

4.9 Hydrology and Water Quality

The following analysis describes the existing hydrology and water quality resources associated with the proposed 123 Independence Drive Residential Project (project; proposed project); identifies the applicable regulatory framework; evaluates potential impacts of the project on hydrology and water quality resources; describes measures to avoid, minimize, and/or mitigate these impacts; and identifies the level of significance after mitigation.

As discussed in Chapter 2, Introduction, and Section 4.0, Environmental Analysis, two Notices of Preparation (NOPs) were circulated for this environmental impact report (EIR), one in January and February 2021, and one in September and October 2021. No comments related to hydrology and water quality were received in response to the NOPs or during the scoping sessions. Both NOPs and the comments received in response to them are provided in Appendix A of this EIR.

The primary sources reviewed to prepare this section include the ConnectMenlo General Plan Update (City of Menlo Park 2016a), the ConnectMenlo General Plan Update EIR (City of Menlo Park 2016b), and the project Hydrology Report (Appendix G1) and Stormwater Management Plan (Appendix G2), both prepared by Kier & Wright in January 2022.

4.9.1 Environmental Setting

Surface Hydrology

Most of the Bayfront Area of the City of Menlo Park (the City), including the project site, is located within the Atherton Creek Watershed. Atherton Creek flows in its historical position from its headwaters just west of Interstate 280 to the Alameda de las Pulgas. Downstream of the Alameda de las Pulgas, Atherton Creek flows through a concrete channel to El Camino Real and then through a combination of concrete channels and culverts until it discharges into Bayfront Canal near Marsh Road. There are several small tributary creeks that drain into Atherton Creek above Alameda de las Pulgas, but farther downstream the drainage network is comprised of underground culverts or storm drains (County of San Mateo n.d.; 2019). Given the systems of channels, culverts, and storm drains, there is no riparian vegetation associated with the lower reaches of Atherton Creek.

The Bayfront Canal watershed is located adjacent to the northern and western edges of the Atherton Creek watershed. The Bayfront Canal is located north of US 101, along the southern edge of the salt ponds. It begins in Redwood City and runs west to east until it discharges through a tide gate structure into Flood Slough, which in turn discharges into San Francisco Bay (the Bay) adjacent to Bedwell Bayfront Park. The combined area of the Bayfront Canal and Atherton Creek watersheds is 8.6 square miles (County of San Mateo 2019).

East of the Atherton Creek watershed, the Ravenswood Slough watershed drains the southeast portion of the City, while most of the central and eastern portions of the City are located within the approximately 45-square-mile San Francisquito Creek watershed. San Francisquito Creek begins in the Santa Cruz Mountains west of the City and flows northeasterly, forming the eastern boundary of the City, and flows through East Palo Alto before emptying into the southwest portion of the Bay.

Climate

The project is located within a region characterized by a Mediterranean climate with cool, wet winters and warm, dry summers. The average low temperature of 48.1° F occurs during December and January and the average high

temperature of 66.6° F occurs in August (City of Menlo Park 2016b). The average annual rainfall within the Bayfront Canal-Atherton Channel watersheds is 20.6 inches, with the southwestern portion of the Atherton Channel watershed receiving the highest amount of direct precipitation (24 inches and greater) and the northeastern portion receiving lesser volumes (20 inches and below) (County of San Mateo 2019), with the majority of precipitation occurring between November and April (City of Menlo Park 2016b). The precipitation received in the southwestern portion of the watershed flows through Atherton Creek and into Atherton Channel and thus contributes to the severity and frequency of flood events in the Bayfront Area, as discussed below. In addition, the Bayfront Area and adjacent neighborhoods are highly urbanized and contain a high degree of impervious surface, which results in greater amounts of stormwater runoff flowing into Bayfront Canal and Atherton Channel.

Flooding

The project site, and much of the Bayfront Area, is within the 100-year floodplain. The low elevation of the Bayfront Area and the tidal influences at the points of discharge from Atherton Channel and Bayfront Canal limit the ability of the watersheds to efficiently discharge and safely detain stormwater. Additionally, both Atherton Channel and Bayfront Canal have capacity constraints that contribute to an increased frequency of flooding for areas along both waterways. During intense rain events, flow from Atherton Channel can spill directly into the North Fair Oaks and Friendly Acres neighborhoods before reaching the Bayfront Canal. The flooding can impede travel on local roads, including Haven Avenue and Marsh Road. In addition to the capacity constraints within the canal and channel, the operation of the tidal gates into Flood Slough also contributes to flooding because the gates are closed during periods of high tide to prevent tide waters from flowing back into the Bayfront Canal. However, when rainfall occurs during the high tide, the Bayfront Canal cannot discharge into Flood Slough until the Bayfront Canal exceeds the tidal elevation. Forecasts for sea-level rise indicate the severity and frequency of tidally influenced flooding in the watershed will increase with time (County of San Mateo 2019).

San Mateo County (the County) and the Cities of Menlo Park and Redwood City have engaged in a variety of assessment, planning, and improvement implementation efforts to address the flooding concerns within the Bayfront Canal-Atherton Channel watershed. This includes installing two 5-foot by 8-foot box culverts to divert stormwater from Bayfront Canal into salt ponds along Ravenswood Slough and installing a diversion structure (composed of a weir and trash rack) to accept flow that would otherwise pass through the tide gates and convey it first to a forebay and then to two salt ponds via a proposed siphon (County of San Mateo 2019).

In addition, the City of Redwood City is partnering with the Coastal Conservancy to implement the Salt Pond Restoration Project to restore 15,100 acres of industrial salt ponds to tidal wetlands and other habitats and serve as stormwater detention for the Bayfront Canal and Atherton Channel drainage areas (City of Menlo Park 2016b). The Salt Pond Restoration Project, which is considered a 50-year effort, was launched in 2003. Since then, nearly 3,040 out of 7,500 acres of habitat have been restored (707 acres of which have been enhanced for wildlife), 6.7 miles of trails have opened for public access, and current flood protection levels continue to be maintained within the San Francisco Bay. The first island ponds were opened up to Bay tides in 2006. In 2019, Phase II construction activities began and in 2021 several additional ponds were opened to Bay tides and speed salt marsh growth. Phase II construction activities continue to progress as other partner projects, such as the South San Francisco Bay Shorelines Project, evolve to protect established communities from sea level rise concerns (South Bay Restoration 2022).

Sea Level Rise

It is expected that increases in average global temperatures due to climate change will lead to increases in sea level, which could expose low-lying areas near oceans and bays to inundation. Specifically, the National Research

Council predicts a range of sea level rise around the San Francisco Bay of between 5 and 24 inches by 2050 and between 17 and 66 inches by 2100, while the San Francisco Bay Conservation and Development Commission (BCDC) predicts a sea level rise of 16 inches by 2050 and 55 inches by 2100 (City of Menlo Park 2016b). BCDC encourages local lead agencies to ensure that development projects in low-lying areas that are outside of BCDC jurisdiction incorporate design measures to provide protection from flooding due to sea level rise, including consideration of the potential sea level both at the mid-century point and at the end of the century.

As a member of the San Francisquito Creek Joint Powers Authority, the City of Menlo Park is participating in the Strategy to Advance Flood Protection, Ecosystems, and Recreation (SAFER) Bay Project, which is intended to protect nearly 5,000 properties from tidal flooding and restore more than 1,000 acres of historic marshlands as well as address the impact of sea level rise (SFCJPA 2022).

Storm Drainage and Stormwater Quality

The City provides stormwater drainage and management services in the project area, with stormwater infrastructure managed by the Menlo Park Public Works Department. The project site is drained by an existing on-site storm drain system that collects runoff from the building roofs, surface parking lots, and other hardscape areas into below-grade storm drains and discharges directly to storm drain mains within the adjacent streets. These existing mains include a 24-inch-diameter line on Constitution Drive, an 18-inch-diameter line on Independence Drive, and a 54-inch-diameter line on Chrysler Drive. These lines contribute flows to the Belle Haven Storm Drain system and discharge to the Bay.

The City requires that all stormwater be treated on site through Low Impact Development features such as biological treatments, detention basins, and rain gardens. If the geological conditions of a development site do not allow these kinds of biological treatments (e.g., clay layers), the City requires mechanical treatment be installed and maintained on site at the owner's expense. The City conducts engineering reviews of private projects to ensure designs are consistent with City specifications.

Under the proposed project, the redeveloped site would be drained by a new on-site storm drain system, which must meet stormwater quality control requirements outlined in the C.3 Regulated Projects Guide of the San Mateo County Water Pollution Prevention Program, as discussed in Section 4.9.2, Regulatory Framework. Similar to the existing on-site system, runoff would be collected from building roofs, surface circulation and parking areas, and other hardscape areas. Within the project site, this runoff would be conveyed to biotreatment ponds and planters for stormwater treatment. After treatment, stormwater would be routed to the existing storm drain network within public streets along the project site frontages.

Groundwater

The project lies within the San Mateo Plain Groundwater Subbasin (groundwater basin number 2-009.03; DWR 2004; or "subbasin") of the Santa Clara Valley Groundwater Basin. The subbasin is not adjudicated, nor has it been found by the California Department of Water Resources to be in a condition of overdraft. The San Mateo subbasin is approximately 38,000 acres and is bounded by the Santa Cruz Mountains to the west-southwest, San Francisco Bay to the north-northeast, San Francisquito Creek and the Santa Clara subbasin to the south-southwest, and the Westside basin to the north-northwest (City of Menlo Park 2016b).

The subbasin is filled with alluvial fan deposits formed by tributaries to San Francisco Bay that drained across the basin and toward the center of the Bay. These alluvial fan deposits are interbedded with thick clay aquitards or

confining layers and comprise the main water bearing formations within the subbasin. The major water bearing formation of the subbasin is the Quaternary alluvium, from which all larger yielding wells acquire their water. The Santa Clara Formation underlies the Quaternary alluvium and is the other water bearing formation of the subbasin. In general, the groundwater system is unconfined in the higher elevations, and confined or semiconfined at lower elevations closer to San Francisco Bay (City of Menlo Park 2021).

Natural recharge occurs by infiltration of water from streams that enter the valley from the upland areas within the drainage basin, including San Francisquito Creek, San Mateo Creek, and other smaller creeks, and by percolation of precipitation that falls directly on the land surface. Additional recharge occurs as a result of infiltration of applied irrigation water. Subbasin outflows include limited municipal and private well pumping and groundwater outflows across subbasin boundaries (City of Menlo Park 2021).

Although the San Mateo subbasin was used as a water source for irrigation needs in the first half of the twentieth century, use of the Hetch Hetchy reservoir beginning in 1940 and surface water deliveries from the State of California beginning in 1965 have reduced the region's demand for groundwater, and water levels within the basin have returned to pre-1960 conditions (DWR 2004). This subbasin is not considered critically overdrafted and is designated as low priority under the California Sustainable Groundwater Management Act. There are approximately 348 wells operating within the subbasin, 10 of which are used for water supply. The subbasin accounts for approximately 10 percent of the water supply in the region (Groundwater Exchange 2022).

The Phase I Environmental Site Assessment prepared for the project site (Appendix F2) found that there is a groundwater plume in the project vicinity that is contaminated with volatile organic compounds, primarily trichloroethene and vinyl chloride. This condition and the associated environmental effects are discussed in Section 4.8, Hazards and Hazardous Materials.

Hydrologic Hazards

The northern portion of the City, which consists mainly of sloughs and undeveloped land, is located within a tsunami inundation zone. According to the Governor's Office of Emergency Services tsunami and dam inundation maps for emergency planning, all proposed areas of future development, including the Bayfront Area, are outside of an inundation zone associated with potential dam failure or tsunami. While it is possible that a seiche could occur within the Bay as a result of an earthquake event or other disturbance, any flooding associated with a seiche event would occur within areas susceptible to other hydrologic flooding (i.e., dam or tsunami). Because the Bayfront area, including project site, is located outside of mapped tsunami and dam-inundation zones, it is not expected that this area would be exposed to any potential flooding resulting from a seiche. Similarly, there is no potential for the project site to be affected by mudflow due to the generally flat topography of the Bayfront Area and most of the City and because there are no areas within the City designated to be potentially affected by rainfall-induced landslides and debris flow source areas (City of Menlo Park 2016b).

4.9.2 Regulatory Framework

Federal Regulations

Clean Water Act

The Clean Water Act (CWA), as amended by the Water Quality Act of 1987, is the major federal legislation governing water quality (33 USC, Section 1251 et seq.). The objective of the CWA is "to restore and maintain the chemical,

physical, and biological integrity of the Nation’s waters.” The CWA establishes basic guidelines for regulating discharges of both point and non-point sources of pollutants into the waters of the United States.¹ The CWA requires that states adopt water quality standards to protect public health, enhance the quality of water resources, and ensure implementation of the CWA. Commonly relevant sections of the act are as follows:

- **Sections 303 and 304** provide for water quality standards, criteria, and guidelines. Under Section 303(d) of the CWA, the State of California is required to develop a list of impaired water bodies that do not meet water quality standards and objectives. California is required to establish total maximum daily loads (TMDLs) for each pollutant/stressor. A TMDL defines how much of a specific pollutant/stressor a given water body can tolerate and still meet relevant water quality standards. Once a water body is placed on the Section 303(d) List of Water Quality Limited Segments, it remains on the list until a TMDL is adopted and the water quality standards are attained, or there is sufficient data to demonstrate that water quality standards have been met and delisting from the Section 303(d) list should take place.
- **Section 401 (Water Quality Certification)** indicates that a federal agency may not issue a permit or license to conduct any activity that may result in any discharge into waters of the United States unless a Section 401 water quality certification is issued, verifying compliance with water quality requirements, or waiving such a certification. States where the discharge would originate are generally responsible for issuing water quality certifications. CWA Section 402 and 404 permits (see description below) are subject to Section 401 certification.
- **Section 402 (National Pollutant Discharge Elimination System)** establishes the National Pollutant Discharge Elimination System (NPDES), a permitting system for the discharge of any pollutant (except for dredged or fill material) into waters of the United States. This program regulates all such discharges, including stormwater discharges associated with municipal drainage systems, construction activities, industrial operations, and “point sources” (such as wastewater treatment plant discharges and other direct discharges to water bodies). The intent of the NPDES program is to protect surface water quality.

This permit program is administered by the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCBs), who have several programs that implement individual and general permits related to construction activities, stormwater runoff quality, and various kinds of non-stormwater discharges. The NPDES General Construction Permit is discussed further under the State Regulations subheading. In general, in California, a NPDES permit also provides waste discharge requirements, although waste discharge requirements can be issued for discharges that are not within the coverage of the Section 402 NPDES program.

The Municipal Stormwater Permitting Program under CWA Section 402 regulates stormwater discharges from municipal separate storm sewer systems. The City’s Stormwater Management Program is discussed under the Local Regulations subheading.

The City of Menlo Park lies within the jurisdiction of San Francisco RWQCB (Region 2) and is subject to the waste discharge requirements of the Municipal Regional Stormwater Permit (MRP; Order No. R2-2015-0049) and NPDES Permit No. CAS612008. The San Mateo County permittees include San Mateo County, the San Mateo County Flood District, 15 cities, and 5 towns, including the City of Menlo Park. Under Provision C.3 of the MRP, the co-permittees use their planning authorities to include appropriate source control, site design, and stormwater treatment measures in new development and redevelopment projects to address both soluble and insoluble stormwater runoff pollutant discharges and prevent increases in runoff flows from new development and redevelopment projects.

¹ Point-source discharges are those emanating from a pipe or discrete location/process, such as an industrial process or wastewater discharge. Non-point source pollutants are those that originate from numerous diffuse sources and land uses, and which can accumulate in stormwater runoff or in groundwater.

- **Section 404 (Discharge of Dredged or Fill Material into Waters of the United States)** establishes a permit program for the discharge of dredged or fill material into waters of the United States. This permit program is jointly administered by the U.S. Army Corps of Engineers (USACE) and U.S. Environmental Protection Agency (EPA). Section 4.3, Biological Resources, addresses this requirement in greater detail. A Section 401 water quality certification generally is necessary for a Section 404 permit.

Numerous agencies have responsibilities for administration and enforcement of the CWA. At the federal level, this includes the EPA, USACE, and the major federal land management agencies such as the U.S. Forest Service and Bureau of Land Management. At the state level, with the exception of tribal lands, the California Environmental Protection Agency and its sub-agencies, including the SWRCB and the nine RWQCBs, have been delegated primary responsibility for administering and enforcing certain provisions of the CWA. At the local level, the San Francisco Bay RWQCB and the County both have enforcement and implementation responsibilities under the CWA.

Federal Antidegradation Policy

The federal Antidegradation Policy (40 CFR 131.12), first included in EPA's regulations in 1983, is designed to protect water quality and water resources. The policy requires states to develop statewide antidegradation policies and identify methods for implementing those policies. State antidegradation policies and implementation measures must include the following provisions: (1) existing instream uses and the water quality necessary to protect those uses shall be maintained and protected; (2) where existing water quality is better than necessary to support fishing and swimming conditions, that quality shall be maintained and protected unless the state finds that allowing lower water quality is necessary for important local economic or social development; and (3) where high-quality waters constitute an outstanding national resource, such as waters of national and state parks, wildlife refuges, and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected. State permitting actions must be consistent with the federal Antidegradation Policy.

State Regulations

Porter–Cologne Water Quality Control Act

The Porter–Cologne Water Quality Control Act (Porter-Cologne Act; codified in the California Water Code, Section 13000 et seq.) is the primary water quality control law for California. Whereas the CWA applies to all waters of the United States, the Porter–Cologne Act applies to waters of the state, which includes surface water, isolated wetlands, and groundwater in addition to federal waters. It is implemented by the SWRCB and the nine RWQCBs, who are required to adopt and periodically update water quality control plans (Basin Plans). Basin Plans are the regional water quality control plan that detail beneficial uses, water quality objectives, and implementation programs as required under the CWA and the Porter-Cologne Act.

In addition, the RWQCBs have the authority to conduct, order, and oversee investigation and cleanup where discharges or threatened discharges of waste to waters of the state could cause pollution or nuisance, including impacts to public health and the environment. The act requires a Report of Waste Discharge for any discharge of waste (liquid, solid, or otherwise) to land or surface waters that may impair a beneficial use of surface or groundwater of the state. For discharges directly to surface water (waters of the United States) from a point source, an NPDES permit is required, which is issued under both state and federal law; for other types of discharges, such as waste discharges to land (e.g., spoils disposal and storage), erosion from soil disturbance, or discharges to waters of the state (e.g., groundwater and isolated wetlands), waste discharge requirements are required and are issued exclusively under state law. Waste discharge requirements typically require many of the same best management practices (BMPs) and pollution control technologies as NPDES permits.

Construction General Permit (SWRCB Order 2009-0009-DWQ, as amended). For stormwater discharges associated with construction activity in the State of California, the SWRCB has adopted the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) to avoid and minimize water quality impacts attributable to such activities. The Construction General Permit applies to all projects in which construction activity disturbs 1 acre or more of soil. Construction activity subject to this permit includes clearing, grading, and disturbances to the ground, such as stockpiling and excavation. The Construction General Permit requires the development and implementation of a stormwater pollution prevention plan (SWPPP), which must address the following:

- Plans for implementation of structural and operational BMPs to prevent and control impacts to surface water during construction
- Inspection and maintenance of BMPs throughout all phases of construction
- Monitoring of runoff quality during all phases of construction
- Prevention and control of post-construction impacts to runoff quality

Further, the SWPPP must be prepared and implemented by qualified individuals as defined by the SWRCB. The project applicant must submit a Notice of Intent to the SWRCB to be covered by a NPDES permit and prepare the SWPPP prior to the beginning of construction.

California Antidegradation Policy

The California Antidegradation Policy, otherwise known as the Statement of Policy with Respect to Maintaining High Quality Water in California, was adopted by the SWRCB (State Board Resolution No. 68-16) in 1968. Unlike the federal Antidegradation Policy, the California Antidegradation Policy applies to all waters of the state, not just surface waters. The policy requires that, with limited exceptions, whenever the existing quality of a water body is better than the quality established in individual basin plans, such high-quality water must be maintained and discharges to that water body must not unreasonably affect any present or anticipated beneficial use of the water resource.

Sustainable Groundwater Management Act

In 2014, California enacted the Sustainable Groundwater Management Act (California Water Code Sections 10720 et seq.) to bring the state's groundwater basins into a more sustainable regime of pumping and recharge. The legislation provides for the sustainable management of groundwater through the formation of local groundwater sustainability agencies and the development and implementation of Groundwater Sustainability Plans. As the San Mateo subbasin is designed low priority under this Act, a Groundwater Sustainability Plan for the subbasin is encouraged but not required.

Regional and Local Regulations

Water Quality Control Plan for the San Francisco Bay Basin

As noted in the State Regulations discussion, the primary enforcement authority for the Porter-Cologne Act and portions of the CWA has been given to the SWRCB and its nine RWQCBs. The SWRCB provides state-level coordination of the water quality control program by establishing statewide policies and plans for implementation of state and federal regulations. Each of the nine RWQCBs are responsible for adopting and implementing Basin Plans that recognize the unique characteristics of each region with regard to natural water quality, actual and potential beneficial uses, and water quality problems. The San Francisco RWQCB (SFRWQCB) is responsible for the protection of the beneficial uses of waters draining to the San Francisco Bay.

The Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) addresses water quality within the San Francisco Bay Region, which covers a total of 4,603 square miles, including 1,100 square miles of the San Francisco Bay Estuary. This is the “largest estuary on the west coast of the United States, where fresh waters from California’s Central Valley mix with the saline waters of the Pacific Ocean” (SFRWQCB 2017). The San Francisco Bay supports a diverse and productive ecosystem. It includes deepwater channels, tidelands, marshlands, freshwater streams, and rivers that provide a wide variety of habitats for plants and wildlife.

The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Beneficial uses of inland surface waters within the San Francisco Bay Basin include municipal and domestic supply, agricultural and industrial process supply, recreational uses, groundwater recharge, wildlife and freshwater (cold and warm) habitat, preservation of rare and endangered species, and fish migration and spawning (SFRWQCB 2017). In addition, the estuary also supports estuarine habitat and navigation, as well as most of the beneficial uses identified for inland surface waters.

San Mateo Countywide Water Pollution Prevention Program

The San Mateo Countywide Water Pollution Prevention Program (SMCWPPP) is a partnership of the City/County Association of Governments, each incorporated city and town within San Mateo County, and the County of San Mateo, which share a common NPDES permit. This partnership also relies on each of the municipalities to implement local stormwater pollution prevention and control activities for its own local storm drain systems. The SMCWPPP’s Stormwater Management Plan, in conjunction with NPDES permit adopted by the Water Board, is designed to enable SMCWPPP to meet the requirements of the CWA by identifying priorities, key elements, strategies, and evaluation methods to implement the SMCWPPP. This includes specific measures and actions to reduce pollution from construction sites, as well as actions to address industrial sites, illegal discharges and illicit connections, and municipal operations. The Stormwater Management Plan also includes a public education effort, target pollutant reduction strategies, and watershed assessment and monitoring.

City of Menlo Park General Plan

The City’s General Plan (specifically the Land Use Element, Open Space/Conservation Element, Noise Element, and Safety Element) contains general goals, policies, and programs that would require local planning and development decisions to consider impacts on hydrology and water quality.

Goal LU-6: Preserve open-space lands for recreation; protect natural resources and air and water quality; and protect and enhance scenic qualities.

Policy LU-6.11: Baylands Preservation. Allow development near the Bay only in already developed areas.

Goal LU-7: Promote the implementation and maintenance of sustainable development, facilities and services to meet the needs of Menlo Park’s residents, businesses, workers, and visitors.

Policy LU-7.7: Hazards. Avoid development in areas with seismic, flood, fire and other hazards to life or property when potential impacts cannot be mitigated.

Goal OSC-5: Ensure healthy air and water quality.

Policy OSC-5.1: Air and Water Quality Standards. Continue to apply standards and policies established by the Bay Area Air Quality Management District (BAAQMD), San Mateo Countywide Water Pollution Prevention Program (SMCWPPP), and City of Menlo Park Climate Action Plan through the California Environmental Quality Act (CEQA) process and other means as applicable.

Goal S-1: Assure a safe community.

Policy S-1.5: New Habitable Structures. Require that all new habitable structures incorporate adequate hazard mitigation measures to reduce identified risks from natural and human-caused hazards.

Policy S-1.10: Safety Review of Development Projects. Continue to require hazard mitigation, crime prevention, fire prevention and adequate access for emergency vehicles in new development.

Program S-1.D: Require Early Investigation of Potential Hazard Conditions. Require that potential geologic, seismic, soils, and/or hydrologic problems confronting public or private development be thoroughly investigated at the earliest stages of the design process, and that these topics be comprehensively evaluated in the environmental review process by persons of competent technical expertise.

Policy S-1.26: Erosion and Sediment Control. Continue to require the use of best management practices for erosion and sediment control measures with proposed development in compliance with applicable regional regulations.

Policy S-1.27: Regional Water Quality Control Board (RWQCB) Requirements. Enforce stormwater pollution prevention practices and appropriate watershed management plans in the RWQCB general National Pollutant Discharge Elimination System requirements, the San Mateo County Water Pollution Prevention Program and the City's Stormwater Management Program. Revise, as necessary, City plans so they integrate water quality and watershed protection with water supply, flood control, habitat protection, groundwater recharge, and other sustainable development principles and policies.

Policy S-1.28: Sea Level Rise. Consider sea level rise in siting new facilities or residences within potentially affected areas.

City of Menlo Park Municipal Code

Flood Damage Prevention

Municipal Code Chapter 12.42 Flood Damage Prevention is intended to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas. The project would require a development permit in areas of special flood hazards (Section 12.42.32).

This chapter contains standards for any construction projects in areas of special flood hazard and coastal high hazard areas. The City designates special flood hazard areas based on the Flood Insurance Study, FIRMs, and Flood Boundary and Floodway Maps. In these areas, the City requires using flood-resistant construction materials and utility equipment as well as construction methods that minimize flood damage.

Any construction projects within the special flood hazard area must comply with the Engineering Division's Plan Review Checklist to Comply with FEMA Requirements. The application package must include certification from a licensed engineer or architect that the plans comply with the City's Flood Damage Prevention Code, plans showing the location and elevation of the project, proposed elevation of the 1-percent chance storm Base Flood Elevation in relationship to the lowest floor of all structures, on-site drainage plan that shows how flood waters will be directed around the structures, and a statement that a finished construction elevation certificate will be provided at project completion. Variances may be issued for the repair, rehabilitation, or restoration of historic structures, as listed in the National Register of Historic Places or the State Inventory of Historic Places.

Storm Water Management Program.

Chapter 7.42, Storm Water Management Program, is intended to protect and enhance the water quality of watercourses, water bodies, and wetlands consistent with the CWA by requiring new development or redevelopment projects use BMPs to achieve these goals. Specifically, this chapter seeks to:

- a. Eliminate non-storm water discharges to the municipal separate storm sewer;
- b. Control the discharge to municipal separate storm sewers from spills, dumping or disposal of materials other than storm water; and
- c. Reduce pollutants in storm water discharges to the maximum extent practicable.

4.9.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts with regard to hydrology and water quality are based on Appendix G and Section 15130 of the CEQA Guidelines. A significant impact related to hydrology and water quality would occur if the project would:

- A. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.
- B. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.
- C. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
 - I. Result in substantial erosion or siltation on- or off-site.
 - II. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite.
 - III. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.
 - IV. Impede or redirect flood flows.
- D. Risk release of pollutants due to project inundation in a flood hazard, tsunami, or seiche zone.
- E. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.
- F. Result in cumulatively considerable hydrological or water quality impacts.

4.9.4 Impacts and Mitigation Measures

Methodology

The project setting and impact analysis was developed by reviewing information relating to hydrology and water quality in proximity to the project site. Information reviewed for this section included ConnectMenlo General Plan Update, the ConnectMenlo General Plan Update Draft EIR, the ConnectMenlo General Plan Update Final EIR and the City of Menlo Park Municipal Code. Additionally, the site-specific Hydrology Report (Appendix G1) and Stormwater Management Plan (Appendix G2), both prepared by Kier & Wright in January 2022 were reviewed in preparation of this section. The Hydrology Report defines the existing and proposed drainage conditions, including identifying drainage basins within the site and the amount that the project would reduce the impervious surface area within the project site. The Stormwater Management Plan defines and describes the stormwater treatment measures incorporated in the project design, including identifying the size of the area treated by each measure.

Project Impacts

Impact 4.9-1 Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

The proposed project would redevelop the project site by demolishing five existing commercial (office) and industrial buildings and constructing a multi-family residential development. Project construction and operation have the potential to impact water quality in the surrounding area. The project site does not currently contain any stormwater treatment measures. The project site is located in the Bayfront Area of Menlo Park. Runoff from the site drains into a 24-inch stormwater line in Constitution Drive, an 18-inch line on Independence Drive, and a 54-inch mainline in Chrysler Drive and is then conveyed to the Atherton Channel (Appendix G1). The Atherton Channel flows through a concrete channel to El Camino Real and a combination of concrete channels and culverts until it discharges into Bayfront Canal near Marsh Road.

Potential sources of pollutants during demolition and construction include sediment erosion from ground-disturbing activities, fuels, oils, lubricants, and other hazardous substances used during construction. In compliance with the NPDES General Construction Permit, a SWPPP would be prepared for the project that specifies BMPs to be implemented during construction to minimize impacts to water quality.

Due to the residential nature of the project, long-term operation of the project is not expected to release a substantial amount of pollutants in the form of hazardous materials or sediment. The only hazardous materials anticipated from project operation would be for transport, use, or disposal of routinely used household products such as cleaners, paint, solvents, motor oil/automotive products, and batteries, as well as pool and landscape maintenance products, typical of residential land uses. Runoff from the project site would be collected and treated through biotreatment ponds and flow-through planters. The size and design of the ponds and planters were determined based on the size of the drainage basin each serves and the extent of impervious surfaces within that basin, and each is sized slightly larger than the required size under the San Mateo County C3 Manual guidelines (Appendix G2). By incorporating the on-site stormwater treatment measures into the site design, the project demonstrates compliance with Chapter 7.42, Storm Water Management Program, of the City's Municipal Code as well as General Plan Policies OSC-5.1, S-1.26, and S-1.27

Through implementation of SWPPP, BMPs, and site design, pollutants from project construction and operation would be treated and would not adversely affect surface or ground water resources. Therefore, the development of the proposed project would not lead to the degradation of surface of groundwater quality, Impacts would be **less than significant**.

Mitigation Measures

No mitigation measures are required.

Impact 4.9-2 Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

As discussed above, the project lies within the San Mateo Plain Groundwater Subbasin (groundwater basin number 2-009.03; DWR 2004; or “subbasin”) of the Santa Clara Valley Groundwater Basin, which is not in critical overdraft and is designated as low priority under the California Sustainable Groundwater Management Act. Groundwater supplied through the San Mateo Plain Groundwater Subbasin accounts for approximately 10 percent of the water supply in the region (Groundwater Exchange 2022). Water supply servicing the project site is provided from Menlo Park Municipal Water (MPMW) (City of Menlo Park 2022), which purchases water from the San Francisco Public Utilities Commission. All of the water that MPMW purchases is sourced from surface water from the Hetch Hetchy reservoir and San Mateo County reservoirs (BAWSCA 2022). MPMW does not utilize groundwater as a potable water source outside of emergency conditions.

The 123 Independence Water Budget Summary (Appendix K1) identifies that the project would require 16.94 million gallons of water annually (approximately 46,422 gallons per day). This includes 16.16 million gallons for indoor water use and 0.78 million gallons for outdoor water use. As discussed in Section 4.16, Utilities and Service Systems, MPMW has sufficient water in normal water years to meet projected demand through 2040; however, in the case that there are multiple dry years, MPMW would implement MPMW’s Water Shortage Contingency Plan. This plan identifies a range of actions and strategies to reduce water demand and augment water supplies. The use of emergency groundwater wells is identified for supply augmentation only at water shortage level 5 (MPMW 2021).

Currently 86.5 percent of the project site is covered in impervious surfaces. The project proposes the redevelopment of the site to 432 residential uses (a mix of townhomes and apartments), open space, and parking structures. The proposed project would result in a reduction of 6,739 square feet of impervious area, resulting in only 84.6 percent of the project site being impervious after project implementation (Appendix G2). The reduction in impervious area on the project site would allow for more water to infiltrate the soil within the project site.

Because the project would not consume groundwater, except in cases of severe drought, and would increase the potential for groundwater recharge by reducing the extent of impervious surfaces within the project site, the project would have a **less-than-significant** impact on groundwater resources.

Mitigation Measures

No mitigation is required.

Impact 4.9-3 Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site?

Stormwater within the project site currently is directed to existing stormwater lines along Constitution Drive, Independence Drive, and Chrysler Drive, which drain to the Atherton Channel (Appendix G1). The proposed project would alter the drainage patterns on site by reducing the extent of impervious surfaces within the site and by importing soil to raise the ground above the base flood elevation.

Within the site, runoff would not flow across exposed dirt and thus would not cause erosion on site. All stormwater runoff would be routed through biotreatment ponds and flow-through planters before being collected within the existing stormwater lines surrounding the site. Thus, the water discharged from the site would not carry excessive amounts of sediment that could be then deposited in the Atherton Channel or the Bay. The portion of the Atherton Channel that receives stormwater from the project site is concrete and thus not subject to erosion. By incorporating the on-site stormwater treatment measures into the site design, the project demonstrates compliance with Chapter 7.42, Storm Water Management Program, of the City's Municipal Code as well as General Plan Policies OSC-5.1, S-1.26, and S-1.27.

The project would alter drainage patterns only within the project site and would not alter the course of a stream or river or result in substantial erosion or siltation. Thus, the project would have **no impact**.

Mitigation Measures

No mitigation measures are required.

Impact 4.9-4 Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?

Stormwater from the project site currently is directed to existing lines along Constitution Drive, Independence Drive, and Chrysler Drive, which drain to the Atherton Channel (Appendix G1). The project is located within FEMA Zone AE and subject to the 100- year flood. Further, the project site is subject to sea level rise. The project would involve importing fill material sufficient to ensure that the final floor elevation of all proposed ground-level residential units would be at least 2 feet above the 5-foot FEMA floodplain, per the requirements of Menlo Park Municipal Code Section 16.45.130(4), Municipal Code Chapter 12.42 Flood Damage Prevention, and General Plan Policy S-1.28. The current site grade varies from approximately 7.8 feet to 9.8 feet and the finished grade for the proposed development would be at approximately 13 feet, which is approximately 2.6 feet above the 5-foot FEMA floodplain. While this would result in a change to the drainage conditions within the project site, as discussed under Impact 4.9-3, the project would not alter drainage patterns outside of the project site. The overall flow rate of stormwater leaving the project site and entering the Atherton Channel would be reduced due to the reduction of impervious area within the project site. As discussed in Section 4.9.1, both of these channels have capacity constraints that contribute to an increased frequency of flooding for areas along both waterways. For the stretches of these channels downstream of the point at which stormwater in the 54-inch mainline in Chrysler Drive discharges into Atherton Channel, the reduced rate and volume of stormwater runoff from the project site would slightly reduce the potential for flooding to occur compared to existing conditions. The changes in drainage as a result of project implementation would have **no impact** related to increased potential for flooding on- or off-site.

Mitigation Measures

No mitigation measures are required.

Impact 4.9-5 Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

As discussed in Impact 4.9-4, the total volume and flow of runoff leaving the site and entering the Atherton Channel would be less than under the existing conditions due to the decreased extent of impervious surfaces on the project site (Appendix G1). Thus, the project would not create or contribute runoff water that would exceed the capacity of the City's stormwater drainage system and for the stretches of the Atherton and Bay channels downstream of the point at which stormwater from the project site discharges into Atherton Channel, the reduced rate and volume of stormwater runoff from the project site would slightly reduce the potential for flooding to occur compared to existing conditions.

The project site does not currently contain any stormwater treatment measures. The project would demolish five buildings that are currently located on the project site and construct 432 townhomes and apartments. Potential sources of pollutants during project demolition and construction include sediment erosion from ground-disturbing activities on the project site, fuels, oils, lubricants, and other hazardous substances used during construction. In compliance with the NPDES General Construction Permit, a SWPPP would be prepared for the project that would specify BMPs that would be implemented during construction to minimize impacts to water quality. By incorporating the on-site stormwater treatment measures into the site design, the project demonstrates compliance with Chapter 7.42, Storm Water Management Program, of the City's Municipal Code as well as General Plan Policies OSC-5.1, S-1.26, and S-1.27.

Due to the residential nature of the project, project operation is not expected to release a substantial number of pollutants from the project site. The only hazardous materials anticipated from project operation would be for transport, use, or disposal of routinely used household products such as cleaners, paint, solvents, motor oil/automotive products, batteries and garden maintenance products, typical of residential land uses. As discussed in Appendix G2, all stormwater runoff from the project site would be collected and treated in biotreatment ponds and flow through planters sized according to San Mateo County C3 Manual guidelines. This stormwater treatment would provide for filtration of pollutants out of the stormwater before it is discharged to the stormwater lines surrounding the project site.

Through implementation of the SWPPP, BMPs, and site design, pollutants from project construction and operation would be treated and remain on site. Therefore, development of the proposed project would reduce, rather than increase the amount of pollutants leaving the project site.

The project would have **no impacts** associated with contributing stormwater runoff that would exceed the capacity of the City's stormwater drainage systems and associated with creating substantial additional sources of polluted runoff.

Mitigation Measures

No mitigation measures are required.

Impact 4.9-6 Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows?

As discussed above under Impact 4.9-4, stormwater from the project site currently is directed to existing lines along Constitution Drive, Independence Drive, and Chrysler Drive, which drain to the Atherton Channel (Appendix G1). The project site is located within FEMA Zone AE and subject to the 100- year flood as well as sea level rise. As part of the project, fill material would be imported sufficient to ensure that the final floor elevation of all proposed ground-level residential units would be approximately 2.6 feet above the 5-foot FEMA floodplain, consistent with the requirements of Menlo Park Municipal Code Section 16.45.130(4). In addition, the project would result in a reduction in the amount of impervious surfaces on the project site compared to existing conditions. These elements of the project would alter the drainage pattern within the project site. Because the project site is located within a 100-year flood zone, the project applicant would be required to submit an on-site drainage plan to the City and FEMA to show how flood waters would be directed around new site structures and would not adversely affect surrounding neighboring properties. Further, the project would be required to comply with the requirements outlined under provision C.3 of the Municipal Regional Stormwater Permit (MRP), which requires appropriate site design and stormwater treatment measures to address and prevent increases in runoff flows from new development projects. Compliance with existing regulations, City municipal code requirements, as well as general plan policies and programs intended to reduce and/or prevent adverse flooding onto neighboring properties, would ensure that project implementation would not impede or redirect flood flows. Impacts would be **less than significant**.

Mitigation Measures

No mitigation measures are required.

Impact 4.9-7 Would the project risk release of pollutants due to project inundation in flood hazard, tsunami, or seiche zones?

As discussed above under Impact 4.9-5, the project is located within FEMA Zone AE and subject to the 100- year flood. The project is not located within a tsunami hazard or seiche zones (CGS 2021), As part of the project, the project site will be raised out of the base flood elevation, reducing on-site flood risk. To reduce impacts from pollutants from the project site, the project would implement a SWPPP, BMPs, and the proposed site design, which would capture and treat pollutants from project construction and operation. With the project site being raised out of base flood elevation and implementation of a SWPPP and site specific BMPs, the project would not risk the release of pollutants due to flooding. Impacts would be **less than significant**.

Mitigation Measures

No mitigation measures are required.

Impact 4.9-8 Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Water Quality Plans that the project would be required to comply with include the Water Quality Control Plan for the San Francisco Bay Basin, the SMCWPPP, and the City of Menlo Park Storm Water Management Program. As described above, the Water Quality Control Plan for the San Francisco Bay Basin designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. The SMCWPPP includes specific measures and actions to reduce pollution from construction sites, as well as actions to address industrial sites, illegal discharges and illicit connections, and municipal operations. The City of Menlo Park Storm Water Management Program is intended to protect and enhance the water quality of watercourses, water bodies, and wetlands consistent with the CWA by

requiring new development or redevelopment projects use BMPs to achieve these goals. Specifically, this program seeks to: eliminate non-stormwater discharges to the municipal separate storm sewer; control the discharge to municipal separate storm sewers from spills, dumping or disposal of materials other than stormwater; and reduce pollutants in stormwater discharges to the maximum extent practicable.

As discussed under Impact 4.9-1, potential sources of pollutants during project demolition and construction include sediment erosion from ground-disturbing activities on the project site, fuels, oils, lubricants, and other hazardous substances used during construction. In compliance with the NPDES General Construction Permit, a SWPPP would be prepared for the project that would identify BMPs to be implemented during construction to minimize impacts to water quality. The only hazardous materials anticipated from project operation would be routinely used household products such as cleaners, paint, solvents, motor oil/automotive products, batteries and landscape maintenance products, typical of residential land uses. As discussed in Appendix G2, pollutants from the project site would be collected and treated through biotreatment ponds and flow through planters that would be sized according to San Mateo County C3 Manual guidelines. Through the implementation of SWPPP, BMPs, and site design, pollutants from project construction and operation would be treated and remain on site and would not conflict with a water quality control plan.

As discussed under Impact 4.9-2, the project lies within the San Mateo Plain Groundwater Subbasin (groundwater basin number 2-009.03; DWR 2004; or “subbasin”) of the Santa Clara Valley Groundwater Basin, which is not in critical overdraft and is designated as low priority under the California Sustainable Groundwater Management Act and does not have a sustainable groundwater management plan.

The project would not conflict with or obstruct a water quality control plan or sustainable groundwater management plan. Impacts would be **less than significant**.

Mitigation Measures

No mitigation measures are required.

Impact 4.9-9 Would the project result in cumulatively considerable hydrological or water quality impacts?

The ConnectMenlo EIR evaluated potential cumulative hydrology and water quality impacts that could arise from future development under the City’s General Plan and concluded that impacts would remain less than significant because development projects would be required to comply with City Municipal Code, General Plan polices, and federal, state, and local water quality regulations. The ConnectMenlo EIR found that compliance with these requirements would reduce the cumulative impacts of land development related to drainage alterations, groundwater, flood hazards, and water quality to less than significant levels (City of Menlo Park 2016b). Thus, there are no significant hydrology and water quality cumulative impacts to which the project could contribute.

The project design includes BMPs that are sized slightly larger than required under the San Mateo County C3 Manual guidelines, and as discussed throughout this section, the project would comply with all applicable water quality regulations. Specifically, by incorporating the on-site stormwater treatment measures into the site design, the project demonstrates compliance with Chapter 7.42, Storm Water Management Program, of the City’s Municipal Code as well as General Plan Policies OSC-5.1, S-1.26, and S-1.27. Further, there are no stormwater treatment measures at the project site currently and the proposed project would reduce the extent of impervious surfaces at the project site. Thus, the proposed project would improve water quality and reduce runoff compared to the existing conditions.

Although the project would construct more residential units than were evaluated under the ConnectMenlo EIR, the project would not expand the development area or footprint of development that was evaluated in that EIR. Thus, the conclusions of the ConnectMenlo EIR regarding the potential for significant cumulative impacts associated with hydrology and water quality remain applicable to the proposed project. The project would have **no impact** in terms of resulting in a cumulative considerable contribution to cumulate hydrological and water quality impacts.

Mitigation Measures

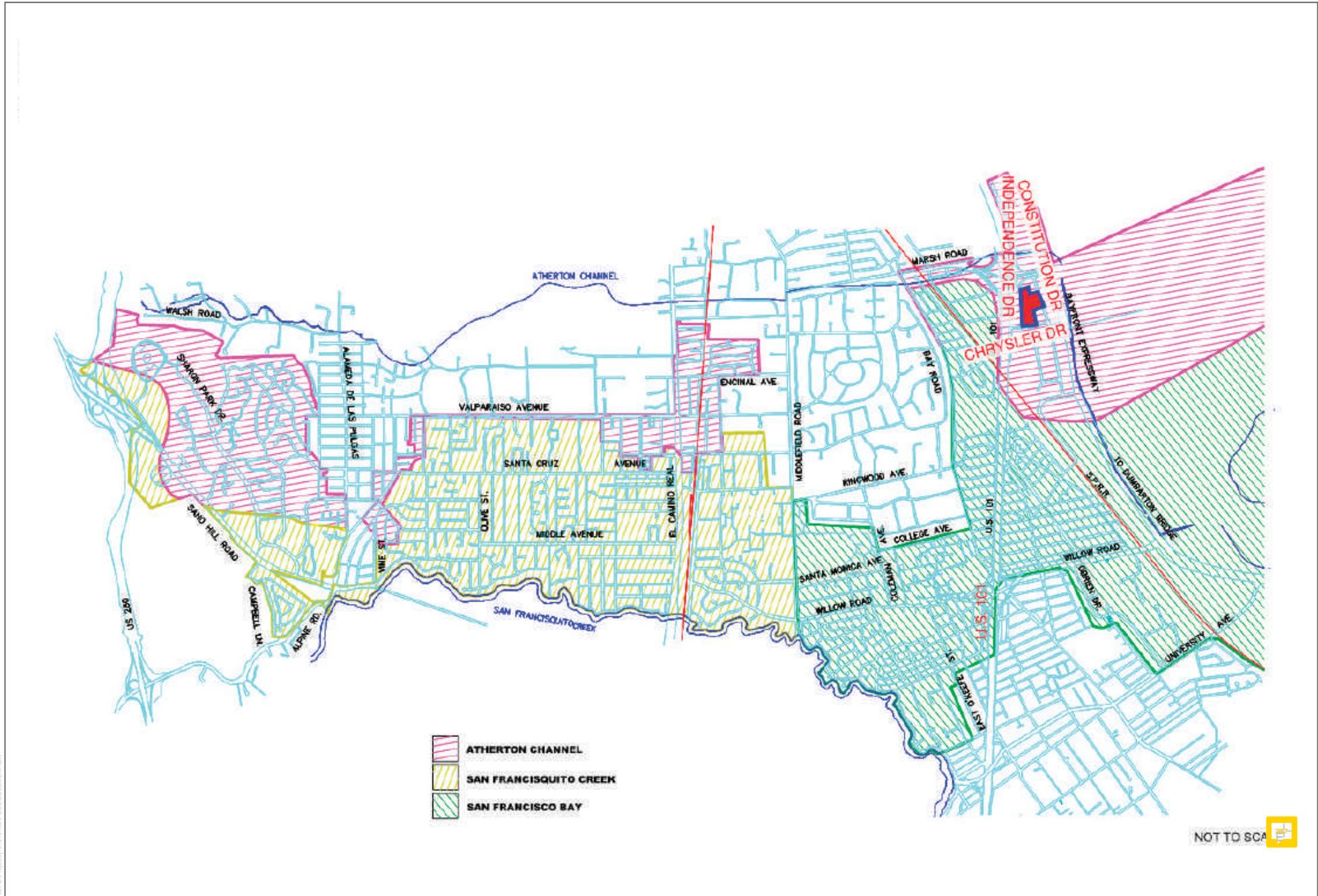
No mitigation measures are required.

4.9.5 References

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SOURCE: Kier+Wright 2020

FIGURE 4.9-1
Drainage Basins

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SOURCE: Kier+Wright 2022

FIGURE 4.9-2

Existing Site Drainage

123 Independence Drive Residential Project

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WATER USE LEGEND

KEY	WUCOLS CATEGORY
Red	Low: 75.2% (47,770 sf)
Purple	Medium: 21.5% (13,640 sf)
Cyan	High: 3.3% (2,127 sf)

*Based upon total landscape area of 63,537 sf

All planted areas are to be watered with an approved automatic underground irrigation system. Potable irrigation water will be delivered by drip irrigation devices. The system shall be designed to make efficient use of water through conservation techniques, and be in compliance with resolution 6261, as required by the State of California.

An application and detailed landscape irrigation plan will be submitted with the building permit submittal package. All planting and irrigation will be in compliance with the city's Water Efficient Landscape Ordinance.

The final construction documents will provide the contractor with an understanding of the design intent for the maintenance of the planting areas regarding care and pruning of the site. The maintenance contractor shall furnish all labor, equipment, materials and supervision required to properly maintain the landscaped areas in an attractive condition and as described in the project maintenance specifications.

Note:
All irrigation within the public right of way shall comply with City Standard Details LS-1 through LS-19 and shall be connected to the on-site water system.

SOURCE: T Square Studios 2022

FIGURE 4.9-3

Irrigation Hydrozone Diagram

123 Independence Drive Residential Project

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