- San Mateo Marina Branch Library, 1530 Susan Court (Reference Desk)
- San Mateo Waste Water Treatment Plant, 2050 Detroit Drive.

Referenced materials used in the preparation of the Draft PEIR may be reviewed upon request to the City. CDs and hard copies are available for purchase.

A public hearing on the Draft PEIR will be held before the Public Works Commission on Thursday, November 12, 2015 at 7:30 p.m.

## **1.7 Final Environmental Review Process**

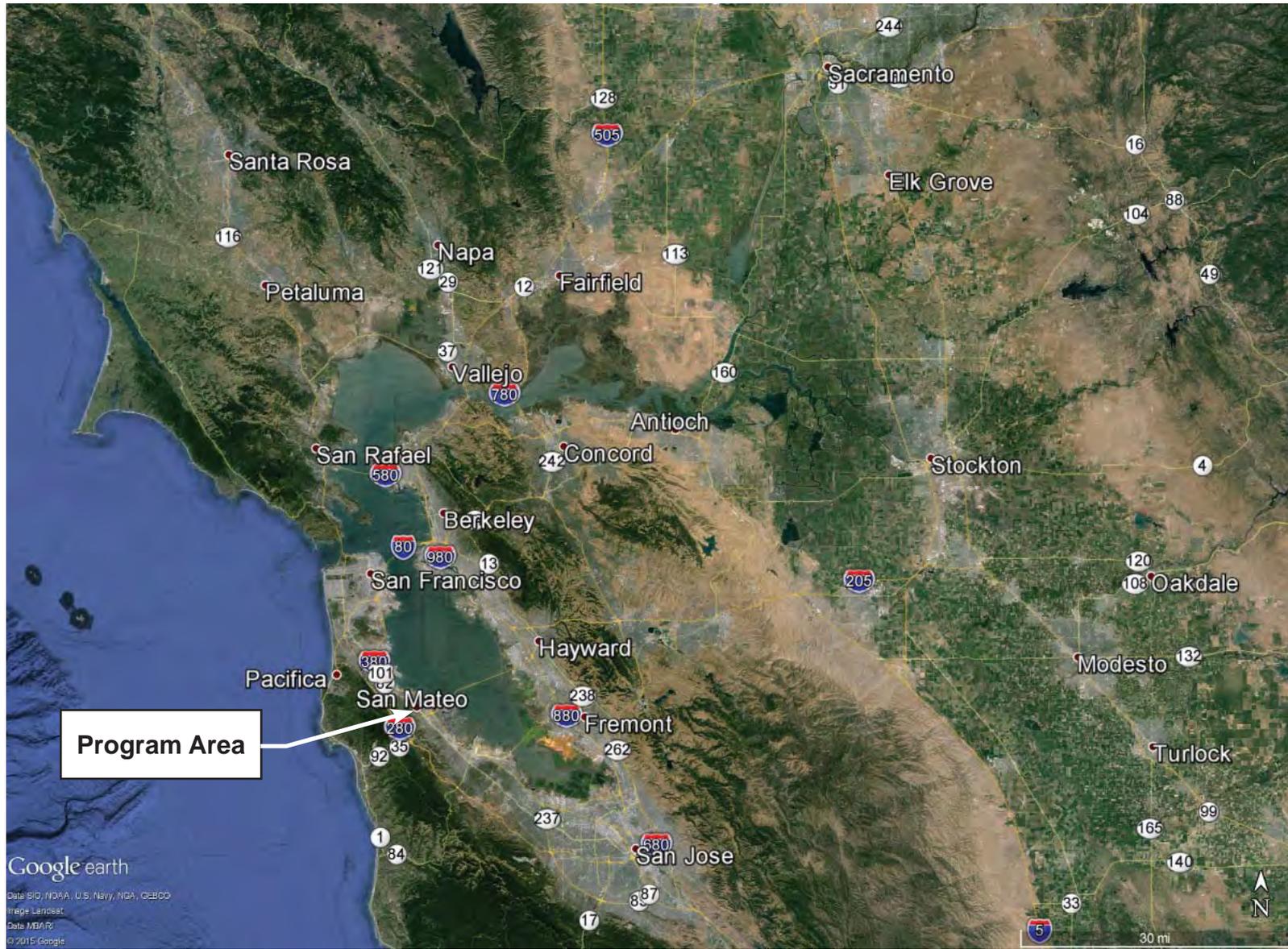
The Draft PEIR was circulated for public review from October 20, 2015, to January 22, 2016, for a total public review period of 94 days, exceeding the 45-day review period required by CEQA. Three separate public hearings were held (November 13, 2015, December 9, 2015, and January 13, 2016) to receive oral comments on the Draft PEIR. Copies of the document were distributed to state, regional, and local agencies, as well as organizations and individuals for review and comment.

In accordance with CEQA Guidelines §15088(a), the City has reviewed and evaluated the comments received on the Draft PEIR, and has prepared written responses to comments received (see Appendix F). Text changes resulting from comments on the Draft PEIR as well as staff-initiated changes are included throughout the Final PEIR. Deletions are shown in ~~striketrough~~, and insertions are shown in underlined text. A summary of all text changes is provided in Appendix G.

Comments and responses do not add any new significant information or result in any new significant impacts that were not previously identified. Once the City certifies that the document is complete and adequately addresses all potential environmental impacts associated with implementation of the CWP, the City will adopt the program alternative that is intended for implementation.

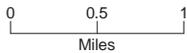
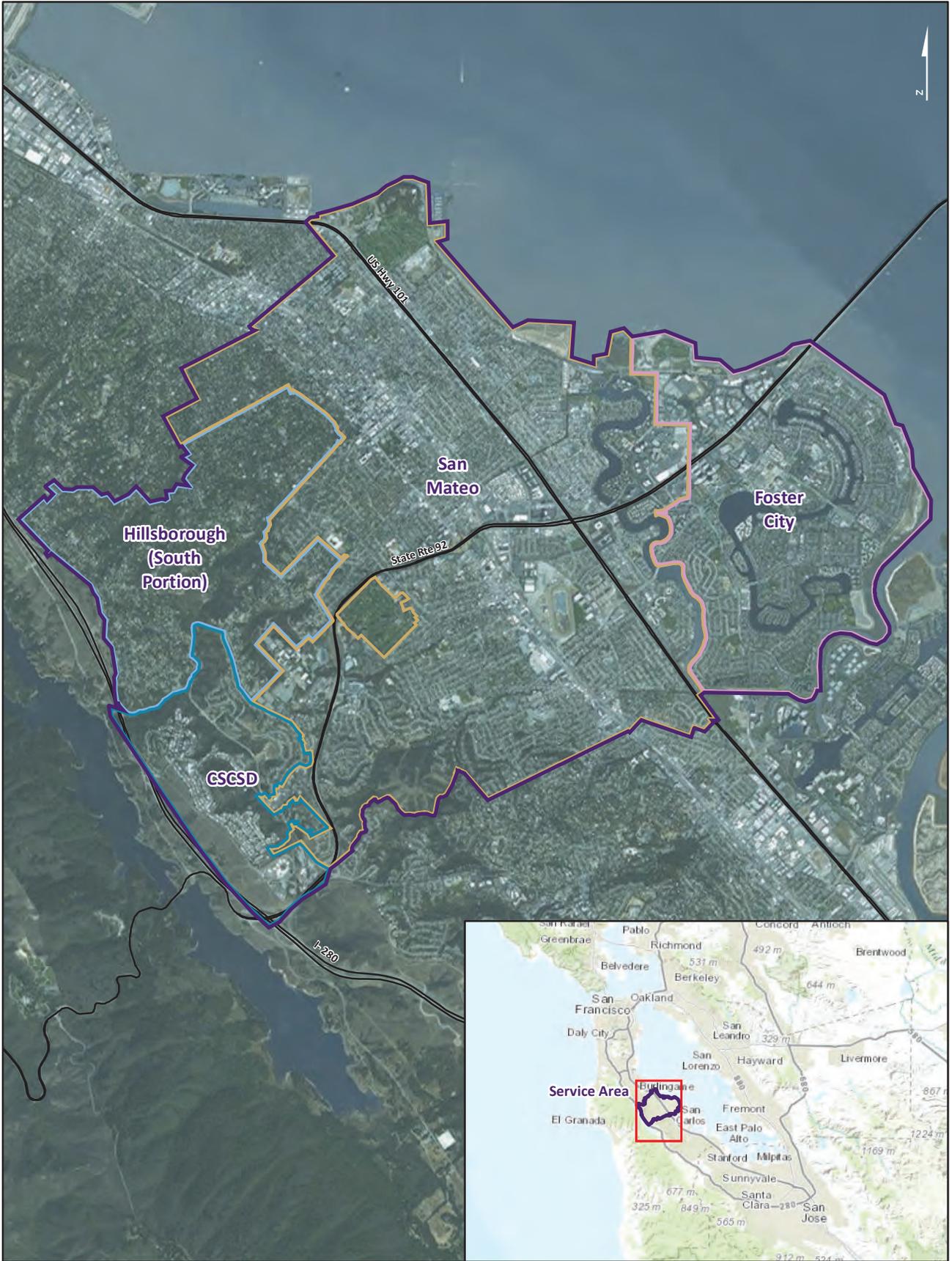
### **1.7.1.8 References**

- Carollo Engineers, Inc. 2014. *City of San Mateo Integrated Wastewater Master Plan*. Prepared for City of San Mateo. October.
- City of San Mateo. 2010. *City of San Mateo General Plan – Vision 2030*. Resolution No. 134-2010. Adopted by the City Council on October 18.
- Pacific Municipal Consultants. 2015. *City of San Mateo Climate Action Plan*. Prepared for City of San Mateo. February.



Aerial from Google Earth Pro © 2015. Additional information added by CH2M.

**FIGURE 1-1**  
**Regional Map**  
*Programmatic Environmental Impact Report*  
*San Mateo Clean Water Program*



**Figure 1-2**  
**Service Area**  
 Programmatic Environmental Impact Report  
 City of San Mateo Clean Water Program

Source: Esri Map Services, County of San Mateo