4.11

Utilities and Service Systems

This chapter describes existing conditions and the regulatory setting related to utilities and service systems, including stormwater drainage and capacity, water, wastewater treatment, solid waste and energy, and the potential environmental impacts of the Specific Plan.

Physical Setting

Stormwater Drainage

The City of Oakland is responsible for the construction and maintenance of the local storm drainage system, while the Alameda County Flood Control and Water Control District (ACFCWCD) constructs, operates, and maintains major trunk lines and flood control facilities in Oakland. Existing stormwater drainage facilities within the Planning Area are shown in **Figure 4.11-1**.

Regional Stormwater Drainage

The City of Oakland is within ACFCWCD Zone 12 (which also includes Emeryville), the largest of the District's zones. Zone 12 has approximately 50 miles of closed conduit, approximately 10 miles of earthen and concrete channels, as well as the existing natural waterways which move stormwater to the San Francisco Bay.

West Oakland is part of a drainage basin that flows to a pump station located at the intersection of Ettie and 34th Streets. While the piping network is a City facility, the pump station itself is owned and operated by ACFCWCD. The pump station was installed by the City of Oakland in 1954 and was taken over by the District in 1997. It includes 6 working pumps capable of pumping just over 500,000 gallons per minute (gpm). There is an additional "jockey" pump that is used to de-water the system for maintenance and to clear summer irrigation run-off. The station is equipped with a back-up generator system, an automatic trash conveyance system to keep debris from affecting the pump propellers, and a supervisory control and data acquisition (SCADA) system through which Alameda County Public Works Agency personnel are immediately contacted in the event that the pump experiences a problem. The station is inspected annually, and all of the pumps within the station have been overhauled within the last 10-years. There has never been flooding in the area as a result of the pump failing.[1]

[1] BKF Engineers, *Industrial District Strategy Support Public Infrastructure Report, Mandela Parkway/3rd Street Corridor Commercial Industrial Zones*, (West Oakland Infrastructure Report), March 2011

Source: JRDV Intl., West Oakland Infrastructure Report, BKF Engineers

Figure 4.11-1
Primary Storm Drainage Facilities, West Oakland Planning Area

Local Storm Drain System

Stormwater runoff within West Oakland is conveyed by gravity through storm drain pipes to the ACFCWCD Ettie Street Pump Station, located at the northern end of Ettie Street near I-580, where the stormwater is lifted and discharged to the Bay. Pipe diameters ranging from 10 inches to over 36 inches in diameter are typical throughout the area. Larger pipes of various shapes (box, circular, elliptical, and egg-shaped) serve as connectors in the east-west direction along several numbered streets, such as 34th, 28th, 24th and 18th Streets, and two north-south connectors, Wood Street and Cypress Street. These larger connectors terminate either at the 96-inch reinforced concrete pipe (RCP) along Ettie Street or at the Ettie Street Pump Station, from where stormwater is lifted up and conveyed to the San Francisco Bay by gravity through a double 6 foot by 10 foot reinforced concrete box culvert and through one pressure line. The flow in the majority of the storm drains follows the natural drainage pattern of the terrain, generally east to west and south to north.

The City's 2006 Storm Drainage Master Plan estimated that over 30 percent of the existing storm drains in the city are in need of repair. It is generally assumed that the storm drain system in any development area is aged and would not be able to handle increased surface runoffs. Proposed development would need to be reviewed for pipe upsizing or rehabilitation, with costs borne by the developer.

The City of Oakland Storm Drainage Master Plan[2] estimates that 30% of the existing storm drainage conduits and all of the storm drainage structures within West Oakland are in need of rehabilitation. The Master Plan also indicates that system capacity upgrades are also needed throughout West Oakland, especially within the commercial and industrial area corresponding to the West Grand/Mandela and 3rd Street Opportunity Areas.

According to the West Oakland Infrastructure Report,[3] streets within the Mandela/Grand and 3rd Street Opportunity Areas are fairly flat and experience extensive ponding of stormwater runoff. With potential surface improvements and higher levels of industrial and residential uses in these areas, the ponding areas could become more problematic. The existing storm drainage system networks leave many individual street sections without a dedicated line. Most of these sections are far too long and flat for run-off to reasonably be conveyed to either end of the street. As the area improves, underground storm drain lines should be added to several of these street sections. Additional storm drainage structures, including conduit, would be a way to mitigate both of these issues.

Water

The East Bay Municipal Utility District (EBMUD) serves all of Oakland, including the Planning Area, with potable water, and also serves portions of the city, including the Planning Area, with recycled water. EBMUD uses its Water Supply Management Program 2040 (WSMP 2040) to assess water supply and demand over a 30-year planning period. The following water supply information was derived primarily from the EBMUD WSMP 2040.

2 CH2MHill, *City of Oakland, Storm Drain Master Plan*, 2006

3 BKF Engineers, March 2011

Water Supply

Current Water Supply and Demand

EBMUD obtains approximately 90 percent of its water supply from the Mokelumne River watershed, and transports it through pipe aqueducts to temporary storage reservoirs in the East Bay hills. EBMUD has water rights and facilities to divert up to a daily maximum of 325 million gallons per day (mgd) from the Mokelumne River.[4] However, this allocation may be constrained by the rights of other users of Mokelumne River water, EBMUD's ability to store water, and the amount of Mokelumne River runoff. The remaining 10 percent of EBMUD's water supply originates as runoff from protected watershed lands in the East Bay hills, and is approximately 15 to 25 mgd during normal years, but is reduced to near zero during drought conditions.

Raw (untreated) water from Pardee Reservoir travels approximately 90 miles through the Pardee Tunnel, the Mokelumne Aqueducts, and the Lafayette Aqueducts to East Bay water treatment plants and terminal reservoirs. Water not immediately put through water treatment and distributed is stored in five terminal reservoirs: Briones, Chabot, Lafayette, San Pablo, and Upper San Leandro reservoirs. The five terminal reservoirs regulate the Mokelumne River supply in winter and spring, augment water supply with local runoff, and provide emergency sources of supply during extended drought or in the event of water supply facility outage. Briones, San Pablo and Upper San Leandro reservoirs supply water to EBMUD throughout the year; Chabot and Lafayette reservoirs serve mostly as emergency sources of supply. Seismic upgrades have been performed throughout EBMUD's system, most notably at San Pablo Dam, the largest and most vital of EMBMUD's local water storage reservoirs.

EBMUD's normal year water supply for 2005 was 222 mgd.[5] Water consumption has remained relatively constant in recent years despite continued growth and development within its service area due to increased conservation and use of recycled water. According to the WSMP 2040, the 2010 average daily water demand within EBMUD's service area was estimated to be 251 mgd. Adjusting that number to account for conservation and recycled water program savings results in an adjusted 2010 demand estimate of approximately 216 mgd.[6]

Future Year Water Supply and Demand

The WSMP 2040 includes projections of potable water demands through 2040. These future year water demands were calculated using existing and future demands for various land use categories and future changes in land use as described in the respective general plans of communities within the EBMUD service area. Based on information for residential and non-residential land use categories, EBMUD forecasts that unadjusted water demands would be 304 mgd by 2030, but with conservation measures and recycled water use the adjusted water demand would be approximately 229 mgd. By 2040, unadjusted water demand is projected to be 312 mgd and adjusted demand would be 230 mgd.[7] The WSMP 2040 demand projections were developed before the economic recession which began around

[4] EBMUD, *Water Supply Master Plan* 2040, October 2009.

[5] EBMUD, *Water Supply Master Plan 2040,* October 2009.

[6] EBMUD, *Water Supply Master Plan 2040,* October 2009. Table 4-2, p. 4-8.

[7] Ibid.

December 2007. EBMUD now anticipates that demand will increase more slowly than anticipated in the WSMP 2040.[8]

The WSMP 2040 includes a "portfolio" of options, including supplemental water supply sources, conservation, recycling and water rationing, to satisfy water demand through 2040, including during drought years. The "portfolio" strategy is meant to be open and flexible, with different options to be pursued over time, based on which elements of the portfolio are the most feasible for implementation. These portfolio components include:

- Increased water conservation (the WSMP 2040 set a goal of demand reduction through conservation of up to 39 mgd);
- Increased production and use of recycled water (reduction of up to 20 mgd);
- Managed water rationing during years of prolonged drought (a rationing level of 15 percent to allow flexibility to respond to emergencies and unknown factors); and
- Supplemental water supply sources (including Northern California water transfers, the Bayside Groundwater Project, Sacramento Basin and San Joaquin groundwater banking and exchanges, regional desalination projects and reservoir expansions). The recently completed Freeport Regional Water Project will supply 100 mgd for use by EBMUD.

The combination of these water supply options, implemented over time, is expected to satisfy increased demand through 2040, even during multiple drought year conditions.[9]

Water Treatment, Storage and Distribution Facilities

Water Treatment

There are six water treatment plants in the EBMUD water supply and distribution system. Combined, the six plants have a treatment capacity of over 375 mgd. The Orinda Treatment Plant supplies water to portions of Oakland, including the Planning Area. The Orinda Treatment Plant has the largest output of EBMUD's treatment plants with a peak capacity of 200 mgd, and is currently operating at approximately 70 percent of capacity.[10] Water is subject to coagulation, filtration and disinfection prior to being distributed to the public.

Water Distribution System

EBMUD owns and maintains the water distribution mains that provide water service in West Oakland. The water distribution system in Oakland is divided into pressure zones covering approximately 200-foot elevation ranges. Water pressure is generally adequate throughout the city, ranging from 40 to 130 pounds per square inch (psi), but pressure may be reduced in some locations with older water mains if they are not sized based on current standards or have lost capacity due to deterioration.

The Planning Area is located within the EBMUD Central Pressure Zone, which provides water service to customers within an elevation range of 0 to 100 feet, by gravity with a residual water pressure between

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8 City of Oakland, *Housing Element of the General Plan Draft EIR*, August 2010, p. 6-3.

9 EBMUD, *Water Supply Master Plan 2040,* October 2009, p. 6-53.

10 East Bay Municipal Utility District, *Daily Water Supply Report,* August 5, 2005. Accessed at: www.ebmud.com/water_&_environment/water_supply/daily_reports/default.htm.

40 and 70 psi. Water from the Orinda Treatment Plant is stored in the Central Reservoir and Dunsmuir Reservoir, from where it flows via gravity throughout the EBMUD water distribution system.

Figure 4.11-2 shows existing water facilities in the Planning Area. Only larger transmission mains are shown; there are also many smaller distribution mains and laterals. The Planning Area is served by a network of transmission and distribution lines ranging from 2 inches to 36 inches in diameter. There are two transmission lines with diameters of 36 inches, one runs north on West Street, west on 34th Street, and north again on both Market Street and Hollis Street (two separate mains); the second 36-inch transmission line runs west on 9th Street, north on Market Street, west on 10th Street, and north on Adeline Street, then branching into several smaller transmission lines. Three 24-inch pipes extend through the Planning Area on 34th Street, 14th Street, and 5th Street, continuing into the former Oakland Army Base and the Port of Oakland. Distribution mains are located on every street throughout the Planning Area, typically 6 or 8 inches in diameter.

According to EBMUD staff, because the existing water distribution system within the Opportunity Areas was sized to accommodate the higher water usage of West Oakland's historically heavy industrial and manufacturing uses, the system has more than enough capacity to accommodate mixed-use development under the proposed Specific Plan. In addition, EBMUD monitors the capacity and condition of the system and makes needed upgrades, with costs typically borne by developers. Service to new development would likely require reassessment and upsizing of conduits, especially if the pipe length is greater than 1,000 feet to the nearest transmission line.

Recycled Water

Recycled water has been used by EBMUD since the 1960s. This water is drawn from wastewater treatment plants or untreated water reservoirs and used for landscape irrigation, and industrial and commercial applications. EBMUD projects use of 14 mgd of recycled water by 2020 and 20 mgd by 2040.[11] The potential supply of EBMUD recycled water from its Main Wastewater Treatment Plant in Oakland far exceeds this projected demand. Recycled water therefore provides a stable source of non-potable water not subject to rationing for landscape irrigation and other potential uses.

The Planning Area is located within the area served by the East Bayshore Recycled Water Project. This project provides up to 2.3 mgd of recycled water, from the EBMUD Main Wastewater Treatment Plant to Alameda, Albany, Berkeley, Emeryville and parts of Oakland. Within the Planning, the primary recycled water transmission main is found traversing west from 7th Street then north on Mandela Parkway into Emeryville (and other cities to the north). Smaller distribution pipelines are found on 16th Street and Willow Street.

EBMUD considers reuse of pipelines, reservoirs, and other facilities which are no longer needed by other utilities for distributing recycled water to customers. However, they have found that it is more economical to install a separate plumbing system for new projects during initial construction than it is to return at a later date to retrofit for the project.

Fire Flow

The Oakland Fire Department maintains a fire flow standard within the Planning Area of 1,500 gallons per minute (gpm) for a duration of two hours, with a local residual pressure of 65 psi.

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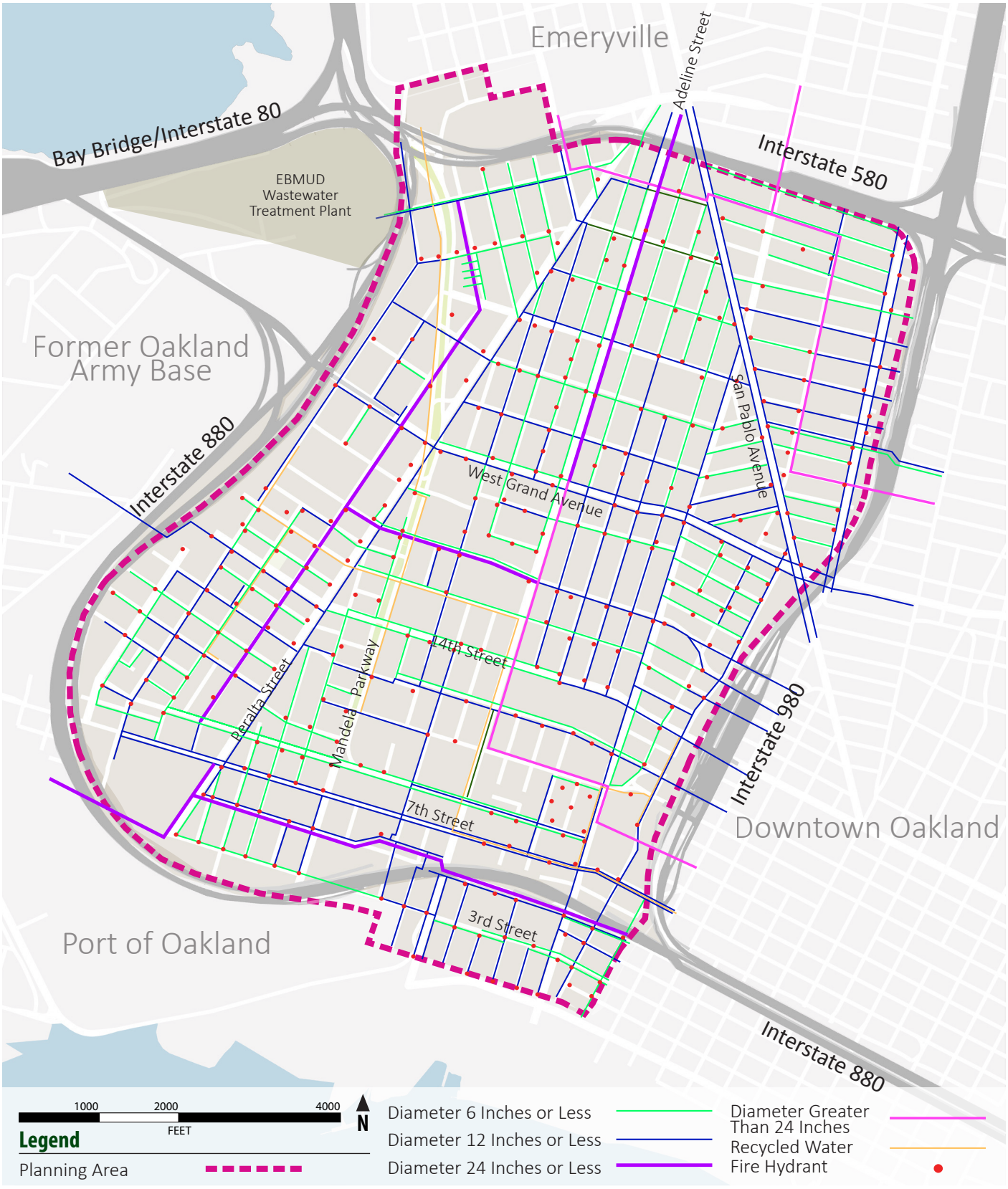
[11] City of Oakland, Oakland General Plan Land Use and Transportation Element Draft Environmental Impact Report State Clearinghouse No. 97062089, 1998, p. III.D-3.



Source: JRDV Intl., West Oakland Infrastructure Report, BKF Engineers

Figure 4.11-2
Primary Water and Reclaimed Water Facilities, West Oakland Planning Area

Wastewater (Sanitary Sewer)

Wastewater service within the Planning Area is provided by the City of Oakland's sewage collection system of mains and laterals, which connects to EBMUD's interceptor system, which transports sewage to EBMUD's Main Wastewater Treatment Plant (MWWTP), located northwest of the Planning Area immediately southwest of the I-80/I-880/I-580 interchange.

City of Oakland Wastewater Collection System

The City of Oakland owns, operates, and maintains a local sanitary sewer collection system covering approximately 48 square miles, and includes over 930 miles of sanitary sewer lines, 31,000 structures and seven pump stations, serving a population of about 400,000 people throughout the City. Many of the lines pre-date 1938.[12]

Sewer system maps for the Planning Area obtained from the City of Oakland (see **Figure 4.11-3**) indicate that the sewer pipes are in poor condition. Many laterals are shown as "plugged" or "abandoned", while for others there is no available data (diameter, flow direction, material, etc.). Where information is available, sewer main pipe diameters range from 8 inches to 18 inches, with larger pipes in the main thoroughfares, such as West Grand Avenue, Peralta Street and San Pablo Avenue.

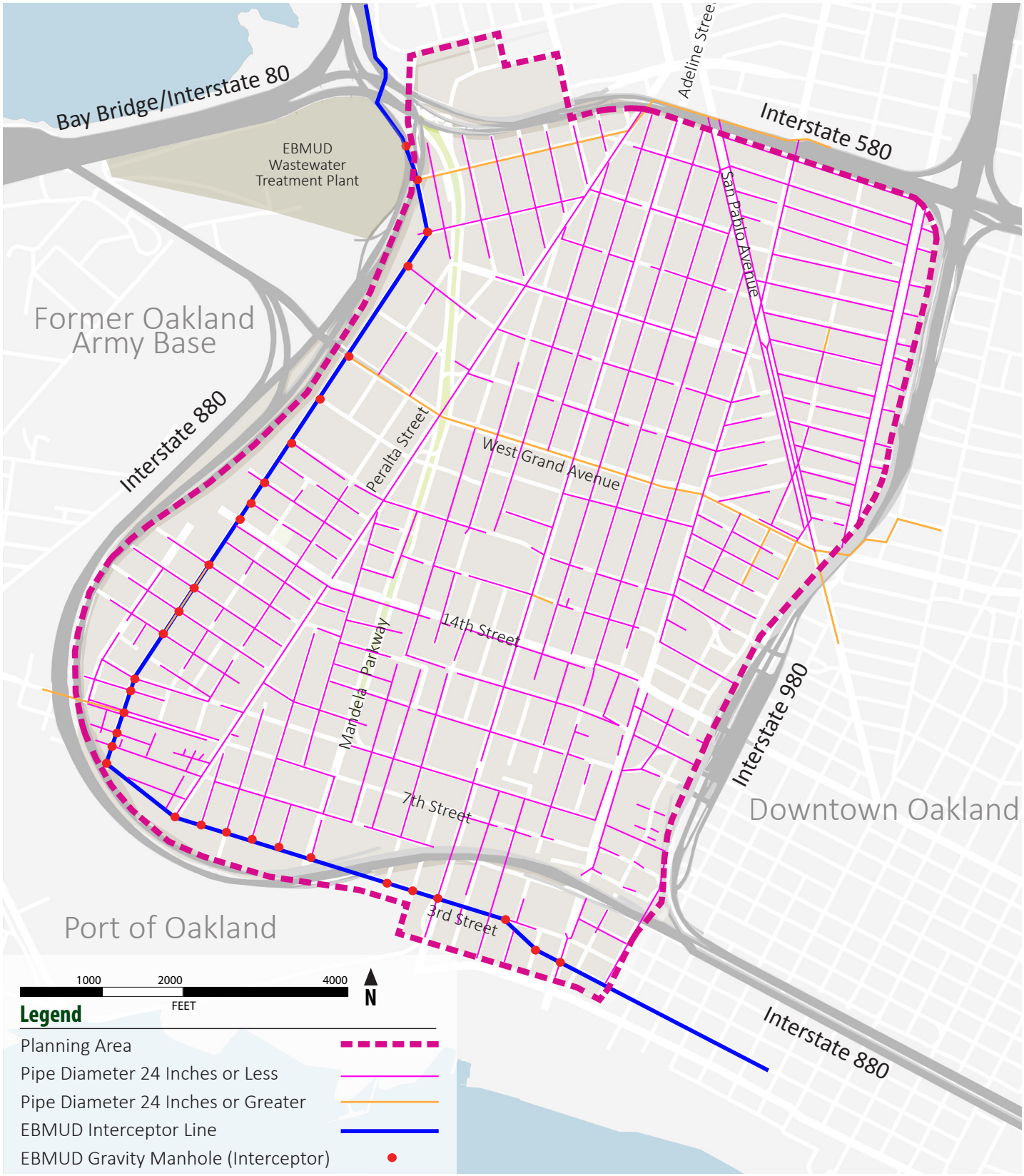
Sub-Basin Allocation System

Pursuant to the City's Sanitary Sewer Evaluation System Program, Oakland's sewer collection system is divided into basins and sub-basins. Each numbered sub-basin encompasses a specific physical area and its sewer flows are assigned to a single discharge point from the City's collection system into EBMUD's interceptor lines. Each sub-basin is allocated a certain amount of sewer flow, and flows within a sub-basin normally may not exceed that allocation. Should a sub-basin require more flow than its allocation, allocations may be redirected between adjacent sub-basins. In total, however, flows for the larger sewer basin may not exceed that basin's allocation. Using sub-basin flow data from the Oakland Public Works Department, EBMUD ensures that the capacity of the wastewater transport and treatment system is adequate to serve development. The program allows an approximately 20 percent increase in wastewater flows for each sub-basin to accommodate projected growth. Projected flow increases must stay below the base flow increase allowance for each sub-basin of the system.

All new development or redevelopment projects would require an impact analysis to ensure that the existing sewer system has enough hydraulic capacity to accommodate the proposed development. The City's capacity improvement program is focused only on the trunk system assuming that the local mains comprising the remainder of the system have sufficient capacity. If the net increase in wastewater flow is within the program's projections, then only the local mains serving the development need to be evaluated. If a proposed development's net increase in wastewater flow exceeds the program's projections, both the local and trunk systems, as well as regional facilities, need to be evaluated.

A mitigation fee is assessed on all new development or redevelopment in sub-basins that have a growth rate greater than 20 percent. The City of Oakland Master Fee Schedule authorizes the assessment of the Sewer Mitigation Fee, which is specific to each proposed development based on an engineering analysis and represents the development's proportional share of the cost of improvements needed to accommodate the additional growth within the sub-basin.

[12] City of Oakland, Oakland General Plan Land Use and Transportation Element Draft Environmental Impact Report State Clearinghouse No. 97062089, 1998, p. III.D-8.



Source: JRDV Intl., West Oakland Infrastructure Report, BKF Engineers

Figure 4.11-3
Primary Wastewater Facilities, West Oakland Planning Area

Inflow and Infiltration Correction Program

A Sanitary Sewer Evaluation Survey conducted by the City measured average and peak flows from sewer sub-basins throughout the City. Within much of West Oakland, groundwater infiltration and rainfall dependent inflow (collectively referred to as "I/I") appears to contribute roughly 80% of the total peak wet weather flow. The remaining 20% consists of actual sewage. Much of this system is antiquated and likely constructed with vitrified clay pipe (VCP), making it susceptible to cracking and vulnerable to failure.

The City's Inflow and Infiltration Correction Program, mandated under the City's sanitary sewer discharge permit with the Regional Water Quality Control Board, is substantially decreasing the amount of inflow and infiltration into the City's sewer pipes and increasing the capacity of the collection system. With the completion of this 25-year program, the City's wastewater collection system will have sufficient capacity to accommodate the 20 percent growth anticipated at the time of the initial program study.

Improvements are funded by a sewer service charge fund, which is a fixed fee for single family and apartment dwellings, and water usage-based fee for commercial and industrial users.

EBMUD Interceptor System

The City's sewage collection system discharges into EBMUD's sewer interceptor system. The EBMUD sewer interceptor system comprises approximately 29 miles of large diameter pipeline, ranging in size from 9 to 12 feet in diameter. The wastewater system in the Planning Area is part of EBMUD's Special District No. 1 (SD-1), which treats domestic, commercial, and industrial wastewater for several East Bay cities. Wastewater from the Planning Area is collected into the 42-inch South Interceptor. An EBMUD Wastewater Pumping Station then pumps the wastewater to EBMUD's Main Wastewater Treatment Plant (MWWTP).

Infiltration of stormwater into the aging sanitary sewer system from misconnections, cracks, and other imperfections in system pipes, joints and manholes can cause a 10-fold increase in the volume of wastewater that reaches EBMUD's sewer interceptor pipes and the MWWTP. During wet weather when heavy rainfall overwhelms the collection and treatment system, flows have at times exceeded the capacity of the MWWTP, resulting in discharges of untreated wastewater into San Francisco Bay. EBMUD reached a settlement in January 2009 with the Environmental Protection Agency (EPA) and the State Water Resources Control Board to address inadequately treated sewage discharges into San Francisco Bay during large storms. This settlement requires EBMUD to repair leaking private sewer pipes, improve maintenance, and deploy flow meters to identify areas with high wet weather sewage flows and needed repairs. EBMUD uses its interceptor system master plan last updated in 2008 survey and its 1998 Wastewater Pump Stations Master Plan to prioritize rehabilitation projects for inclusion in the District's Capital Improvement Program (CIP). The City of Oakland's 25-year Inflow and Infiltration Correction Program also reduces stormwater and helps eliminate wet weather overflows.

EBMUD has two interceptors within the Planning Area: the South Interceptor runs east-west on 3rd Street and the North Interceptor runs along Wood Street and terminates at the MWWTP. The North Interceptor also conveys raw sewage from the South Interceptor, as well as from Pump Station "K" on 7th Street (serving portions of the Port of Oakland).

Wastewater Treatment

The average annual daily flow into the MWWTP is approximately 80 mgd.[13] The MWWTP has an average dry weather flow design capacity of 120 mgd. During peak wet weather events, the MWWTP has a primary treatment capacity of up to 320 mgd and a secondary treatment capacity of 168 mgd. Maximum flow can exceed capacity during storms due to infiltration of stormwater into sanitary sewage pipes. The MWWTP can provide capacity for a short-term hydraulic peak of 415 mgd through operation of an on-site wet weather storage basin, as well as two wet weather treatment facilities (WWF) in Oakland (the San Antonio Creek WWF and the Oakport WWF).[14] EBMUD also operates a water recycling facility at the MWWTP that treats wastewater for non-potable uses. There are no current plans to expand wastewater treatment capacity.

Treated effluent is discharged from the MWWTP to San Francisco Bay south of the Bay Bridge approximately one mile from the East Bay shoreline via a 102-inch diameter deep water outfall pipeline.[15] EBMUD discharges in compliance with conditions of permits granted by the San Francisco Bay Regional Water Quality Control Board (RWQCB) under the NPDES program.

The MWWTP and interceptor system have adequate dry weather capacity to treat wastewater flows from future development. EBMUD's projections for future flows at the MWWTP are based on assumptions about future development within its service area. In areas considered to be fully developed, including Oakland, a 20 percent increase in sanitary flow was assumed.

Solid Waste

Solid waste and yard trimmings within Oakland are collected by Waste Management of Alameda County. These materials are taken to the Davis Street Transfer Station in San Leandro. The Transfer Station, which has a maximum allowable capacity of 5,600 tons of waste per day, received an average of 3,028 tons per day in 2003.[16] The facility can process up to 320 tons per day of concrete, asphalt, dirt, bricks, wood and metal.

In 2009, Oakland disposed of approximately 306,839 tons of solid waste, 264,636 tons of which went to the Altamont Landfill.[17] Most of the remaining solid waste is sent to one of four landfills: Forward Landfill in San Joaquin County; the Keller Canyon Landfill in Contra Costa County, Potrero Hills Landfill in Solano County, and the Vasco Road Landfill in Alameda County.

The Altamont Landfill has a permitted maximum daily disposal of 11,500 tons per day. The landfill comprises approximately 2,170 acres (480 acres permitted landfill area) and has a permitted maximum disposal capacity of 11,150 tons per day and an average input of 7,505 tons per day. The Altamont Landfill is projected to have sufficient capacity to operate until at least 2031, and potential to operate through 2071, depending on waste flows and waste reduction measures.[18] The official closures dates of the Altamont and Vasco Landfills are 2025 and 2019, respectively, as stated on each of their permits.

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13 East Bay Municipal Utility District, Wastewater Treatment, http://www.ebmud.com/wastewater/treatment/.

14 East Bay Municipal Utilities District, Urban Water Management Plan, 2000, p. 5-30.

15 EBMUD, 2001.

16 Alameda County Waste Management Authority, Alameda County Integrated Waste Management Plan, February 26, 2003.

17 CalRecycle, 2011

18 Ibid.

However, increased diversion rates and the downturn of the economy could result in extended closure dates as new capacity estimates are generated annually. Alameda County's Integrated Waste Management Plan, prepared by the Alameda County Waste Management Authority (ACWMA) pursuant Assembly Bill 939, projects long-term landfill capacity by projecting Alameda County disposal tonnage at the Altamont and Vasco Road Landfills through 2050.[19] The most recent disposal tonnage projections are conservative in that they are based on 2007 actuals and do not account for impacts from economic cycles. According to these projections, Vasco Road Landfill tonnage is assumed to divert to Altamont Landfill in the year 2023. The Altamont Landfill capacity is projected to be reduced to 1,439,630 tons in the year 2049.

The City provides curbside recycling within the Planning Area. Recyclable materials include glass, aluminum and tin, motor oil, cardboard, magazine, newsprint, and plastic. Recyclable materials are delivered to the Davis Street Transfer Station, where they are processed. Construction and demolition debris is normally hauled by contractors or construction companies to asphalt and concrete recycling centers in Oakland or to the Vasco Road Landfill north of Livermore.

AB 939, enacted in 1989, requires the Source Reduction and Recycling Element of each city and county to include an implementation schedule to divert at least 50 percent of solid waste from landfill disposal by the year 2000, and at least 75 percent by 2010. The California Department of Resources Recycling and Recovery (CalRecycle) indicates that the Oakland's diversion rate was 59 percent in 2006.[20] Oakland's per resident disposal target rate is 5.8 pounds per person per day (PPD) and its per employee disposal target rate is 15.3 PPD. In 2008, the most recent year for which data is available, the measured disposal rate was 4.0 PPD for residents and 10.0 PPD for employees, thereby meeting the City's target rates.[21]

Energy

The California Independent System Operator (ISO) is charged with managing the flow of electricity along the State's open market wholesale power grid. The California ISO Energy Demand Forecast (2008 to 2018) estimates that residential, commercial, and industrial sectors represented 85 percent of statewide electricity demand in 2008. Statewide consumption is expected to increase 11.6 percent by 2018, due primarily to growth in the residential and commercial sectors.

The California Energy Commission (CEC) indicates that Alameda County consumed 11,534 gigawatt-hours (GWh) of electricity in 2009, up from 11,097 GWh in 2006.[22] In the PG&E service area, total consumption in 2009 was approximately 108,503 GWh, up from 104,719 GWh in 2006; in 2018, total consumption is estimated to be 119,644 GWh with a peak of approximately 24,600 MW.

The Pacific Gas and Electric Company (PG&E) supplies electricity to approximately 5.1 million electric customers throughout northern and central California, including customers in Oakland. As of 2007, PG&E's electricity was supplied by natural gas power plants (accounting for 47 percent of its power),

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[19] Alameda County Waste Management Authority (ACWMA), Alameda County Integrated Waste Management Plan, Countywide Element, February 2003 as amended January 2011

[20] Beginning with the 2007 jurisdiction annual reports, diversion rates were no longer measured; only per capita disposal rates are measured to determine whether a jurisdiction's efforts are meeting the intent of AB 939.

[21] California Department of Resources Recycling and Recovery (CalRecycle), Disposal Reporting System, http://www.calrecycle.ca.gov/LGCentral/Reports/DRS/default.aspx, accessed April 29, 2011.

[22] California Energy Commission, 2011

non-emitting nuclear generation (23 percent of the total power), large hydroelectric facilities (13 percent), renewable sources, such as wind, geothermal, biomass, and small hydro power (12 percent), and coal (four percent). The City of Oakland operates three 55 megawatt (MW) fossil fuel plants that supplement PG&E's electricity generation.

Electricity is transported via a grid of high voltage transmission lines to seven main substations in Oakland. These substations contain transformers that "step down" or reduce electricity to lower voltages for distribution. There are three substations just outside of the Planning Area. Electrical power is delivered to West Oakland from PG&E Substation L, which receives 155 kV electrical power and delivers that power via 12-kilovolt (kV) transmission lines. Power is delivered within the Planning Area through both underground and overhead electrical distribution and transmission lines. Gas is mostly distributed underground, with one major transmission line running northerly on Linden Street before turning westerly on 32nd Street.

PG&E staff indicates that there is adequate capacity for planned development. When applications for new services are reviewed, staff may determine whether new circuits would be required. A new development must typically exceed 6 to 8 megawatts (MW) of power demand before exceeding existing system capacity.

Regulatory Setting

Federal

Clean Water Act

The CWA established the basic structure for regulating discharges of pollutants into the waters of the U.S. and gave the USEPA the authority to implement pollution control programs such as setting wastewater standards for industry. The CWA sets water quality standards for all contaminants in surface waters. The statute employs a variety of regulatory and non-regulatory tools to reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. The Corps has jurisdiction over all waters of the U.S. including, but not limited to, perennial and intermittent streams, lakes, and ponds, as well as wetlands in marshes, wet meadows, and side hill seeps. Under Section 401 of the CWA every applicant for a federal permit or license for any activity which may result in a discharge to a water body must obtain State Water Quality Certification that the proposed activity will comply with state water quality standards.

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) permit program under the CWA controls water pollution by regulating point and non-point sources that discharge pollutants into "waters of the U.S." California has an approved state NPDES program. The USEPA has delegated authority for NPDES permitting to the California State Water Resources Control Board (SWRCB), which has nine regional boards. The San Francisco Bay Regional Water Quality Control Board (RWQCB) regulates water quality in the Project area.

Safe Drinking Water Act

The Safe Drinking Water Act (SDWA, 42 USC §§ 300f et seq.) is the primary federal law regulating drinking water quality; it establishes standards intended to protect public health, safety, and welfare. The U.S. Environmental Protection Agency (USEPA) implements the SDWA and delegates its authority to

the State of California. The Clean Water Act (CWA, 33 United States Code [USC] §§ 1251 et seq.) is intended to restore and maintain the integrity of the nation's waters, including requirements for states to establish water quality standards to protect designated uses for all waters of the nation. Many aspects of the CWA have been delegated to the State, including the regulation of discharges from private industry and public facilities such as wastewater treatment plants.

The California Department of Health Services (DHS) regulates drinking water, implements the Safe Drinking Water Act and oversees public water systems in California. The State requires that public water systems meet two groups of water quality standards: primary and secondary drinking water standards. Primary drinking water standards, known as Maximum Contaminant Levels (MCLs), are legally enforceable standards that regulate contaminants which could threaten public health. Secondary drinking water standards are used to regulate contaminants that affect the taste, odor, and appearance of water, and are enforceable for new potable water sources.

The California RWQCB, San Francisco Bay Region, has established water quality objectives to define the level of water quality to be maintained for designated beneficial uses. Water designated for uses such as domestic or municipal supply shall not contain concentrations of constituents in excess of the limits specified in Title 22 of the California Code of Regulations.

State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act, Division 7 of the California Water Code, allows the SWRCB to adopt statewide water quality control plans. The purpose of the plans is to establish water quality objectives for specific water bodies. The act also authorizes the NPDES program under the CWA, which establishes water quality requirements for discharges to waters of the state. Most of the implementation of SWRCB's responsibilities is delegated to nine regional boards. The San Francisco Bay RWQCB has established permit requirements for stormwater runoff for the Project area (see Regional Regulatory Setting below).

State Water Resources Control Board

Stormwater discharges from construction activities on one acre or more are regulated by the State Water Resources Control Board (SWRCB) and are subject to the permitting requirements of the NPDES General Permit for Discharges of Stormwater Runoff Associated with Construction Activity (General Construction Permit). The SWRCB established the General Construction Permit program to reduce surface water impacts from construction activities. The proposed Project would be required to comply with the current NPDES permit requirements to control stormwater discharges from the construction site (see Alameda County Regulations below).

The General Construction Permit requires the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) for construction activities. The SWPPP must be prepared before the construction begins, and in certain cases before demolition begins. The SWPPP must include specifications for best management practices (BMPs) that would be implemented during construction to control degradation of surface water by preventing soil erosion or the discharge of pollutants from the construction area. The SWPPP must also describe measures to prevent or control runoff after construction is complete, and identify procedures for inspecting and maintaining facilities or other elements. Required elements of a SWPPP include:

- Site description addressing the elements and characteristics specific to the site

- Descriptions of BMPs for erosion and sediment controls;
- BMPs for construction waste handling and disposal;
- Implementation of approved local plans;
- Proposed post-construction controls; and
- Non-stormwater management.

Examples of typical construction BMPs include scheduling or limiting activities to certain times of year, installing sediment barriers such as silt fence and fiber rolls, maintaining equipment and vehicles used for construction, tracking controls such as stabilizing entrances to the construction site, and developing and implementing a spill prevention and cleanup plan. Non-stormwater management measures include installing specific discharge controls during certain activities such as paving operations, vehicle and equipment washing and fueling.

California Urban Water Management Planning Act

The California Urban Water Management Planning Act[23] requires that an understanding of urban water demands and efficient use of water are to be actively pursued by water suppliers, including the requirement for every urban water supplier to periodically prepare and adopt an Urban Water Management Plan (UWMP). Each UWMP must describe the supplier's services area; identify and quantify existing and planned water sources; describe the reliability of water supplies; describe opportunities for exchanges or transfers of water; quantify past, current, and projected water use; and describe and evaluate the supplier's water demand management measures. The UWMP must be updated every five years.

California State Senate Bill 7

Enacted in late 2009, Senate Bill 7 (SB 7) requires the State of California as a whole to achieve a 20 percent reduction in urban per capita water use by December 31, 2020. The law also requires the State to make incremental progress towards this goal, namely achieving a 10 percent per capita reduction in urban water use on or before December 31, 2015. To achieve these goals, the law includes a requirement that urban retail water suppliers would not be eligible for state water grants or loans on and after July 1, 2013, unless they demonstrate compliance with the water conservation requirements of the bill.

California State Senate Bill 610

California Senate Bill 610 (SB 610) of 2002 (codified in §10910 through §10915 of the California Water Code) requires local planning agencies to consider whether there are sufficient and reliable water supplies to serve proposed development projects of specified sizes during the application and environmental review processes for such projects. SB 610 requires an assessment of whether available water supplies are sufficient to serve the demand generated by projects, as well as the reasonably foreseeable cumulative demand in the region over the next 20 years under average normal year, single dry year, and multiple dry year conditions.

[23] Division 6, Part 2.6 of the California Water Code.

In accordance with Water Code §10910(a), "Any city or county that determines that a project, as defined in §10912, is subject to the California Environmental Quality Act…shall comply with this part." Under Water Code Section 10912(a) "project" means any of the following:

- a proposed residential development of more than 500 dwelling units;
- a proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
- a proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space;
- a proposed hotel or motel, or both, having more than 500 rooms;
- a proposed industrial, manufacturing, or processing plant, or industrial park, planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area;
- a mixed-use project that includes one or more of the projects specified in this subdivision; or
- a project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500-dwelling-unit project.

CEQA Guidelines Section 15155

CEQA Guidelines Section 15155 requires a city or county with discretionary land use oversight for a "water demand" project to request a determination from the governing body of the public water system as to whether the projected water demand of that project was accounted for in the most recently adopted urban water management plan, and to request a water supply assessment (WSA). CEQA Guidelines Section 15155 also provides that:

"(d) If a water-demand project has been the subject of a water assessment, no additional water assessment shall be required for subsequent water-demand projects that were included in such larger water-demand project if all of the following criteria are met:

> (1) The entity completing the water assessment had concluded that its water supplies are sufficient to meet the projected water demand associated with the larger water-demand project, in addition to the existing and planned future uses, including, but not limited to, agricultural and industrial uses; and
>
> (2) None of the following changes has occurred since the completion of the water assessment for the larger water-demand project:
>
> - Changes in the larger water-demand project that result in a substantial increase in water demand for the water-demand project.
> - Changes in the circumstances or conditions substantially affecting the ability of the public water system or the water supplying city or county identified in the water assessment to provide a sufficient supply of water for the water demand project.
> - Significant new information becomes available which was not known and could not have been known at the time when the entity had reached the conclusion in subdivision (d)(1).

(e) The city or county lead agency shall include the water assessment, and any water acquisition plan in the EIR, negative declaration, or mitigated negative declaration, or any supplement thereto, prepared

for the water-demand project, and may include an evaluation of the water assessment and water acquisition plan information within such environmental document. The city or county lead agency shall determine, based on the entire record, whether projected water supplies will be sufficient to satisfy the demands of the project, in addition to existing and planned future uses. If a city or county lead agency determines that water supplies will not be sufficient, the city or county lead agency shall include that determination in its findings for the water-demand project."

Development in accordance with the Specific Plan would demand an amount of water equivalent to, or greater than, the amount of water required by a 500-dwelling-unit project. Therefore, pursuant to California Water Code §10910(a)(1) and §10912(a)(3), and CEQA Guidelines Section 15155, a WSA has been prepared for the Specific Plan by EBMUD.

California Recycled Water in Landscaping Act

The Recycled Water in Landscaping Act requires municipalities to adopt ordinances requiring use of recycled water for landscaping uses where recycled water of appropriate quality is made available.

Water Conservation Act of 2009 (SB 7)

The Water Conservation Act of 2009 (Water Code Division 6, Part 2.55) provides the regulatory framework to support a statewide reduction in urban per capita water use of 20 percent by the year 2020. Each urban water supplier is required to determine its existing water use and 2020 target, and report this analysis in the water supplier's UWMP.

California Integrated Waste Management Act

The California Integrated Waste Management Act of 1989, or Assembly Bill (AB) 939, established the Integrated Waste Management Board, required the implementation of integrated waste management plans and also mandated that local jurisdictions divert at least 50 percent of all solid waste generated (from 1990 levels), beginning January 1, 2000, and divert at least 75 percent by 2010. As required by AB 939, the City of Oakland has prepared a Source Reduction and Recycling Element (SRRE) which requires proposed development projects to undergo, as part of the required environmental review, an assessment of project impacts on the City's ability to maintain the mandated 50 percent waste diversion rates. With the passage of SB 1016 in 2006, the Per Capita Disposal Measurement System, only per capita disposal rates are measured to determine if jurisdiction's efforts are meeting the intent of AB 939. AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity.

California Solid Waste Reuse and Recycling Access Act of 1991

The California Solid Waste Reuse and Recycling Access Act requires areas to be set aside for collecting and loading recyclable materials in development projects and for local agencies to adopt such an ordinance.

Title 24, California's Energy Efficiency Standards

Title 24, California's Energy Efficiency Standards for Residential and Nonresidential Buildings, details requirements to achieve minimum energy efficiency standards of the State of California. The standards apply to new construction of both residential and nonresidential buildings, and regulate energy consumed for heating, cooling, ventilation, water heating and lighting. Compliance with these standards is verified and enforced through the local building permit process. Buildings constructed after June 30, 1977 must comply with standards identified in Title 24 of the California Code of Regulations. Title 24,

established by the California Energy Commission (CEC) in 1978, requires the inclusion of state-of-the-art energy conservation features in building design and construction including the incorporation of specific energy conserving design features, use of non-depletable energy resources, or a demonstration that buildings would comply with a designated energy budget.

California Green Building Standards Code (CALGreen)

CALGreen is a statewide regulatory code for all residential, commercial, hospital, and school buildings, and includes both mandatory and voluntary components that can be adopted by local jurisdictions. CALGreen is intended to encourage more sustainable and environmentally-friendly building practices, require low-pollution emitting substances that cause harm to the environment, conserve natural resources, and promote the use of energy-efficient materials and equipment. The five CALGreen categories include: 1) Planning and Design; 2) Energy Efficiency; 3) Water Efficiency and Conservation; 4) Material Conservation and Resource Efficiency; and 5) Environmental Quality. CALGreen became mandatory on January 1, 2011, for new residential and commercial construction.

San Francisco Bay Regional Water Quality Control Board

The San Francisco Bay Regional Water Quality Control Board (RWQCB) governs many of the regulations associated with utilities, specifically potable water, sanitary sewers, storm drains, and recycled water. RWQCB has the authority to enforce water quality regulations found in the Clean Water Act based on the Porter-Cologne Water Quality Control Act. Wastewater discharges are guided by NPDES (National Pollutant Discharge Elimination System) permits granted by the RWQCB. The city's storm drain outfalls operate under NPDES permits granted by the RWQCB.

Alameda County

Clean Water Program

The Alameda Countywide Clean Water Program (ACCWP) consists of 17 member agencies, including the City of Oakland and the ACFCWCD, that work together to protect creeks, wetlands and the San Francisco Bay. The member agencies have developed performance standards to clarify the requirements of the stormwater pollution prevention program, adopted stormwater management ordinances, conducted extensive education and training programs, and reduced stormwater pollutants from industrial areas and construction sites.

The ACCWP is part of the Municipal Regional Stormwater NPDES Permit (MRP) that was adopted by the Regional Water Quality Control Board (RWQCB) on October 14, 2009. The NPDES permit (Order R2-2009-0074 Permit No. CAS612008) issued by the RWQCB is designed to enable the ACCWP agencies to meet federal Clean Water Act requirements. The permit includes performance standards for new development and construction activities also referred to as Provision C.3 requirements. The C.3 requirements include measures for stormwater treatment in new development and redevelopment projects to address stormwater runoff pollutant discharges. An additional goal is to prevent increases in runoff flows primarily accomplished through implementation of low impact development (LID) techniques. The C.3 provision also requires preparation of a hydrograph modification management plan (HMP) in cases where the changes in the amount and timing of runoff would increase stormwater discharge rates and/or duration and increase the potential for erosion or other significant adverse impacts to beneficial uses.

New development that impacts an area greater than 10,000 square feet would be subject to provision C.3 of the City of Oakland's National Pollutant Discharge Elimination System (NPDES) permit with the State of California, and would therefore need to implement storm water treatment measures under the building permit of any such development. This will, in the aggregate, serve to lower the overall run-off coefficient in the area.

Alameda County Waste Reduction and Recycling Initiative (Measure D)

In addition to AB 939, the 1990 Voter Initiative Measure D (Alameda County Waste Reduction and Recycling Initiative) mandates all cities in Alameda County to divert 75 percent of their solid waste from landfills by the year 2010.

City of Oakland

City of Oakland Water Reuse Ordinance

The City of Oakland adopted the Water Reuse Ordinance in January 2002, which applies to developments meeting all of the following criteria: 1) the site is located within an ordinance-designated Water Reuse Area; 2) the development requires land subdivision of five or more parcels; 3) new water hook-ups from the EBMUD are required; and 4) development includes common or shared areas that will be plumbed.

City of Oakland Sewer Lateral Ordinance

Ordinance No. 13080, adopted in 2011, amends the Oakland Municipal Code and extends the EBMUD Regional Private Sewer Lateral (PSL) Ordinance to apply to lower sewer laterals. EBMUD adopted the Regional PSL Ordinance in February 2010 and subsequently the City Council passed Ordinance No. 13025 C.M.S. in July 2010 adopting the EBMUD Regional PSL Ordinance. However, the ordinance covered only the upper portion of sewer laterals (that portion between the property line and the building). The United States Environmental Protection Agency (U.S. EPA) required Oakland to extend the EBMUD Regional PSL Ordinance to apply to lower laterals. Approval of Ordinance 13080 brought the City into compliance with the U.S. EPA mandate.

City of Oakland Waste Reduction and Recycling Plan

Oakland Municipal Code Chapter 15.34 requires building permit applications for new construction, demolition, or alterations (with a valuation of $50,000 or greater) to be accompanied by an approved Waste Reduction and Recycling Plan (WRRP). The WRRP is required to document the ways that the applicant will reduce the quantity of construction and demolition debris disposed at landfills by 65 percent or more. The City does not approve building permits for projects until the WRRP is approved.

City of Oakland Zero Waste Strategic Plan

The City of Oakland adopted a Zero Waste Goal in March 2004, and developed the Zero Waste Strategic Plan in November 2006. The main strategies outlined in the plan include: 1) expand and improve local and regional recycling and composting; 2) develop and adopt new rules and incentives to reduce waste disposal; 3) preserve land for sustainable development and green industry infrastructure; 4) advocate for manufacturer responsibility for produce waste, ban problem materials; and 5) educate, promote, and advocate a Zero Waste Sustainability Agenda.

City of Oakland General Plan

The City of Oakland General Plan Land Use and Transportation Element includes the following policies related to utilities and infrastructure:

> Policy I/C 1.9: Adequate public infrastructure should be ensured within existing and proposed industrial and commercial areas to retain viable uses, improve the marketability of existing, vacant or underutilized sites, and encourage future use and development of these areas with activities consistent with the goals of the General Plan.
>
> *Policy N.12.4:* Electrical, telephone, and related distribution lines should be undergrounded in commercial and residential areas, except where special local conditions, such as limited visibility of the poles and wires makes this unneeded. They should also be underground in appropriate institutional, industrial, and other areas, and generally along freeways, scenic routes, and heavily traveled streets. Programs should lead systematically toward the eventual undergrounding of all existing lines in such places. Where significant utility extensions are taking place in these areas, such as in new subdivisions, utilities should be installed underground at the start.

City of Oakland Sustainability Programs

The City of Oakland's sustainability programs are administered under the Oakland Sustainability Community Development Initiative, which was created in 1998 under Ordinance 74675 CMS. The City's sustainability programs range from the encouragement of green building practices to the replacement of heavy-duty diesel trucks. Oakland has funded a Phase I feasibility study and a Phase II implementation plan to become a community choice aggregator, which would allow the City to purchase electricity on behalf of its energy users. Potential benefits of becoming an aggregator include increased use of renewable energy sources to meet Oakland's energy needs and a reduction in electricity costs.

City of Oakland Green Building Ordinance and Sustainable Green Building Requirements for Private Development

The City of Oakland adopted a Civic Green Building Ordinance in May 2005, requiring City owned and occupied buildings to meet specific green building standards set by the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) rating system. In October 2010, the City adopted mandatory green building standards for private development projects. The intent of the mandatory green building standards is to integrate environmentally sustainable strategies in building construction and landscapes in the City of Oakland.

City of Oakland Energy and Climate Action Plan (ECAP)

The Oakland Energy and Climate Action Plan (ECAP) was adopted by the City Council on December 4, 2012. The purpose of the ECAP is to identify and prioritize actions the City of Oakland can take to reduce energy consumption and greenhouse gas (GHG) emissions associated with Oakland. The ECAP recommends GHG reduction actions and establishes a framework for coordinating implementation, as well as monitoring and reporting on progress.

The primary sources of Oakland's GHG emissions are transportation and land use, building energy use, and material consumption and waste. In July 2009, the Oakland City Council approved a preliminary GHG reduction target for the year 2020 of 36 percent below 2005 levels. The ECAP recommends over 150 actions to be implemented over a ten-year period that would enable the City of Oakland to achieve a 36 percent reduction in GHG. Implementation of renewable energy and energy efficiency measures

include measures to reduce vehicle miles traveled annually by 20 percent, electricity consumption by 32 percent and natural gas consumption by 14 percent. These measures include the adoption of a green building ordinance for private development (which was completed in October 2010), the use of property-based financing for alternative energy systems, and advancing the use of transit.

Standard Conditions of Approval

The City's Standard Conditions of Approval relevant to utilities and service systems are listed below. These Standard Conditions of Approval would be adopted as mandatory requirements of each individual future project within the Planning Area when it is approved by the City and would ensure that significant impacts would not occur.

SCA 36: Waste Reduction and Recycling. The project applicant will submit a Construction & Demolition Waste Reduction and Recycling Plan (WRRP) and an Operational Diversion Plan (ODP) for review and approval by the Public Works Agency.

a. Chapter 15.34 of the Oakland Municipal Code outlines requirements for reducing waste and optimizing construction and demolition (C&D) recycling. Affected projects include all new construction, renovations/alterations/modifications with construction values of $50,000 or more (except R-3), and all demolition (including soft demo).The WRRP must specify the methods by which the development will divert C&D debris waste generated by the proposed project from landfill disposal in accordance with current City requirements. Current standards, FAQs, and forms are available at www.oaklandpw.com/Page39.aspx or in the Green Building Resource Center. After approval of the plan, the project applicant shall implement the plan.

a. The ODP will identify how the project complies with the Recycling Space Allocation Ordinance, (Chapter 17.118 of the Oakland Municipal Code), including capacity calculations, and specify the methods by which the development will meet the current diversion of solid waste generated by operation of the proposed project from landfill disposal in accordance with current City requirements. The proposed program shall be implemented and maintained for the duration of the proposed activity or facility. Changes to the plan may be re-submitted to the Environmental Services Division of the Public Works Agency for review and approval. Any incentive programs shall remain fully operational as long as residents and businesses exist at the project site.

SCA 91: Stormwater and Sewer. *Prior to completing the final design for the project's sewer service.* Confirmation of the capacity of the City's surrounding stormwater and sanitary sewer system and state of repair shall be completed by a qualified civil engineer with funding from the project applicant. The project applicant shall be responsible for the necessary stormwater and sanitary sewer infrastructure improvements to accommodate the proposed project. In addition, the applicant shall be required to pay additional fees to improve sanitary sewer infrastructure if required by the Sewer and Stormwater Division. Improvements to the existing sanitary sewer collection system shall specifically include, but are not limited to, mechanisms to control or minimize increases in infiltration/inflow to offset sanitary sewer increases associated with the proposed project. To the maximum extent practicable, the applicant will be required to implement Best Management Practices to reduce the peak stormwater runoff from the project site. Additionally, the project applicant shall be responsible for payment of the required installation or hook-up fees to the affected service providers.

Impacts, Standard Conditions of Approval and Mitigation Measures

Significance Criteria

According to the City's Thresholds of Significance, the Specific Plan would have a significant impact on utilities and services systems if it would:

1. Exceed wastewater treatment requirements of the San Francisco Bay Regional Water Quality Control Board;
2. Require or result in construction of new storm water drainage facilities or expansion of existing facilities, construction of which could cause significant environmental effects;
3. Exceed water supplies available to serve the project from existing entitlements and resources, and require or result in construction of water facilities or expansion of existing facilities, construction of which could cause significant environmental effects;[24]
4. Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the providers' existing commitments and require or result in construction of new wastewater treatment facilities or expansion of existing facilities, construction of which could cause significant environmental effects;
5. Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs and require or result in construction of landfill facilities or expansion of existing facilities, construction of which could cause significant environmental effects;
6. Violate applicable federal, state, and local statutes and regulations related to solid waste;
7. Violate applicable federal, state and local statutes and regulations relating to energy standards;[25] or
8. Result in a determination by the energy provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the providers' existing commitments and require or result in construction of new energy facilities or expansion of existing facilities, construction of which could cause significant environmental effects.

Stormwater Drainage

Impact Util-1: Future development in accordance with the Specific Plan would consist of redevelopment of previously developed properties so there would be limited change in impervious surface area and stormwater runoff. Because development facilitated by the Specific Plan would not result in an increase in stormwater runoff and with required compliance of individual development projects with SCA 91, *Stormwater and Sewer*, and the Alameda Countywide Clean Water

[24] EBMUD needs to be consulted early and a Water Supply Assessment performed for certain, larger projects (see Appendix D).

[25] See Appendix F of the State CEQA Guidelines for guidance on information related to energy-conservation that must be contained in an EIR.

Program NPDES Permit, the stormwater drainage impacts of the Specific Plan would be less than significant. (**LTS**)

The Specific Plan would provide for the development of up to an additional 5,090 net new housing units and 4,030,000 square feet of net new non-residential space within the Planning Area. Development facilitated by the Specific Plan would involve redevelopment of previously developed properties. Stormwater runoff is determined by a parcel's impervious surface area and not its use or density. While land uses and the density and intensity of development may change with the Specific Plan, there would be limited change from existing conditions in terms of impervious surface area, and the volume, rate or timing of stormwater runoff.

Many of the streets within the West Oakland Opportunity Areas are fairly flat and experience extensive ponding of stormwater runoff. With potential surface improvements and higher levels of industrial and residential uses in the area, the ponding areas could become more problematic. Also, the existing storm drainage system network leaves many individual street sections without a dedicated line. Most of these street sections are far too long and flat for run-off to reasonably be conveyed to either end of the street.

Standard Conditions of Approval

New development that impacts an area greater than 10,000 square feet in size would be subject to Provision C.3 of the City of Oakland's National Pollutant Discharge Elimination System (NPDES) permit with the State of California, and would therefore need to implement storm water treatment measures. This will, in the aggregate, serve to lower the overall run-off coefficient in the area, which could over time serve to make the Storm Drainage Master Plan inherently conservative.

The City's Standard Condition of Approval SCA 91, *Stormwater and Sewer*, requires confirmation of the capacity and state of repair of the stormwater system by a qualified civil engineer. The project applicant would be responsible for needed improvements to offset the demand of the project and pay any additional fees if required by the Sewer and Stormwater Division.

Temporary construction of needed storm drain system improvements would generally occur along existing pipeline alignments and within existing rights-of-way, and would be required to comply with all City of Oakland Standard Conditions of Approval regarding construction noise (SCA Noise-1 and SCA Noise-2), air quality and dust suppression (SCA Air-1 and SCA Air-2), erosion control (SCA Geo-1) and temporary construction traffic controls (SCA Trans-1). These standard Conditions of Approval would ensure that standard construction effects remain less than significant.

Development facilitated by the Specific Plan would not result in an increase stormwater runoff. With required compliance of individual development projects with City Standard Conditions of Approval and the Alameda Countywide Clean Water Program NPDES Permit requirements, the stormwater drainage impacts of the Specific Plan would be less than significant.

Implementation of SCA 91, Stormwater and Sewer, would require that the applicants of future projects under the Specific Plan to construct the necessary stormwater infrastructure improvements, the environmental impacts of which are discussed in this document. Future projects under the Specific Plan also would be required to implement SCA 80, Post-construction Stormwater Pollution Prevention Plan, which requires compliance with Provision C.3 of the Alameda Countywide Clean Water Program and regulates post-construction stormwater runoff; and SCA 75, Stormwater Pollution Prevention Plan (see Section 4.8, Hydrology and Water Quality). Because adoption and development under the Specific Plan would not result in an increase in stormwater runoff, and individual projects would be required to meet the SCA listed above, the adoption and development under the Specific Plan would have a less-than-significant impact on storm drainage facilities.

Mitigation Measures

None needed. However, the following engineers' recommendation is suggested to further reduce impacts to the storm drainage system:[26]

Recommendation Util-1a: As the area improves, underground storm drain lines should be added to several of the Opportunity Areas' street sections where such lines do not exist. Additional storm drainage structures, including conduit, would be a way to address both ponding and adequate conveyance of storm runoff (**see Figure 4.11-4**).

Water

Impact Util-2: The WSA prepared by EBMUD for the Specific Plan concluded that EBMUD has sufficient water supplies to meet current water demand and future water demand through 2035, including the increased water demand associated with the Specific Plan, during normal, single dry, and multiple dry years. Construction of needed water system improvements would typically occur within existing public rights-of-way and construction period traffic, noise, air quality, water quality and other potential impacts would be mitigated through the City's standard construction mitigation practices. Therefore, the water service impacts of the Specific Plan would be less than significant. (**LTS**)

The Specific Plan would provide for the development of up to an additional 5,090 net new housing units and 4,030,000 square feet of net new non-residential space within the Planning Area. This additional development would result in an estimated 11,136 new residents and 14,850 new jobs in the Planning Area by 2035. **Table 4.11-1** presents projected net new water demand with buildout of the Specific Plan. As shown, the net new development under the Specific Plan would result in an estimated increase in water demand from the Planning Area of approximately 3.4 mgd, for a total water demand in 2035 of 4.5 mgd.

Water Supply

The development assumptions that underlie the EBMUD WSMP 2040 included the growth projections of the Oakland General Plan and development facilitated by the proposed Specific Plan. The WSMP 2040 concluded that a combination of existing system reservoirs, conservation measures, and recycled water would meet water demand during wet and normal years. In addition, it formulated a Preferred Portfolio of water management that includes rationing of up to 15 percent, aggressive conservation resulting in 39 mgd by 2040, and recycling water resulting in 20 mgd that would meet demand during drought years. The recently completed Freeport Regional Water Project alone will supply an additional 100 mgd for use by EBMUD. Further, portions of the Planning Area fall within the area served by the East Bayshore recycled water main transmission pipeline, making recycled water available for landscape irrigation, and certain commercial and industrial applications, and potentially reducing potable water demand. CALGreen standards, and City of Oakland Green Building Ordinance, Sustainable Green Building Requirements for Private Development, and Water Efficient Landscape Requirements found in Title 10, Chapter 7 of the Municipal Code would further reduce water demand.

[26] BKF Engineers, 2011

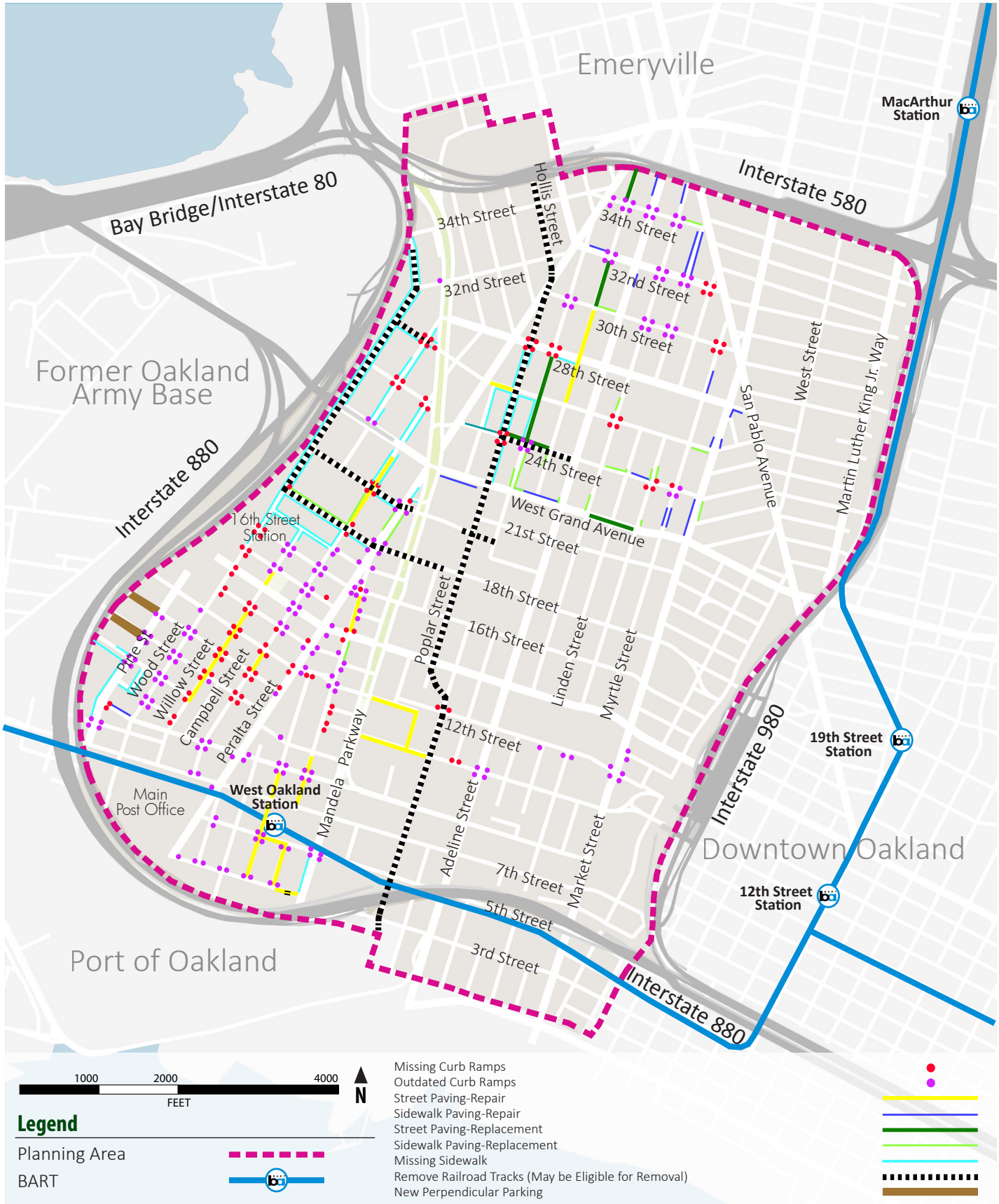

Figure 4.11-4
Proposed Infrastructure Improvements

Source: JRDV Intl.

West Oakland Specific Plan, Draft EIR

Table 4.11-1
Estimated Water Demand (gpd[1])

	Mandela/West Grand			7th Street			3rd Street		
Land Use Type	**Existing**	**2035 Build-out**	**Change**	**Existing**	**2035 Build-out**	**Change**	**Existing**	**2035 Build-out**	**Change**
Heavy Industrial	115,000	0	-115,000	23,000	0	-23,000	9,200	0	-9,200
Business Mix/Light Industrial	402,500	264,500	-138,000	194,350	171,350	-23,000	115,000	92,000	-23,000
Low Intensity Business Mix/Light Industrial	0	147,200	147,200	0	39,100	39,100	0	69,000	69,000
High Intensity Campus	0	1,407,600	1,407,600	0	0	0	0	207,000	207,000
Retail	34,500	69,575	35,075	575	10,350	9,775	5,750	7,475	1,725
Single Family and Townhouse	41,800	91,580	49,780	13,300	33,820	20,520	1,900	1,900	0
Multi-Family Residential	0	393,300	393,300	17,250	948,750	931,500	0	0	0
	593,800	2,373,755	1,779,955	248,475	1,203,370	954,895	131,850	377,375	245,525

	San Pablo Avenue			Total Planning Area		
Land Use Type	**Existing**	**2035 Build-out**	**Change**	**Existing**	**2035 Build-out**	**Change**
Heavy Industrial	23,000	0	-23,000	170,200	0	-170,200
Business Mix/Light Industrial	69,000	69,000	0	780,850	596,850	-184,000
Low Intensity Business Mix/Light Industrial	0	14,950	14,950	0	270,250	270,250
High Intensity Campus	0	0	0	0	1,614,600	1,614,600
Retail	10,350	23,000	12,650	51,175	110,400	59,225
Single Family and Townhouse	15,200	39,900	24,700	72,200	167,200	95,000
Multi-Family Residential	10,350	355,350	345,000	27,600	1,697,400	1,669,800
	127,900	502,200	374,300	1,102,025	4,456,700	3,354,675

Source: City of Oakland, *Sanitary Sewer Design Standards*, August 2008; Lamphier-Gregory 2012.

[1]gallons per day. Heavy Industrial = 230 gpd/1,000 sq. ft.; Business Mix/Light Industrial = 115 gpd/1,000 sq. ft.; Low Intensity Business Mix/Light Industrial = 230 gpd/1,000 sq. ft.; High Intensity Campus = 345 gpd/1,000 sq. ft.; Retail = 115 gpd/1,000 sq. ft.; Single Family and Townhouse = 380 gpd/1,000 sq. ft.; Multi-Family Residential = 345 gpd/1,000 sq. ft. Based on City of Oakland *Sanitary Sewer Design Standards* wastewater generation rates and assumes wastewater generation equals 85 percent of water demand.

The Water Supply Assessment (WSA) prepared by EBMUD for the proposed Specific Plan concluded that EBMUD has sufficient water supplies to meet current water demand and future water demand through 2035 within its service area, including the increased water demand associated with the Specific Plan, during normal, single dry, and multiple dry years.[27] Therefore, the impact of the Specific Plan related to water supply would be less than significant.

Normally, pursuant to Sections 10910 through 10915 (SB 610) of the California Water Code, individual future development projects within the Planning Area that meet the threshold for a WSA would prepare such an assessment or request EBMUD to prepare such an assessment. However, CEQA Guidelines Section 15155(d) provides that no additional water assessment shall be required for subsequent water-demand projects that were included in a larger water-demand project (i.e., the WSA prepared by EBMUD for the proposed Specific Plan) if certain specified criteria can be met showing there have been no changes that warrant an additional water assessment.

Water Distribution and Fire Flow

Domestic water is provided to each of the West Oakland Specific Plan's Opportunity Areas by EBMUD. Water is primarily delivered to the Mandela/Grand Opportunity Area through transmission mains in Adeline Street, 18th Street, Campbell/Ettie Street, and 34th Street. Water is primarily delivered to the 3rd Street and 7th Street Opportunity Areas through transmission mains in 4th Street. According to EBMUD staff, because the existing water distribution system within the Opportunity Areas was sized to accommodate the higher water usage of West Oakland's historically heavy industrial and manufacturing uses, the system has more than enough capacity to accommodate mixed-use development under the proposed Specific Plan. In addition, EBMUD monitors the capacity and condition of the system and makes needed upgrades, with costs typically borne by developers.

Within each of the Opportunity Areas there are smaller (generally 4-inch to 8-inch) conveyance lines that carry water beneath the streets. These smaller lines are interconnected to form multiple redundant loops, and they have services that deliver metered flow to each parcel. Many of the smaller conveyance lines are not large enough to meet current fire flow requirements. New developments within parcels that are not fronted by a water line that is at least 8-inches in diameter will likely trigger upsizing of water mains, at developers' expense, to meet current codes. Because water systems are sized primarily to meet fire flow capacity, some replacement of local water lines may be required to serve future, larger developments in the Planning Area. Some locations identified for development are served by inadequately sized lines and future individual development proposals would be required to have fire flow tests performed and potentially to replace and upsize portions of these lines.

Construction of water system improvements to meet the demand of future development under the Specific Plan would typically occur along existing pipeline alignments and within existing public rights-of-way.

Standard Conditions of Approval

Under its normal development review procedure for individual projects, the City would determine the actual fire flow and water system design requirements of each project. The need for any improvements to the existing water supply infrastructure would be determined in consultation with EBMUD upon application for water service, with all costs borne by the project sponsor. Each individual future development project would be required to pay applicable City development and connection fees, pay its

[27] EBMUD WSA 2013.

fair share toward necessary water system facilities to support the proposed development's water infrastructure needs, and submit final project water system design specifications and construction modifications for approval by the Public Works Department.

Temporary construction of needed water system improvements would generally occur along existing pipeline alignments and within existing rights-of-way, and would be required to comply with all City of Oakland Standard Conditions of Approval regarding construction noise (SCA Noise-1 and SCA Noise-2), air quality and dust suppression (SCA Air-1 and SCA Air-2), erosion control (SCA Geo-1) and temporary construction traffic controls (SCA Trans-1). These standard Conditions of Approval would ensure that standard construction effects remain less than significant.

Mitigation Measures

None needed. However, the following engineers' recommendations are suggested to further reduce impacts to the water distribution system (as also shown in Figure 4.11-4):[28]

Recommendation Util-2a: Because many of the parcels within West Oakland's industrial areas are very large, there are several streets that have no public water main. For projects that create a new parcel which fronts a street that does not have a water main, a new public water main constructed at the developer's expense will likely be required.

Recommendation Util-2b: EBMUD block maps indicate that many of the lines in the area are cast iron and were installed in the 30's. These pipes have likely experienced significant corrosion and should be replaced.

Recommendation Util-2c: Service to new development would likely require reassessment and upsizing of conduits, especially if the pipe length is greater than 1,000 feet to the nearest transmission line.

Wastewater

Impact Util-3: With the City's sub-basin allocation system, construction of needed sewer system improvements pursuant to SCA 91, *Stormwater and Sewer*, payment of improvement and hook-up fees, the wastewater collection and treatment system would have adequate capacity to serve future development in accordance with the Specific Plan. With City of Oakland Standard Conditions of Approval related to construction impacts, the construction period impacts of needed sewer improvements would remain less than significant. Therefore, the wastewater service impacts of the Specific Plan would be less than significant. (**LTS**)

The Specific Plan would provide for the development of up to an additional 5,090 net new housing units and 4,030,000 square feet of net new non-residential space within the Planning Area. This additional development would result in an estimated 11,136 new residents and 14,850 new jobs in the Planning Area by 2035, and would generate an increase in wastewater requiring collection and treatment. **Table 4.11-2** presents projected net new wastewater generation with buildout of the Specific Plan. As shown, the current wastewater generation within the Specific Plan's Opportunity Areas is estimated to be nearly 1 mgd, the net new development under the Specific Plan would result in an estimated increase in wastewater generation from the Planning Area in 2035 of approximately 2.9 mgd, for a total wastewater generation of 3.9 mgd.

[28] BKF Engineers, 2011

Table 4.11-2
Estimated Wastewater Generation (gpd[1])

	Mandela/West Grand			7th Street			3rd Street		
Land Use Type	**Existing**	**2035 Build-out**	**Change**	**Existing**	**2035 Build-out**	**Change**	**Existing**	**2035 Build-out**	**Change**
Heavy Industrial	100,000	0	-100,000	20,000	0	-20,000	8,000	0	-8,000
Business Mix/Light Industrial	350,000	230,000	-120,000	169,000	149,000	-20,000	100,000	80,000	-20,000
Low Intensity Business Mix/Light Industrial	0	128,000	128,000	0	34,000	34,000	0	60,000	60,000
High Intensity Campus	0	1,224,000	1,224,000	0	0	0	0	180,000	180,000
Retail	30,000	60,500	30,500	500	9,000	8,500	5,000	6,500	1,500
Single Family and Townhouse	36,348	79,635	43,287	11,565	29,409	17,843	1,652	1,652	0
Multi-Family Residential	0	342,000	342,000	15,000	825,000	810,000	0	0	0
	516,348	2,064,135	1,547,787	216,065	1,046,409	830,343	114,652	328,152	213,500

	San Pablo Avenue			Planning Area		
Land Use Type	**Existing**	**2035 Build-out**	**Change**	**Existing**	**2035 Build-out**	**Change**
Heavy Industrial	20,000	0	-20,000	148,000	0	-148,000
Business Mix/Light Industrial	60,000	60,000	0	679,000	519,000	-160,000
Low Intensity Business Mix/Light Industrial	0	13,000	13,000	0	235,000	235,000
High Intensity Campus	0	0	0	0	1,404,000	1,404,000
Retail	9,000	20,000	11,000	44,500	96,000	51,500
Single Family and Townhouse	13,217	34,696	21,478	62,783	145,391	82,609
Multi-Family Residential	9,000	309,000	300,000	24,000	1,476,000	1,452,000
	111,217	436,696	325,478	958,283	3,875,391	2,917,109

Source: City of Oakland, *Sanitary Sewer Design Standards*, August 2008; Lamphier-Gregory 2012.

[1]gallons per day. Heavy Industrial = 200 gpd/1,000 square feet; Business Mix/Light Industrial = 100 gpd/1,000 square feet; Low Intensity Business Mix/Light Industrial = 200 gpd/1,000 square feet; High Intensity Campus = 300 gpd/1,000 square feet; Retail = 100 gpd/1,000 square feet; Single Family and Townhouse = 330 gpd/1,000 square feet; Multi-Family Residential = 300 gpd/1,000 square feet.

Sewer Sub-Basin Capacity

The City of Oakland uses a numbered sub-basin system and assigns the discharges from each sub-basin a single discharge point from the City's collection system to the EBMUD interceptor system. The City allocates each sub-basin a certain amount of sewer flow that may be discharged to the EBMUD system, and flows within a sub-basin normally may not exceed that allocation. Should a sub-basin require more flow than its allocation, allocation may be redirected between adjacent sub-basins. In this manner, the City ensures the continued adequate capacity of the EBMUD main wastewater treatment plant (MWWTP) and interceptor system. The Specific Plan area is located across several sewer sub-basins, and as new development occurs the City will review the sub-basin allocations to ensure adequate capacity exists to accommodate the proposed sewer discharge flow or to reallocate flows from other adjacent sub-basins.

The City's Sanitary Sewer Infiltration/Inflow Correction Program, funded through property taxes, is making capacity improvements to the city-wide sewer collection system main sewer trunk network to accommodate a 20 percent increase in base flow. Proposed improvements would reduce I/I in the area since the replacement conduits and structures wouldn't be as susceptible to leakage. Once the wastewater conduits are replaced pursuant to the I/I Correction Program, the increased sewage-generation associated with new commercial, industrial and residential development pursuant to the Specific Plan is not expected to result in a significant impact to the conveyance system, due to the offset in reduced I/I. However, continued funding for the I/I program is uncertain and planned improvements in West Oakland may not be fully implemented.

Local Pipeline Improvements

There are several blocks between West Grand, 18th Street, Wood Street and Peralta Street that contain very large parcels. Public sewer lines were not installed in Campbell Street, 20th Street or Willow Street in this area. The large parcels are adequately served by the lines that are there, as only one service is generally required per parcel. New development within these blocks will trigger the need for new public sewers in this small area.[29]

Individual future development projects facilitated by the Specific Plan would be required to show wastewater discharge calculations that confirm the capacity and state of repair of the local City sewer system, and to make any local sewer infrastructure improvements needed to accommodate that project As also shown on Figure 4.11-4). Construction of such sewer system improvements to meet the local demand of future development under the Specific Plan would typically occur along existing pipeline alignments and within existing public rights-of-way.

In addition, all streetscape projects proposed pursuant to the Specific Plan are required to have the sewer main scoped to ascertain the integrity of the sewer main prior to paving work. If the pipe is shown to be in poor condition, the streetscape project must incorporate new or rehabilitated pipes into its scope of work.

Standard Conditions of Approval

SCA 91, *Stormwater and Sewer* requires individual future development projects facilitated by the Specific Plan to show wastewater discharge calculations that confirm the capacity and state of repair of the local City sewer system, and to make any local sewer infrastructure improvements needed to

[29] BKF Engineers, 2011

accommodate that project. Construction of needed sewer improvements would generally occur along existing pipeline alignments and within existing rights-of-way, and would be required to comply with City of Oakland Standard Conditions of Approval regarding construction noise (SCA Noise-1 and SCA Noise-2), air quality and dust suppression (SCA Air-1 and SCA Air-2), erosion control (SCA Geo-1) and temporary construction traffic controls (SCA Trans-1) which would ensure that standard construction effects remain less than significant.

With implementation of City of Oakland Standard Conditions of Approval regarding construction effects, the construction of any sewer infrastructure improvements that may be necessary, the Project's effects on wastewater infrastructure would remain at a level of less than significant. Additionally, each individual future development project would be required to pay development and connection fees, as well as the project's fair share toward needed sewer system facilities.

Mitigation Measures

None needed. However, the following additional engineers' recommendations are suggested to further reduce impacts to the wastewater system:[30]

Recommendation Util-3a: Underground utility improvements should be installed prior to final streetscape improvements to prevent damage and the need for patching such improvements during trenching operations.

Recommendation Util-3b: Properties to be redeveloped and/or reused should abandon existing sewer laterals and install new laterals, and verify that there are no cross-connections from the downspouts to the sewer lateral. This would result in much lower I/I flow into the main sewer lines.

Solid Waste

Impact Util-4: The Altamont Landfill and Vasco Road Landfill have sufficient permitted capacity to accommodate the solid waste disposal needs of future development under the Specific Plan. The Specific Plan would not violate applicable federal, state, and local statutes and regulations related to solid waste. Therefore, the impacts of the Specific Plan related to solid waste and recycling would be less than significant. (**LTS**)

The Specific Plan would provide for the development of up to an additional 5,090 net new housing units and 4,030,000 square feet of net new non-residential space within the Planning Area. This additional development would result in an estimated 11,136 new residents and 14,850 new jobs in the Planning Area by 2035. Demolition and construction activities, and the operation of new development facilitated by the Specific Plan, would generate additional solid waste requiring recycling or disposal.

The Altamont landfill is projected to have sufficient capacity to operate until at least 2031, and potential to operate through 2071, depending on waste flows and waste reduction measures.

Standard Conditions of Approval

Demolition activities would be subject to City of Oakland SCA 36, *Waste Reduction and Recycling*, and Oakland Municipal Code Chapter 15.34. Project applicants would be required to submit a Construction & Demolition Waste Reduction and Recycling Plan (WRRP) and an Operational Diversion Plan (ODP) for

[30] BKF Engineers, 2011

review and approval by the Public Works Department. The City would continue to provide curbside recycling within the Planning Area and would be expected to continue to meet its target diversion rates pursuant to AB 939.

Development under the Specific Plan would not be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs and would not violate applicable federal, state, and local statutes and regulations related to solid waste. Therefore, the impact of development under the Specific Plan on solid waste and recycling would be less than significant.

Mitigation Measures

None needed

Energy

Impact Util-5: Pacific Gas & Electric Company (PG&E) has indicated that there is ample capacity to handle projected demand with its current system. Therefore, development under the Specific Plan would not cause a violation of regulations relating to energy standards nor result in a determination by PG&E that it does not have adequate capacity to serve the project, or result in construction or expansion of energy facilities, construction of which could cause significant environmental effects. The impacts of the Specific Plan related to energy service would be less than significant. (**LTS**)

The Specific Plan would provide for the development of up to an additional 5,090 net new housing units and 4,030,000 square feet of net new non-residential space within the Planning Area. This additional development would result in an estimated 11,136 new residents and 14,850 new jobs in the Planning Area by 2035.

PG&E has indicated that there is ample capacity to handle projected demand with its current system.[31] Therefore, development under the Specific Plan would not cause a violation of applicable federal, State and local statutes and regulations relating to energy standards nor result in a determination by PG&E that it does not have adequate capacity to serve the project's projected demand in addition to the its existing commitments and require or result in construction of new energy facilities or expansion of existing facilities, construction of which could cause significant environmental effects. Therefore, the impact of development under the Specific Plan related to energy service would be less than significant.

Mitigation Measures

None needed

Cumulative Impacts

Cumulative Impact Util-6: Cumulative development would not be expected to require or result in the need for new stormwater drainage, water, wastewater, solid waste or energy facilities or expansion of existing facilities, construction of which could cause significant environmental effects. With City of Oakland Standard Conditions of Approval, the construction period impacts

[31] Redwood Consulting 2012.

of needed utilities improvements would remain less than significant. Therefore, cumulative impacts related to utilities and service systems would be less than significant. (**LTS**)

Development facilitated by the Specific Plan, together with other reasonably foreseeable development, would create additional demand for water, wastewater and solid waste service. The geographic area considered for analysis of cumulative utilities impacts is the service provider's service area.

Storm Drainage

Cumulative development would occur in urbanized areas and primarily involve redevelopment of previously developed properties, so there would be limited change in impervious surface area and stormwater runoff. In addition, with required compliance of individual development projects with SCA 91, *Stormwater and Sewer*, and the Alameda Countywide Clean Water Program NPDES Permit, the stormwater drainage impacts of cumulative development would be less than significant.

New development that impacts an area greater than 10,000 square feet in size would be subject to Provision C.3 of the City of Oakland's National Pollutant Discharge Elimination System (NPDES) permit with the State of California, and would therefore need to implement storm water treatment measures. This will, in the aggregate, serve to lower the overall run-off coefficient in the area, which could over time serve to make the Storm Drainage Master Plan inherently conservative.

Water

EBMUD accounted for the water demands of cumulative development within the current 2009 WSMP 2040, based on the Association of Bay Area Governments (ABAG) *Projections 2005*. The WSMP 2040 concluded that EBMUD has sufficient water supplies to meet current water demand and future water demand through 2035 during normal, single dry, and multiple dry years. Therefore, cumulative impacts related to water service would be less than significant.

Wastewater

The sub-basin allocation system is the method by which EBMUD and the City of Oakland ensure that the City's overall allocation of wastewater collection and treatment capacity is not exceeded. There is sufficient system-wide collection and treatment capacity to serve cumulative development. Should a sub-basin generate more wastewater flows than its allocation, unused allocations may be redirected among sub-basins. The City's Inflow and Infiltration Correction Program allows an approximately 20 percent increase in wastewater flows for each sub-basin to accommodate projected growth. A mitigation fee is assessed on all new development or redevelopment in sub-basins that have a growth rate greater than 20 percent. Therefore, cumulative impacts related to wastewater would be less than significant.

EBMUD Treatment Plan

With cumulative development, the EBMUD Wastewater Treatment Plan will receive an increase in average day sewer flows, and in the concentration of sewage versus other wastewater flows from I/I due to system pip improvements. Ultimately, the higher sewage concentration levels for the greater region might require a higher level of treatment at the EBMUD wastewater treatment plant, near the entrance of the San Francisco-Oakland Bay Bridge. Projects within the area that proposes significant

increases in sewer generation would likely, in order to comply with the California Environmental Quality Act (CEQA), be required to analyze their effects of increased demand on the treatment plant.[32]

Solid Waste

Demolition activities would be subject to City of Oakland SCA 36, *Waste Reduction and Recycling*, and Oakland Municipal Code Chapter 15.34 (which requires implementation of a recycling and Waste reduction Plan for construction and demolition activities). Individual project applicants would be required to submit a Construction & Demolition Waste Reduction and Recycling Plan (WRRP) and an Operational Diversion Plan (ODP) for review and approval by the Public Works Department. The City would continue to provide curbside recycling and would be expected to continue to meet its target diversion rates pursuant to AB 939. Therefore, cumulative impacts related to solid waste would be less than significant.

Energy

Cumulative development would increase demand for electricity and natural gas. Pacific Gas & Electric Company (PG&E) has not indicated its inability to accommodate projected growth in Oakland. In addition, individual future development projects would be required to comply with mandatory Title 24 energy efficiency standards for buildings, CALGreen regulations, and City of Oakland Green Building Ordinance requirements and sustainability programs, which would reduce energy consumption in cumulative development. Therefore, cumulative impacts related to energy service would be less than significant.

Construction of needed water, wastewater, stormwater drainage, and energy system improvements would typically occur along existing pipeline alignments and within existing public rights-of-way. Temporary construction period traffic, noise, air quality, water quality and other potential impacts would be mitigated through the City's Standard Conditions of Approval. Therefore, cumulative development would not be expected to require or result in construction of new utilities facilities or expansion of existing facilities, construction of which could cause significant environmental effects, and cumulative impacts related to utilities and service systems would be less than significant.

Housing Element Findings

The City of Oakland Housing Element Update 2007-2014 Initial Study also considered cumulative effects of new population growth on utilities and service systems. Its geographic area considered for the utilities cumulative analysis includes the City of Oakland and other communities within the area of applicable service providers (e.g., EBMUD, ACFCWCD). The increased population and density resulting from the 2007-2014 Housing Element, in conjunction with population and density of past, present, existing, pending and reasonably foreseeable future development in the City, would result in a cumulative increase in the demand for utilities. This cumulative increase is unlikely to cause the need for new or physically altered facilities or infrastructure in order to maintain acceptable service standards or performance objectives.

Infrastructure planned by EBMUD would occur in response to regional needs and regardless of the 2007-2014 Housing Element. Other infrastructure construction beyond Oakland, would be subject to its own environmental review and applicable regulations for biology, water quality, air quality, etc; these requirements would minimize environmental impacts. Nonetheless, cumulative development would

[32] BKF Engineers, 2011

trigger infrastructure expansion that could result in environmental impacts. However, development under the 2007-2014 Housing Element would occur pursuant to General Plan policies, Municipal Code regulations, mitigation measures adopted for the LUTE EIR and the Standard Conditions of Approval that would reduce the potential impact on services to less-than-significant levels. As a result, the contribution of the 2007-2014 Housing Element to potential cumulative impacts would be less than cumulatively considerable.

Development resulting from the 2007-2014 Housing Element would be infill development in built-up areas or redevelopment of existing sites. Compliance with General Plan Policies I/C1.9, T5.1, D4.1, and N7.2 found in the LUTE Element, LUTE EIR Mitigation Measure D.2-2 and Standard Condition of Approval 91 would ensure that impacts to wastewater treatment standards are less than significant. Impacts related to stormwater drainage capacity would be less than significant, and compliance with General Plan Policy CO-1.1, and Actions CO-1.1.1, CO-6.1.2, and CO-5.3.2 in the OSCAR Element, Policy T5.3 from the LUTE Element, and SCA-78 and 80 would further reduce impacts.

Compliance with Policies CO-4.1, CO-4.2, CO-4.3, and CO-4.4 from the OSCAR Element, and Action 7.4.2. from the 2007-2014 Housing Element, along with green building or LEED certification objectives could reduce impacts on potable water demands to less than significant. In terms of supply infrastructure and conveyance facilities, EBMUD manages the regional conveyance system used to transport potable water supplies to each jurisdiction and customers in its service area. EBMUD also manages and maintains all the WTPs; any improvements or expansions are ultimately the responsibility of EBMUD; therefore, impacts to facilities as a result of implementation of the 2007-2014 Housing Element are less than significant. EBMUD demand surveys conducted during preparation of its WSMP 2040 accounted for demands associated with buildout of the 2007-2014 Housing Element along with demands throughout its service area. Moreover, EBMUD has adequate supplies from its diversions on the Mokelumne River coupled with supplies from the FRWP to serve demands under all hydrologic conditions; therefore, cumulative impacts to water supplies are less than significant.

Impacts related to solid waste would be less than significant, and compliance with LUTE EIR Mitigation Measures D.4-1a, D.4-1b, and D.4-1c, and Actions 7.4.3, 7.4.5, and 7.4.6 from the 2007- 2014 Housing Element, as well as Chapter 15.34 of the Municipal Code and SCA-36 would further reduce impacts. There are adequate supplies of gas, and electricity for residential growth planned under the 2007-2014 Housing Element. Furthermore, energy conservation measures under Title 24 and the City's Green Building Guidelines would minimize future energy demand. Impacts related to energy would be less than significant with compliance with various General Plan, Municipal Code requirements, and Standard Conditions of Approval that reduce impacts. Also, compliance with Actions 7.2.1, 7.2.2, and 7.2.3 of the 2007-2014 Housing Element would further reduce impacts.