

5. Environmental Analysis

5.5 HYDROLOGY AND WATER QUALITY

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential impacts of the proposed project to hydrology and water quality conditions in the County of Los Angeles. Hydrology deals with the distribution and circulation of water, both on land and underground. Water quality deals with the quality of surface- and groundwater.

5.5.1 Environmental Setting

5.5.1.1 REGULATORY BACKGROUND

Federal

Clean Water Act

The Clean Water Act (CWA) is the principal statute governing water quality. Under the CWA of 1977, the United States Environmental Protection Agency (EPA) seeks to restore and maintain the chemical, physical, and biological integrity of the nation's 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 CWA authorizes the EPA to implement water quality regulations. The National Pollutant Discharge Elimination System (NPDES) permit program under Section 402(p) of the CWA controls water pollution by regulating stormwater discharges into the waters of the United States. California has an approved state NPDES program. The EPA has delegated authority for water permitting to the State Water Resources Control Board (SWRCB), which has nine regional boards. The Los Angeles Regional Water Quality Control Board (RWQCB) (Region 4) regulates water quality at the project site.

Section 303(d) of the CWA requires that each state identify water bodies or segments of water bodies that are "impaired" (i.e., do not meet one or more of the water quality standards established by the state). These waters are identified in the Section 303(d) list as waters that are polluted and need further attention to support their beneficial uses. Once the water body or segment is listed, the state is required to establish a total maximum daily load (TMDL) for the pollutant causing the conditions of impairment. Typically, TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. The intent of the 303(d) list is to identify water bodies that require a TMDL to maintain water quality. In accordance with Section 303(d), the RWQCB identifies impaired water bodies in its jurisdiction and the pollutant or stressor responsible. There are no 303(d) impaired water bodies near the project site.

Sections 401 and 404 of the CWA are administered through the Regulatory Program of the US Army Corps of Engineers and regulate the water quality of all discharges of fill or dredged material into waters of the United States, including wetlands and intermittent stream channels. Because the existing site is currently developed and there are no ephemeral drainages and/or wetlands within the site boundaries, permits from the Army Corps of Engineers under Section 404 of the CWA and/or water quality certification from the Los Angeles RWQCB under Section 401 of the CWA would not be required.

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National Pollution Discharge Elimination System

The NPDES regulations are issued by the EPA for implementation of requirements of the Clean Water Act. Pollutant contributors come from direct and indirect sources. Direct sources discharge directly to receiving waters; indirect sources discharge wastewater to publicly owned treatment works, which in turn discharge to receiving waters. Under the national program, NPDES permits are issued only to direct, point-source discharges. Municipal sources are publicly owned treatment works that receive primarily domestic sewage from residential and commercial customers. Specific NPDES program areas applicable to municipal sources are the National Pretreatment Program, the Municipal Sewage Sludge Program, Combined Sewer Overflows, and the Municipal Storm Water Program. For the past 10 years or so, the EPA has increasingly focused on integrating the NPDES program further into watershed planning and permitting (USEPA 2012).

The NPDES has a variety of measures designed to minimize and reduce pollutant discharges. All counties with storm drain systems that serve a population of 50,000 or more, as well construction sites of one acre or more, must file for and obtain an NPDES permit. Another measure for minimizing and reducing pollutant discharges to a publicly owned conveyance or system of conveyances (including roadways, catch basins, curbs, gutters, ditches, man-made channels, and storm drains designed or used for collecting and conveying stormwater) is the EPA's Storm Water Phase II Final Rule.

The NPDES Program has been delegated to the State of California for implementation through the SWRCB and the nine RWQCBs. In California, NPDES permits are also referred to as waste discharge requirements that regulate discharges to waters of the United States (see *State* section, below, for more detail).

State

Porter-Cologne Water Quality Act

The Porter-Cologne Water Quality Act is the basic water quality control law for California. Under this act, the SWRCB has ultimate control over state water rights and water quality policy. In California, the EPA has delegated authority to issue NPDES permits to the SWRCB. The SWRCB, through its nine RWQCBs, carries out the regulation, protection, and administration of water quality in each region. Each regional board is required to adopt a water quality control plan or basin plan that designates beneficial uses and water quality objectives for the region's surface water and groundwater basins.

The project site is in the jurisdiction of the Los Angeles RWQCB, Region 4. The basin plan for Region 4 was adopted in 1994 and updated in 2011, 2013, and 2014. It gives direction on the beneficial uses of state waters; describes the water quality that must be maintained to support such uses; and provides programs, projects, and other actions necessary to achieve the standards in the basin plan. The basin plan also provides all relevant information necessary to carry out the state's antidegradation policy for surface waters and groundwater, 303(d) listing of impaired waters, and related TMDLs.

Construction General Permit Order No. 2009-0009-DWQ

Pursuant to the CWA, in 2001, the SWRCB issued a statewide general NPDES permit for stormwater discharges from construction sites (Order No. 2009-0009-DWQ, as amended by Order No. 2010-0014-DWQ

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and 2012-0006-DWQ; NPDES No. CAS000002). Under this permit, discharges of stormwater from construction sites with a disturbed area of one or more acres are required to either obtain individual NPDES permits for stormwater discharges or be covered by the general permit. Coverage by the Construction General Permit (CGP) is accomplished by completing and filing permit registration documents with the SWRCB, which include a notice of intent, risk assessment, site map, Storm Water Pollution Prevention Plan (SWPPP), annual fee, and signed certification statement. Each applicant under the CGP must ensure that a SWPPP is prepared prior to the start of grading, and provisions in the SWPPP must be implemented throughout the construction period. The SWPPP must list best management practices (BMP) implemented on the construction site to protect stormwater runoff and must contain a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented based on the risk level of the site; and inspection, reporting, training, and recordkeeping requirements. In the Los Angeles region, the SWRCB is the permitting agency and the Los Angeles RWQCB provides local oversight and enforcement.

Green Building Standards Code

CALGreen (California Code of Regulations, Title 24, Part 11) requires the use of green building principles and practices in site planning and building design to promote energy and water efficiency and conservation, material conservation and resource efficiency, and environmental quality. The voluntary and mandatory standards in the code apply to the planning, design, operation, construction, use, and occupancy of new low-rise and high-rise residential buildings, newly constructed nonresidential buildings, building additions of 1,000 square feet or greater, and/or building alterations with permit valuations of \$200,000 or above.

CALGreen requires the development of SWPPPs and implementation of construction BMPs on construction sites smaller than one acre and provides standards for:

- bicycle parking
- carpool, vanpool, and electric vehicle spaces
- light and glare reduction
- grading and paving
- energy efficient appliances
- renewable energy
- graywater systems
- water-efficient plumbing fixtures
- construction waste management
- recycling and recycled materials
- equipment and systems testing and operations
- pollutant controls (including moisture control and indoor air quality)
- acoustical control
- stormwater management
- building design
- insulation
- flooring and framing

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Beyond these standards, optional Tier 1 status can be achieved by complying with voluntary measures, which result in 15 percent less energy use and 30 percent less indoor water use than required by existing regulations. Optional Tier 2 status can be achieved by complying with voluntary measures, which would result in 30 percent less energy use and 35 percent less indoor water use than required by existing regulations.

Low Impact Development Practices

On January 20, 2005, the SWRCB adopted sustainability as a core value for all state and regional board policies, guidelines, and regulatory actions. Low impact development (LID) is a sustainable practice that benefits water supply and contributes to water quality protection. Unlike traditional stormwater management, which collects and conveys stormwater runoff through storm drains, pipes, or other conveyances to a centralized stormwater facility, LID maintains a site's predevelopment runoff rates and volumes by using design techniques that infiltrate, filter, store, evaporate, and detain runoff close to the source of rainfall. LID practices include bioretention facilities or rain gardens, grass swales and channels, vegetated rooftops, rain barrels, cisterns, vegetated filter strips, and permeable pavements.

Local Drainage Requirements

California Government Code Section 53097 requires school districts to comply with any city or county ordinance regulating drainage improvements. It also requires school districts to comply with ordinances requiring review and approval of grading plans as they relate to design and construction of on-site improvements that affect drainage.

County

NPDES Permit No. CAS004001 (Municipal Separate Storm Sewer System Permit)

The project site is in unincorporated Los Angeles County, and is subject to the waste discharge requirements of the NPDES Permit No. CAS004001 and the Los Angeles County MS4 Permit (Order No. R4-2012-0175), as amended by Order WQ 2015-0075. The County Flood Control District, the County, and 84 incorporated cities in Los Angeles County (except Long Beach) are permittees under the MS4 Permit. The permit covers approximately 3,100 square miles and serves a population of about 10 million. Permittees are required to comply with applicable water-quality-based effluent limitations, develop and implement procedures necessary to reduce the discharge of pollutants to the maximum extent practicable, and require implementation of BMPs. The County is a permittee under the MS4 Permit and the proposed project would have to comply with the County MS4 Permit and the County's stormwater management program.

The County has adopted a LID ordinance and prepared a LID manual as a guideline for implementation of these requirements.

Stormwater and Runoff Pollution Control Ordinance

The County has complied with its obligations under the MS4 permit through the adoption of the Stormwater and Runoff Pollution Control Ordinance (Chapter 12.80 of the County Code) that prohibits illicit discharges, manages runoff into and from its MS4s, and requires BMPs for new development and major redevelopment

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projects. The prohibitions include illicit connections to the storm drain system; littering or discharge of polluting or damaging substances, hazardous materials, and sewage on streets, storm drain systems, or drainage channels; industrial and commercial activity discharges; and uncontrolled discharges. The ordinance requires implementation of good housekeeping practices; construction BMPs; and BMPs for industrial and commercial facilities, including their registration and inspection.

2014 Low Impact Development Standards Manual

Los Angeles County has prepared the 2014 Low Impact Development Standards Manual (LID Standards Manual) to comply with the requirements of the NPDES MS4 permit for stormwater and nonstorm water discharges in the county's coastal zone (CAS004001, Order No. R4-2012-0175). The LID Standards Manual provides guidance for the implementation of stormwater quality control measures in new development and redevelopment projects in unincorporated areas of the County with the intention of improving water quality and mitigating potential water quality impacts from stormwater and nonstorm water discharges.

LID is a decentralized approach to stormwater management that works to mimic the natural hydrology of the site by retaining precipitation on-site to the maximum extent practicable. LID strategies include use of bioretention/infiltration landscape areas, disconnected hydrologic flow paths, reduced impervious areas, functional landscaping, and grading to maintain natural hydrologic functions that existed prior to development, such as interception, shallow surface storage, infiltration, evapotranspiration, and groundwater recharge.

Green Building Standards Code

Title 31 of the County Code adopts the 2016 CALGreen by reference for the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure in the County. When there are differences between building standards the most restrictive requirements shall prevail. The mandatory provisions of Chapter 4 apply to newly constructed low-rise and high-rise residential buildings and structures six stories or less and additions or alterations of existing residential buildings. It requires compliance with residential and nonresidential; mandatory measures and specific voluntary measures; sets postconstruction landscape design requirements; calls for compliance with the County's LID ordinance; and mandates greater recycling and/or salvage of construction and demolition debris.

County Code Title 26 Building Code (Appendix J Grading)

All grading plans and permits and the owner of any property on which such grading is performed shall comply with the provisions of Section J111, National Pollutant Discharge Elimination System Compliance, of the County Code. All BMPs shall be installed before grading begins. As grading progresses, all BMPs shall be updated as necessary to prevent erosion and to control construction-related pollutants from discharging from the site. All BMPs shall be maintained in good working order to the satisfaction of the Building Official until final grading approval has been granted by the Building Official and all permanent drainage and erosion control systems, if required, are in place.

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Standard Urban Stormwater Mitigation Plan (SUSMP)

On July 15, 1996, the Los Angeles Regional Water Quality Control Board issued a national pollutant discharge elimination system (NPDES) permit to the 85 incorporated cities and the county within Los Angeles County. Pursuant to provisions within the permit, the County was required to submit Standard Urban Storm Water Mitigation Plans (SUSMPs). The SUSMPs are plans that designate best management practices (BMPs) that must be used in specified categories of development projects. Under this permit, the County is required to prohibit the discharge of pollutants from private property developments. Preventing these pollutants from entering stormwater discharge system will be accomplished by requiring the installation and maintenance of post-construction treatment control BMPs on qualifying projects. Projects requiring BMPs under the SUSMP provisions include parking lot creating 5,000 square feet or more of surface area, or with 25 or more parking spaces and potentially exposed to stormwater runoff and projects that include ten or more unit homes. Therefore, the proposed project is subject to the SUSMP requirements. Developers must incorporate appropriate SUSMP requirements into their project plans. Each Permittee will approve the project plan as part of the development plan approval process and prior to issuing building and grading permits for the projects covered by the SUSMP requirements.

5.5.1.2 EXISTING CONDITIONS

Existing Watershed

The project site is in the San Gabriel River Watershed. San Gabriel River Watershed is located in the eastern portion of Los Angeles County. It is bounded by the San Gabriel Mountains to the north, most of San Bernardino/Orange County to the east, the division of the Los Angeles River from the San Gabriel River to the west, and the Pacific Ocean to the south. The watershed drains into the San Gabriel River, and major tributaries to the San Gabriel River include Walnut Creek, San Jose Creek, Coyote Creek, and numerous storm drains entering from the 19 cities that the San Gabriel River passes through. Channel flows pass through different sections in the San Gabriel River, diverting from the riverbed into four different spreading grounds, held behind several rubber dams for controlled flow and groundwater recharge, and controlled through 10 miles of concrete channel bottom from below Whittier Narrows Dam to past Coyote Creek.

The San Gabriel River and its major tributaries (the West Fork, North Fork, East Fork, Walnut Creek, San Jose Creek, and Coyote Creek) are the predominant surface water features within the San Gabriel River Watershed. Surface runoff from the San Gabriel River and its tributaries provides a portion of the recharge of local groundwater basins through both natural infiltration and via spreading grounds. Three groundwater basins lie underneath the river: the Main San Gabriel, the Central Basin, and the West Coast Basin. According to the San Gabriel River Corridor Master Plan, Map 2-10, Groundwater Basins and Contaminated Plumes, the project site is in the area identified as “No discernible groundwater basin present.” (LACPW 2006).

Existing Drainage

There is storm drainage along Eagle Park Road and along the east boundary that conveys collected stormwater to the Lower San Gabriel Valley Reach 4, then to San Jose Creek Water Reclamation Plant along San Gabriel River to the north.

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5.5.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

- HYD-1 Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.
- HYD-2 Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.
- HYD-3 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 a 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.
- HYD-4 In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.
- HYD-5 Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

The Initial Study, included as Appendix A, substantiates that impacts associated with the following thresholds would be less than significant:

- Threshold HYD-1
- Threshold HYD-2
- Threshold HYD-3.i
- Threshold HYD-3.iii
- Threshold HYD-3.iv
- Threshold HYD-4
- Threshold HYD-5

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These impacts will not be addressed in the following analysis.

5.5.3 Plans, Programs, and Policies

Regulatory Requirements

- RR HYD-1 The Contractor's Specifications for Wedgeworth K-8 School and the residential development will require that the proposed project be designed and constructed in accordance with the following design manuals to control and treat stormwater and to reduce pollutants in the stormwater:
- 2014 Low Impact Development Standard Manual
 - 2016 California Green Building Standards Code
 - 2006 Hydrology Manual
 - Standard Urban Storm Water Mitigation Plan
- PDF HYD-2 The Contractor's Specifications for Wedgeworth K-8 School and the residential development will require that the proposed project be designed and constructed in accordance with the County's Stormwater and Runoff Pollution Control Ordinance (Chapter 12.80 of the County Code), which prohibits illicit discharges; manages runoff into and from its Municipal Separate Sewer Systems (MS4s), and requires BMPs for new development and major redevelopment projects.
- RR HYD-3 The proposed project will be constructed in accordance with the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with the Construction and Land Disturbance Activities, Order No 2009-0009-DWQ, as amended by Order No. 2010-0014-DWQ and 2012-0006-DWQ. Compliance requires filing a Notice of Intent (NOI); a Risk Assessment; a Site Map; a Storm Water Pollution Prevention Plan (SWPPP) and associated best management practices (BMPs); an annual fee; and a signed certification statement. The proposed project will prepare an erosion and sediment control plan (ESCP) and implement BMPs to control erosion, debris, and construction-related pollutants.
- RR HYD-2 The proposed project will be constructed and operated in accordance with the Los Angeles County MS4 Permit (Order No. R4-2012-0175), as amended by Order WQ 2015-0075. The MS4 Permit requires new development and redevelopment projects to retain on-site a specified volume of stormwater runoff from a design storm event. The LID Standards Manual provides the guidance on how new development and redevelopment projects can meet these on-site retention requirements through the use of stormwater quality control measures.

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5.5.4 Environmental Impacts

5.5.4.1 IMPACT ANALYSIS

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.5-1: The proposed project would substantially alter the existing drainage pattern of the site or area through the addition of impervious surfaces, substantially increasing the rate or amount of surface runoff in a manner, therefore could result in flooding on- or off-site. [Threshold HYD-1]

The proposed project would change the existing drainage pattern and increase volume by development of the K-8 school and up to 160 residential units. The County will not permit an increase in runoff to the County storm drainage system, nor direct connection to the system. The school portion of the proposed project would provide an underground water retention basin in the soccer field to the north so that all stormwater is conveyed and retained before percolating through soil over time. Based on Appendix C, *Percolating Test*, of the Geotechnical Study Report (included as Appendix F to the DEIR), the existing soil 13 feet to 21 feet below grade has acceptable infiltration rates that meet the County's minimum requirements for infiltration. The District would use 96-inch diameter perforated steel pipes manufactured by Contech, which is sized to hold up to 150,000 cubic feet (or 1,122,077 gallons) of water during a 50-year storm event. The invert of the 96-inch diameter perforated steel pipe would sit roughly 17 feet below grade and have 8 to 10 feet of dirt cover over the top of the pipe. As required by the County, the bottom of the pipe would be placed 10 feet above the highest groundwater. A continuous deflective separation (CDS) hydrodynamic separator unit would be placed upstream of the underground chambers, capturing trash, debris, and sediment before going into it. CDS is used to meet trash TMDL requirements, for stormwater quality control, inlet and outlet pollution control, and as pretreatment for filtration, detention/infiltration, bioretention, rainwater harvesting systems, and a variety of green infrastructure practices. The District would maintain the CDS unit. Therefore, although the proposed project would increase the drainage pattern, volume, and rate of the project site, the proposed project would retain runoff water on-site and would not increase the downstream runoff, therefore adversely affecting the County drainage system and resulting in on- or off-site flooding.

No specific plans for residential development are available; therefore, mitigation is required to ensure that similar underground water retention basin and/or other LID features are incorporated in the design (e.g., bioretention facilities or rain gardens, grass swales and channels, vegetated rooftops, rain barrels, cisterns, vegetated filter strips, and permeable pavements) for the residential portion of the development to ensure that the project site's predevelopment runoff rates and volumes do not exceed the pre-development conditions. Based on the existing topography and a conceptual grading plan for the residential development, the lowest point of the residential development would be on the northeast corner, and this area would be the site for the underground retention basin. The actual type, size, and depth of the basin would be determined later in coordination with the County. Provided that adequately sized stormwater retention basin is provided on-site, as required by the County, no substantial flooding impact is anticipated.

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Level of Significance Before Mitigation: Potentially significant.

5.5.5 Cumulative Impacts

The project site is in the San Gabriel River Watershed, and the proposed project, along with other cumulative projects in this watershed would increase the amount of impervious area, potentially increasing runoff, drainage volumes, and contributing to flood hazards. However, although there are existing drainage facilities along Eagle Park Road and the project site's east boundary, the proposed project would be required to adhere to the County's LID Standard Manual and Stormwater and Runoff Pollution Control Ordinance (Chapter 12.80 of the County Code), so that the project site's stormwater runoff is retained and infiltrated into the ground on-site, so that the proposed project does not contribute to increased overall runoff volumes to County's drainage facilities. The pre-development runoff volume and rate would be maintained, and the proposed project would not result in individually significant drainage and flooding impact. Therefore, impacts would be less than significant and would not be cumulatively considerable.

5.5.6 Level of Significance Before Mitigation

Without mitigation, the following impacts would be **potentially significant**:

- **Impact 5.5-1** The proposed project could result in on- or off-site flooding impact due to modified drainage pattern.

5.5.7 Mitigation Measures

Impact 5.5-1

HYD-1 Prior to final grading plan for each phase of the proposed project, the Hacienda La Puente Unified School District and the Project Applicant for residential development shall submit a Low Impact Development (LID) Plan for review and approval by the Director of Public Works that provides a comprehensive, technical discussion of how the proposed project will comply with the requirements of the LID Ordinance and LID Standards Manual and that the proposed project maintains or reduces the project site's predevelopment runoff rates and volumes by using design features that infiltrates, filter, store, evaporate, and/or detain stormwater runoff. The LID Plan must include the following information:

- Feasibility of infiltration including a percolation report as part of a geotechnical report prepared by a geotechnical engineer.
- Source control measure(s) proposed to be implemented.
- Calculation of the SWQDv.
- Discussion on whether stormwater runoff harvest and use is feasible.
- Stormwater quality control measure(s) proposed to be implemented.

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- Proposed hydromodification controls and calculations (if deemed necessary by the Public Works Department).
- Proposed maintenance plan (if deemed necessary by the Public Works Department).

5.5.8 Level of Significance After Mitigation

The mitigation measures identified above would reduce potential impacts associated with hydrology and water quality to a level that is less than significant. Therefore, no significant unavoidable adverse impacts relating to hydrology remain.

5.5.9 References

Convers Consultants. 2019, April 8. Hacienda La Puente Unified School District, Wedgeworth Elementary School Project, Converse Project No. 18-31-330-02, Appendix C: Percolating Testing.

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