

3.5 HYDROLOGY AND WATER QUALITY

This section evaluates existing hydrologic resources at the site and potential impacts associated with alteration of existing drainage patterns. The regulatory framework governing water resources is also described.

3.5.1 ENVIRONMENTAL SETTING

REGIONAL SETTING

The proposed project site is located within the Los Angeles River Watershed. This watershed covers an approximately 834-square-mile area from the eastern portion of the Santa Monica Mountains, Simi Hills, and Santa Susana Mountains to the San Gabriel Mountains in the west. The upper portion (approximately 360 square miles) covers forest and open space. The lower portion (474 square miles) consists of urban lands developed with commercial, industrial, and residential uses (County of Los Angeles Department of Public Works 2008a).

Two major stream channels traverse the City. On the west, the Arroyo Seco originates in the San Gabriel Mountains and flows southward along the eastern side of the San Rafael Hills. It eventually discharges into the Los Angeles River. On the east, Eaton Wash exits the mountains and flows south. It is joined by the combined drainages from Pasadena Glen and Hastings Canyons before ultimately discharging into the Rio Hondo. Peak discharges in Eaton Wash are approximately 500 cubic feet per second and typically occur between November and March. Average yearly precipitation in Pasadena is approximately 20 inches; however, in 2007, the annual rainfall was 1.75 inches (City of Pasadena 2008).

SURFACE DRAINAGE CHARACTERISTICS OF THE PROJECT SITE

The topography of the project site slopes gently to the southeast. Elevation on the site ranges from approximately 682 feet above mean sea level in the northwest corner of the site to approximately 661 feet above mean sea level in the southeast corner (Pacific Southwest Biological Services 2008). The project site contains both impervious areas, such as parking lots and buildings, and pervious open space in undeveloped portions of the site and landscape areas. More than half the site contains pervious surfaces.

Surface runoff from the site drains along natural courses to 2 drainage swales located on the property. One is located near the southern boundary of the site and the other is located west of the medical office building (Building 18) near the cul-de-sac on Millicent Way. Their configuration is related to prior grading and construction of the facility many decades ago and are man-made features with banks maintained as part of the landscaping of the facility. Storm water runoff and excess irrigation runoff ultimately drains to Eaton Wash, located approximately 1,000 feet east of the project site. Eaton Wash is channelized in concrete and flows south from the San Gabriel Mountains. Flows are conveyed to Eaton Wash by storm drains and surface water flows directly into the channel (Pacific Southwest Biological Services 2008).

3.5.2 REGULATORY SETTING

FEDERAL

The National Pollution Discharge Elimination System (NPDES) storm water permitting program, under Section 402(d) of the Federal Clean Water Act (CWA), is administered by the Regional Water Quality Control Board (RWQCB) on behalf of the U.S. Environmental Protection Agency (EPA). Section 402(d) of the CWA establishes a framework for regulating nonpoint source (NPS) storm water discharges (33 USC 1251). Los Angeles County and 84 incorporated cities, including Pasadena, receive coverage under the NPDES storm water program under NPDES permit No. CAS004001 (City of Pasadena 2004). The permit, first issued by the Los Angeles RWQCB (LARWQCB) in 2001, regulates municipal storm water and urban runoff discharges within the jurisdictions covered by the permit (SWRCB 2008).

To comply with the NPDES General Construction Permit requirements, developers are required to submit a Notice of Intent to the State Water Resources Control Board Division of Water Quality. The Notice of Intent includes general information on the types of construction activities that would occur at construction sites. Developers are required to submit a site-specific plan called a Storm Water Pollution Prevention Plan (SWPPP) to minimize the discharge of pollutants during construction. The SWPPP must include a description of the Best Management Practices (BMPs) that would be employed to reduce storm water pollutants to the maximum extent practicable for water quality protection. The maximum extent practicable standard relies on BMPs that emphasize pollution prevention and source control, with additional structural controls as needed. This includes implementation of BMPs aimed at sediment control, erosion control, and construction materials control (i.e., paint, solvents, concrete, petroleum products) to prevent storm water pollutants from leaving construction sites, as well as a detailed description of (and schedule for) all monitoring. Construction activities that are subject to the permit include, but are not limited to, clearing, grading, demolition, excavation, construction of new structures, and reconstruction of existing facilities involving removal and replacement that results in soil disturbance. In the event soil is disturbed during the rainy season, generally defined as October 1 through April 15, construction projects must implement a Wet Weather Erosion Control Plan. A Wet Weather Erosion Control Plan must be prepared prior to each rainy season, and must be implemented throughout that rainy season (State Water Resources Control Board 2008).

LOCAL

The Los Angeles Standard Urban Storm Water Mitigation Plan (SUSMP), approved by LARWQCB in 2000, was developed as part of the municipal storm water program to address post-construction storm water pollution from new development and redevelopment projects. The SUSMP defines water quality concerns, and ensures that pollutants carried by storm water are confined to the site and not delivered to waterways. Depending on the types of pollutants that can be anticipated to occur in storm water runoff from a site, project applicants are required to select appropriate source control and treatment control BMPs from the list included in the SUSMP. In combination, these treatment control BMPs must be sufficiently designed and constructed to treat or filter the first 0.75-inch of storm water runoff from a storm event. As one of the permittees under the Los Angeles NPDES municipal storm water permit,

projects in Pasadena are subject to SUSMP requirements (County of Los Angeles Department of Public Works 2008b).

3.5.3 ENVIRONMENTAL IMPACTS

The following hydrology and water quality analysis is based on review of available technical reports and knowledge of the proposed type, intensity, and duration of project construction activities and proposed changes in the surface hydrology of the project site.

THRESHOLDS OF SIGNIFICANCE

As part of the Initial Study (see Appendix A), it was determined that the proposed project would not violate any water quality standards or waste discharge requirements; substantially deplete groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned land uses for which permits have been granted); substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on- or off-site; otherwise substantially degrade water quality; place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map, or other flood hazard delineation map; place within a 100-year flood hazard area structures that would impede or redirect flood flows; expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam; and inundation by seiche, tsunami, or mudflow. Accordingly, these issues are not further analyzed in the EIR.

The CEQA Guidelines establish that a proposed project would have a significant effect on hydrology and water quality if it would result in the following:

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; or
- Create or contribute runoff water which would exceed the capacity of the existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.

IMPACT ANALYSIS

HYDRO-1: *The proposed project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.*

The proposed project involves converting previously undeveloped, pervious areas into structures and paved surfaces. In addition, as part of the proposed project, the existing drainage swales would be

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removed and replaced with new storm water drainage channels. No stream or river exists on-site; however, surface drainage patterns would be altered by development activities. Storm water runoff volume and rates generated from undeveloped, unpaved areas would increase with the conversion of pervious areas to impervious surfaces. New infrastructure to support changes in drainage patterns and accommodate a larger volume of runoff would be constructed as part of the proposed project. All new drainage would be designed in accordance with standards of the County of Los Angeles Department of Public Works Hydrology Manual. In addition, new storm water drainage would be required to control the rate at which storm water is released into the City storm water drainage system such that the rate of discharge would not increase from existing conditions. This would require filtering and retention of storm water runoff onsite. In this way, the proposed new drainage system would not exceed the capacity of the downstream system and would not result in flooding on- or off-site. Drainage and flood control structure and improvements would be subject to review and approval by the City of Pasadena Department of Public Works prior to the start of construction. The applicant would be required to submit a drainage plan to the City of Pasadena Department of Public Works. Compliance with these existing standards and review processes would ensure that storm water runoff does not exceed the capacity of existing and planned storm water drainage. The impact would be less than significant, and no mitigation measures are required.

During construction of the proposed project, substantial earthwork in undeveloped areas and demolition of existing structures and paved surfaces would be required. Further, the topography of the project site would be altered and existing drainage swales would be removed. These activities would have the potential to adversely impact storm water drainage and could create flooding. In accordance with the NPDES General Construction Permit requirements, the applicant would be required to implement BMPs to control storm water runoff that is generated at the project site. BMPs include measures to minimize pollutants discharged from the project site, as well as a means to control runoff such that flooding does not occur on- or off-site. As such, compliance with existing regulations would ensure a less than significant impact related to flooding. No mitigation measures are required.

HYDRO-2: *The proposed project would not create or contribute runoff water in excess of the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.*

As described above, implementation of the proposed project would result in development of approximately 80 percent of the project site with structures and pavement. There would be a net increase of approximately 30 percent in the amount of impermeable surfaces located on the project site. Thus, the amount of storm water runoff generated at the project site and discharged into the local storm water drainage system would increase compared to existing conditions. New infrastructure to support changes in drainage patterns and accommodate a larger volume of runoff would be constructed as part of the project. All new drainage would be designed in accordance with standards of the County of Los Angeles Department of Public Works Hydrology Manual. This would include filtering and treating the first 0.75-inch of runoff during a storm event in accordance with the County SUSMP requirements. Drainage and flood control structure and improvements would be subject to review and approval by the City of Pasadena Department of Public Works prior to the start of construction. The applicant would be required

to submit a drainage plan to the City of Pasadena Department of Public Works. Compliance with these existing standards and review processes would ensure that the proposed project would not create or contribute runoff water in excess of the capacity of the existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff. The impact would be less than significant, and no mitigation measures are required.

During construction, established groundcover that currently serves to stabilize site soils would be removed, potentially resulting in increased erosion and increased sediment load into receiving waters. It would potentially increase the rate at which storm water runs off the project site and discharges into the local storm water drainage system. Construction activities can also generate hazardous waste products such as paints, solvents, adhesives, and petroleum/gasoline products that contribute to nonpoint source pollution. This could impact surface water quality. Further, the topography of the proposed project site would be altered and existing drainage swales would be removed. In accordance with the NPDES General Construction Permit requirements, the applicant would be required to implement BMPs to control storm water runoff that is generated at the project site. BMPs include measures to minimize pollutants discharged from the project site, as well as a means to control that rate at which runoff is discharged into the local storm drainage system. As such, compliance with existing regulations would ensure that the proposed project would not create or contribute runoff water in excess of the capacity of the existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff. The impact during construction would be less than significant, and no mitigation measures are required.

3.5.4 MITIGATION MEASURES

No mitigation measures are required.

3.5.5 SIGNIFICANCE AFTER MITIGATION

Impacts to hydrology and water quality would be less than significant.

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