

## 4.9 HYDROLOGY AND WATER QUALITY

This section evaluates the potential impacts to hydrology and water quality conditions from implementation of the Ganahl Lumber Project (proposed project). The analysis in this section is based in part on the *Preliminary Water Quality Management Plan* (Joseph C. Truxaw and Associates, Inc., September 2019) (Appendix H), the *Hydrology and Hydraulics Report* (Joseph C. Truxaw and Associates, Inc., October 2019) (Appendix H), and the *Updated Geotechnical Investigation Report* (Willdan Geotechnical, November 2018) (Appendix F) that were prepared for the proposed project.

### 4.9.1 Scoping Process

The City of San Juan Capistrano (City) received 11 comment letters during the public review period of the Initial Study/Notice of Preparation (IS/NOP). For copies of the IS/NOP comment letters, refer to Appendix A of this EIR. Three comment letters included comments related to Hydrology and Water Quality.

The letter from Caltrans received on June 20, 2019, suggested that the EIR should evaluate stormwater measures required by the Construction General Permit and Water Quality Management Plan (WQMP), including hydromodification BMPs.

Orange County Public Works (OCPW) suggested that the hydrologic and hydraulic analysis should be prepared in compliance with its 1986 *Orange County Hydrology Manual* (OCHM), the 1996 Addendum No. 1 of the OCHM, and the November 2000 *Orange County Flood Control District (OCFCD) Design Manual* and should be reviewed and approved by the City of San Juan Capistrano. OCPW also commented that the hydrologic and hydraulic analysis should quantitatively evaluate increases in stormwater runoff volumes and peak flow rates and evaluate the capacity of existing drainage facilities. OCPW also commented that the development should be protected from the 100-year storm and that structures should be placed outside the floodplain. Additionally, OCPW commented that work within or adjacent to OCFCD flood control facilities would require approval from OCPW, would require an encroachment permit, and should be conducted in a manner that does not affect the channels integrity, hydrology, hydraulic flow conditions, access, or maintenance.

The letter from the City of Dana Point received on June 28, 2019 noted that a Letter of Map Amendment (LOMA) or Letter of Map Revision (LOMR) may be required for the area of San Juan Creek from the project site to the Pacific Ocean and requested that any proposed Letter of Map Change reflect the latest studies and hydrology from the County of Orange and/or the City of Dana Point. The City of Dana Point also suggested that the proposed project's hydrology analysis address potential impacts to flood elevations on neighboring properties, including those in Dana Point. The City of Dana Point noted that the project description describes a net import of approximately 18,000 cubic yards of fill material and requested that the post-project hydrology analysis reflect all proposed fill and proposed elevations along San Juan Creek in the vicinity of the project site so that impacts in Dana Point can be understood.

### 4.9.2 Methodology

Project impacts to hydrology and water quality are evaluated based on the proposed project's adherence to local, regional, State, and federal standards; the proposed land uses and project

design; changes in pre- and post-project stormwater flows; and proposed BMPs for control of surface runoff and reduction of pollutants in stormwater runoff.

### 4.9.3 Existing Environmental Setting

#### 4.9.3.1 Surface Waters

The project site is located within the San Juan Creek Watershed, which covers approximately 176 square miles and includes portions of the Cities of Dana Point, Laguna Hills, Laguna Niguel, Mission Viejo, Rancho Santa Margarita, and San Juan Capistrano (USACE 2002).

For planning purposes, the San Diego Regional Water Quality Control Board (RWQCB) uses a watershed classification system that divides surface waters into hydrologic units (HUs), areas, and subareas. As designated by the RWQCB, the project site is located within the San Juan HU, which itself is divided into Hydrologic Areas (HAs), which are then divided into Hydrologic Subareas (HSAs). The project site is located the San Juan HU, Mission Viejo HA and the Lower San Juan HSA (RWQCB 1994).

The project site is bound on the east by San Juan Creek. San Juan Creek originates in the Santa Ana Mountains in the Cleveland National Forest in the easternmost part of Orange County (County). San Juan Creek flows into the Pacific Ocean south of Dana Point Harbor at Doheny State Beach (USACE 2002).

#### 4.9.3.2 Stormwater Drainage

In the existing condition, stormwater on the project site flows from east to west and discharges into San Juan Creek, a concrete trapezoidal flood control channel with an earthen bottom. A substantial portion of off-site run-on from the adjacent Los Angeles – San Diego – San Luis Obispo (LOSSAN) rail corridor and the hillside located to the east of the project site is bypassed through the property via an underground storm drain pipe and natural swales where it is discharged into San Juan Creek. On-site and off-site stormwater runoff is discharged into San Juan Creek channel via multiple storm drain outfalls.

The project site discharges directly to an Environmentally Sensitive Area (ESA), which includes Clean Water Act Section 303(d) impaired water bodies. San Juan Creek is considered an ESA because it is listed as impaired on the 2014/2016 California 303(d) List of Water Quality Limited Segments (303[d] list) as discussed further below.

#### 4.9.3.3 Surface Water Quality

San Juan Creek is listed on the 2014/2016 303(d) as impaired for dichlorodiphenyldichloroethylene (DDE), indicator bacteria, selenium, toxicity, benthic community effects, nitrogen, dissolved oxygen, and phosphorus. The mouth of San Juan Creek is impaired for cadmium, copper, nickel, ammonia, and indicator bacteria. The Pacific Ocean shoreline at San Juan Creek is impaired for indicator bacteria.

#### 4.9.3.4 Groundwater

The project site lies within the southerly portion of the San Juan Groundwater Basin. The San Juan Valley groundwater basin underlies the San Juan Valley and several tributary valleys in southern Orange County. The basin is bounded on the west by the Pacific Ocean and otherwise by tertiary semi-permeable marine deposits. Groundwater recharge is from flow in San Juan Creek, Oso Creek, and Arroyo Trabuco and precipitation to the valley floor. Additional recharge is from water from springs that flow directly from Hot Spring Canyon into San Juan Creek. Groundwater in the basin flows southwest toward the Pacific Ocean (DWR 2004).

As discussed in the *Update Geotechnical Investigation Report* prepared for the project, groundwater was encountered in all exploratory borings drilled to a depth of 18 to 22 feet (ft) below ground surface (bgs). For management purposes, groundwater basins are designated in the San Diego RWQCB's Basin Plan using the same HUs, HAs, and HSAs as surface waters.

#### 4.9.3.5 Groundwater Quality

Groundwater in the San Juan Valley groundwater basin near the coast typically has a calcium-sodium sulfate or sulfate-chloride character. In general, total dissolved solids (TDS) content is in the range of 2,000 mg/L near the coast (DWR 2004).

#### 4.9.3.6 Flood Zones

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) No. 06059C0506J (December 3, 2009), the majority of the project site is located within 100-year floodplain Zone AO. Zone AO is defined by FEMA as areas subject to inundation by 1-percent-annual-chance (100-year) flood with shallow flooding (1 ft depth for the project site). A portion of the project site (along the western boundary) is located within Zone A, which is classified as an area subject to inundation by the 1-percent-annual-chance flood event. In addition, according to the City's General Plan Safety Element, the project site is located within the inundation area in the event of catastrophic failure of Trampas Canyon Dam.

### 4.9.4 Regulatory Setting

#### 4.9.4.1 Federal Regulations

**Clean Water Act.** In 1972, the Federal Water Pollution Control Act (now referred to as the Clean Water Act [CWA]) was amended to require that the discharge of pollutants into waters of the United States from any point source be effectively prohibited unless the discharge is in compliance with an NPDES permit. In 1987, the CWA was again amended to require that the United States Environmental Protection Agency (EPA) establish regulations for the permitting of stormwater discharges (as a point source) by municipal and industrial facilities and construction activities under the NPDES permit program. The regulations require that Municipal Separate Storm Sewer System (MS4) discharges to surface waters be regulated by an NPDES permit.

The CWA requires states to adopt water quality standards for water bodies and have those standards approved by the EPA. Water quality standards consist of designated beneficial uses for a particular water body (e.g., wildlife habitat, agricultural supply, fishing), along with water quality

criteria necessary to support those uses. Water quality criteria are set concentrations or levels of constituents (e.g., lead, suspended sediment, and fecal coliform bacteria) or narrative statements that represent the quality of water that support a particular use. Because California had not established a complete list of acceptable water quality criteria for toxic pollutants, the EPA Region IX established numeric water quality criteria for toxic constituents in the form of the California Toxics Rule (CTR).

When designated beneficial uses of a particular water body are being compromised by water quality, Section 303(d) of the CWA requires identifying and listing that water body as impaired. Once a water body has been deemed impaired, a Total Maximum Daily Load (TMDL) must be developed for each impairing water quality constituent. A TMDL is an estimate of the total load of pollutants from point, nonpoint, and natural sources that a water body may receive without exceeding applicable water quality standards (often with a “factor of safety” included, which limits the total load of pollutants to a level well below that which could cause the standard to be exceeded). Once established, the TMDL is allocated among current and future dischargers into the water body.

Direct discharges of pollutants into waters of the United States are not allowed except in accordance with the NPDES program established in Section 402 of the CWA.

***Clean Water Act, Section 303, List of Impaired Water Bodies.*** The State Water Resources board (SWRCB), in compliance with Section 303(d) of the CWA, prepared a 2014/2016 list of impaired water bodies in California. The SWRCB approved the 2014/2016 California Integrated Report (CWA Section 303(d) List/305(b) Report) on October 3, 2017. On April 6, 2018, the EPA approved the 2014/2016 California 303(d) List of Water Quality Limited Segments (303[d] list) The 303(d) list includes a priority schedule for the development of TMDL implementation for each contaminant impacting the water body.

As stated above, San Juan Creek is listed on the 2014/2016 303(d) list as impaired for DDE, indicator bacteria, selenium, toxicity, benthic community effects, nitrogen, dissolved oxygen, and phosphorus. The mouth of San Juan Creek is impaired for cadmium, copper, nickel, ammonia, and indicator bacteria. The Pacific Ocean shoreline at San Juan Creek is impaired for indicator bacteria.

**National Flood Insurance Act.** Congress acted to reduce the costs of disaster relief by passing the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. The intent of these acts was to reduce the need for large, publicly funded flood control structures and disaster relief efforts by restricting development in floodplains. FEMA administers the National Flood Insurance Program (NFIP) to provide subsidized flood insurance to communities that comply with FEMA regulations limiting development in a floodplain. FEMA issues FIRMs of communities participating in the NFIP. These maps delineate flood hazard zones in the community. The City of San Juan Capistrano manages local storm drain facilities, and the OCFCD is responsible for regional flood control planning within Orange County.

#### 4.9.4.2 State Regulations

**Porter-Cologne Water Quality Control Act of 1970.** The federal CWA places the primary responsibility for the control of water pollution and planning the development and use of water resources with the states, although it does establish certain guidelines for the states to follow in developing their programs.

California's primary statute governing water quality and water pollution is the Porter-Cologne Water Quality Control Act of 1970 (Porter-Cologne Act). The Porter-Cologne Act grants the SWRCB and the nine RWQCBs broad powers to protect water quality and is the primary vehicle for the implementation of California's responsibility under the federal CWA. The Porter-Cologne Act grants the SWRCB and RWQCBs the authority and responsibility to adopt plans and policies, to regulate discharges to surface water and groundwater, to regulate waste disposal sites, and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, oil, or petroleum product.

Each RWQCB must formulate and adopt a water quality plan for its region. The regional plans are to conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its State water policy. The Porter-Cologne Act also provides that an RWQCB may include in its region a regional plan with water discharge prohibitions applicable to particular conditions, areas, or types of waste. The City, including the project site, is within the jurisdictional boundaries of the San Diego RWQCB.

**California Toxics Rule.** As stated previously, because California had not established a complete list of acceptable water quality criteria for toxic pollutants, EPA Region IX established numeric water quality criteria for toxic constituents in the form of the CTR. The CTR provides water quality criteria for certain potentially toxic compounds for inland surface waters, enclosed bays, estuaries, and waters designated for human health or aquatic life uses. The CTR is often used by the RWQCBs when establishing water quality objectives and TMDLs. Although the CTR criteria do not apply directly to discharges of stormwater runoff, they are utilized as benchmarks for toxics in urban runoff. The CTR is used as a benchmark to evaluate the potential ecological impacts of stormwater runoff to receiving waters. The CTR establishes acute and chronic surface water quality standards for certain water bodies. Acute criteria provide benchmarks for the highest permissible concentration below which aquatic life can be exposed for short periods of time without deleterious effects. Chronic criteria provide benchmarks for an extended period of time (i.e., 4 days or more) without deleterious effects. The acute CTR criteria have a shorter relevant averaging period (less than 4 days) and provide a more appropriate benchmark for comparison for stormwater flows.

CTR criteria are applicable to the receiving water body and therefore must be calculated based on the probable hardness values of the receiving waters. At higher hardness values for receiving waters, certain constituents (including copper, lead, and zinc) are more likely to be complexed (bound with) components in the water column. This in turn reduces the bioavailability and resulting potential toxicity of these metals.

**Total Maximum Daily Load Requirements.** The San Diego RWQCB has established a TMDL for indicator bacteria which applies to San Juan Creek, the downstream receiving waters for the project site. On February 10, 2010, the San Diego RWQCB adopted Resolution No. R9-2010-0001, *A Resolution Amending the Water Quality Control Plan for the San Diego Basin (9) to Incorporate Revised Total Maximum Daily Loads for Indicator Bacteria, Project I – Twenty Beaches and Creeks in the San Diego Region (Including Tecolote Creek)*. This TMDL Basin Plan amendment was subsequently approved by the SWRCB on December 14, 2010; by the Office of Administrative Law on April 4, 2011; and by the EPA on June 22, 2011. Under State law, this TMDL Basin Plan became fully effective on April 4, 2011, the date of Office of Administrative Law approval. The Municipal MS4s are stakeholders with waste load allocations in the TMDL. This Basin Plan amendment establishes TMDLs and associated load and wasteload allocations for total coliform, fecal coliform, and enterococci bacteria in 20 beach and creek segments, including San Juan Creek. Due to the delisting of these beaches for contact water recreation (REC1) uses in the 2010 Integrated Report, as long as water quality continues to meet delisting standards, no further actions, beyond monitoring, is required under the TMDL by the Municipal MS4s stakeholders as wasteload allocations have been met.

**General Construction Activity Storm Water Permit.** The *General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities*, Order No. 2009-0009-DWQ, NPDES No. CAS000002, as amended by Order Nos. 2010-0014-DWQ and 2012-0006-DWQ (Construction General Permit), adopted by the SWRCB, regulates construction activity that includes clearing, grading, and excavation resulting in soil disturbance of at least 1 acre of total land area. The Construction General Permit authorizes the discharge of stormwater to surface waters from construction activities.

The Construction General Permit requires that all developers of land where construction activities will occur over more than 1 acre do the following:

- Complete a Risk Assessment to determine pollution prevention requirements pursuant to the three risk levels established in the General Permit;
- Eliminate or reduce non-stormwater discharges to storm sewer systems and other waters of the United States;
- Develop and implement a Stormwater Pollution Prevention Plan (SWPPP) that specifies BMPs that will reduce pollution in stormwater discharges to the Best Available Technology/Economically Achievable/Best Conventional Pollutant Control Technology standards;
- Perform inspections and maintenance of all BMPs; and
- Conduct stormwater sampling, if required based on risk level.

To obtain coverage under the Construction General Permit, a project Applicant must electronically file all permit registration documents with the SWRCB prior to the start of construction. Permit registration documents must include a:

- Notice of Intent (NOI),
- Risk Assessment,
- Site map,
- SWPPP,
- Annual fee, and
- Signed certification statement.

Typical BMPs contained in SWPPPs are designed to minimize erosion during construction, stabilize construction areas, control sediment, and control pollutants from construction materials. The SWPPP must also include a discussion of the program to inspect and maintain all BMPs.

**Sustainable Groundwater Management Act.** The Sustainable Groundwater Management Act (SGMA) of 2014 is a comprehensive three-bill package that Governor Jerry Brown signed into California state law in September 2014. The SGMA provides a framework for sustainable management of groundwater supplies by local authorities, with a limited role for State intervention if necessary to protect the resource. The plan is intended to ensure a reliable groundwater supply for California for years to come.

The SGMA requires governments and water agencies of high- and medium-priority basins to halt overdrafts of groundwater basins. The SGMA requires the formation of local groundwater sustainability agencies (GSAs) that are required to adopt Groundwater Sustainability Plans to manage the sustainability of the groundwater basins.

#### 4.9.4.3 Regional Regulations

The San Diego RWQCB has adopted a Basin Plan for their region of responsibility that delineates water resource area boundaries based on hydrological features. For the purposes of achieving and maintaining water quality protection, specific beneficial uses have been identified for each of the surface waters and groundwater management zones described in the Basin Plan. Once beneficial uses are designated, appropriate water quality objectives can be established, and programs that maintain or enhance water quality can be implemented to ensure the protection of beneficial uses.

The existing beneficial uses for San Juan Creek, as designated by the RWQCB in the Basin Plan, are listed below.

- **Agricultural Supply (AGR):** Uses of water for farming, horticulture, or ranching, including, but not limited to, irrigation, stock watering, and support of vegetation for range grazing.
- **Industrial Service Supply (IND):** Uses of water for industrial activities that do not depend primarily on water quality, including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, or oil well re-pressurization.
- **Contact Water Recreation (REC1):** Uses of water for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and SCUBA diving, surfing, white water activities, fishing, or use of natural hot springs.

- **Noncontact Water Recreation (REC2):** Uses of water for recreational activities involving proximity to water but not normally involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, sightseeing, and aesthetic enjoyment in conjunction with the above activities.
- **Warm Freshwater Habitat (WARM):** Uses of water that support warm-water ecosystems, including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.
- **Cold Freshwater Habitat (COLD):** Uses of water that support cold-water ecosystems, including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.
- **Wildlife Habitat (WILD):** Uses of water that support terrestrial ecosystems, including, but not limited to, preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.

San Juan Creek is exempted from the Municipal and Domestic Supply (MUN) beneficial use. The existing beneficial uses for groundwater for the Lower San Juan HSA are MUN, AGR, and IND.

Basin Plans also establish implementation programs to achieve water quality objectives to protect beneficial uses and require monitoring to evaluate the effectiveness of the programs. These objectives must comply with the State antidegradation policy (State Board Resolution No. 68-16), which is designed to maintain high-quality waters while allowing some flexibility if beneficial uses are not unreasonably affected.

Basin Plans have established narrative and numeric water quality objectives for inland surface streams and groundwater. If water quality objectives are exceeded, the RWQCBs can use their regulatory authority to require municipalities to reduce pollutant loads to the affected receiving waters. Relevant surface water quality objectives for all inland surface waters and groundwater under the jurisdiction of the San Diego RWQCB that are applicable to the receiving waters for the project site are shown in Table 4.9.A.

In addition to the water quality objectives applicable to all surface waters, bays and estuaries, and groundwater, the San Diego RWQCB has designated site-specific water quality objectives for waters. The site-specific water quality objectives for the Mission Viejo HA are:

- TDS = 500 mg/L
- Chloride = 250 mg/L
- Sulfate = 250 mg/L
- Percent Sodium = 60
- Iron = 0.3 mg/L
- Manganese = 0.05 mg/L
- Methylene Blue Active Substances = 0.5 mg/L

**Table 4.9.A: Water Quality Objectives**

<b>Constituent</b>	<b>Objective</b>
Ammonia, Unionized	Discharge of wastes shall not cause concentrations of unionized ammonia to exceed 0.025 mg/L (as N).
Bacteria, Coliform	In waters designated for REC1, the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period shall not exceed a log mean of 200 organisms/100 mL, nor shall more than 10 percent of all samples collected during any 30-day period exceed 400 organisms/100 mL.
Bacteria, E. Coli	In fresh waters designated for REC1, the steady-state E. coli concentration shall not exceed 126 colonies/100 mL, the maximum concentration shall not exceed 406 colonies/100 mL at moderately or lightly used areas, and the maximum concentration shall not exceed 576 colonies/100 mL for infrequently used areas.
Bacteria, Enterococci	In salt waters designated for REC-1, the steady-state enterococci concentration shall not exceed 33 colonies/100 mL, the maximum concentration shall not exceed 108 colonies/100 mL at moderately or lightly used areas, and the maximum concentration shall not exceed 151 colonies/100 mL for infrequently used areas.
Biostimulatory Substances	<p>Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect the water for beneficial uses.</p> <p>Concentrations of nitrogen and phosphorus, by themselves or in combination with other nutrients, shall be maintained at levels below those that stimulate algae and emergent plant growth. Threshold total phosphorus (P) concentrations shall not exceed 0.05 mg/L in any stream at the point where it enters any standing body of water, or 0.025 mg/L in any standing body of water. A desired goal in order to prevent plant nuisance in streams and other flowing waters appears to be 0.1 mg/L total P. These values are not to be exceeded more than 10 percent of the time unless studies of the specific water body in question clearly show that water quality objective changes are permissible and changes are approved by the San Diego RWQCB. Analogous threshold values have not been set for nitrogen compounds; however, natural ratios of nitrogen to phosphorus are to be determined by surveillance and monitoring and then upheld. If data are lacking, a ratio of N:P = 10:1 on a weight-to-weight basis shall be used.</p>
Color	<p>Waters shall be free of coloration that causes nuisance or adversely affects the water for beneficial uses.</p> <p>The natural color of fish, shellfish, or other resources in inland surface waters, coastal lagoons or bays and estuaries shall not be impaired.</p>
Dissolved Oxygen	Dissolved oxygen levels shall not be less than 5 mg/L in inland surface waters with a designated WARM beneficial use. The annual mean dissolved oxygen concentration shall not be less than 7 mg/L more than 10 percent of the time.
Floating Materials	Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect the water for beneficial uses.
Oil and Grease	Waters shall not contain oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, or that cause nuisance or otherwise adversely affect beneficial uses.
Pesticides	No individual pesticide or combination of pesticides shall be present in the water column, sediments, or biota at concentration(s) that adversely affect beneficial uses. Pesticides shall not be present at levels that will bioaccumulate in aquatic organisms to levels that are harmful to human health, wildlife, or aquatic organisms.
pH	In inland surface waters, the pH shall not be depressed below 6.5 or raised above 8.5.
Radioactivity	Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life or that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.

**Table 4.9.A: Water Quality Objectives**

Constituent	Objective
Sediment	Waters shall not contain suspended or settleable solids in concentrations that cause nuisance or adversely affect beneficial uses.
Suspended and Settleable Solids	Waters shall not contain suspended and settleable solids in concentrations that cause nuisance or adversely affect beneficial uses.
Taste and Odor	Waters shall not contain taste- or odor-producing substances in concentrations that cause a nuisance or that adversely affect beneficial uses.  The natural taste and odor of fish, shellfish, or other regional water resources used for human consumption shall not be impaired for inland surface waters.
Temperature	The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the San Diego RWQCB that such alteration in temperature does not adversely affect beneficial uses.
Toxicity	All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Compliance with this objective will be determined by use of indicator organisms; analyses of species diversity, population density, and growth anomalies; bioassays of appropriate duration; or other appropriate methods as specified by the San Diego RWQCB.  Inland surface waters shall not contain toxic pollutants in excess of the numerical objectives applicable to California specified in the California Toxics Rule (40 CFR 131.36)
Turbidity	Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses.

Source: San Diego RWQCB, Water Quality Control Plan for the San Diego Basin (1994).

CFR = Code of Federal Regulations

mg/L = milligrams per liter

mL = milliliter

REC-1 = Contact Water Recreation

RWQCB = Regional Water Quality Control Board

WARM = Warm Freshwater Habitat

- Boron = 0.75 mg/L
- Turbidity = 20 nephelometric turbidity units (NTU)
- Color = 20 units
- Fluoride = 1 mg/L

In addition, the nitrogen and phosphorus site-specific water quality objective specified that total phosphorus concentrations shall not exceed 0.05 mg/l in any stream at the point where it enters any standing body of water and shall not exceed 0.025 mg/l in any standing body of water. A desired goal to prevent plant nuisances in streams and other flowing waters is 0.1 mg/l total P. These values are not to be exceeded more than 10% of the time unless studies of the specific body in question clearly show that water quality objective changes are permissible and changes are approved by the RWQCB. Analogous threshold values have not been set for nitrogen compounds; however, natural ratios of nitrogen to phosphorus are to be determined by surveillance and monitoring and upheld. If data are lacking, a ratio of N: P=10:1 shall be used.

The site-specific groundwater quality objectives for the Lower San Juan HSA are:

- TDS = 1,200 mg/L
- Chloride = 400 mg/L

- Sulfate = 500 mg/L
- Percent Sodium = 60
- Nitrate = 45 mg/L
- Iron = 0.3 mg/L
- Manganese = 0.05 mg/L
- Methylene Blue Active Substances = 0.5 mg/L
- Boron = 0.75 mg/L
- Turbidity = 5 NTU
- Color = 15 units
- Fluoride = 1 mg/L

**Orange County National Pollutant Discharge Elimination System Permit.** The City is a Permittee of the *National Pollutant Discharge Elimination System (NPDES) Permit and Waste Discharge Requirements for Discharges from the Municipal Separate Storm Sewer Systems (MS4) Draining the Watersheds within the San Diego Region* (South Orange County MS4 Permit), Order R9-2013-0001, NPDES No. CAS6010266, as amended by Order No. R9-2015-0001. The South Orange County MS4 Permit regulates discharges into the MS4 system in the cities and county areas within Orange County that are in the jurisdiction of the San Diego RWQCB. As discussed further below, the South Orange County MS4 Permit requires preparation of a Water Quality Management Plan (WQMP) and implementation of post-construction BMPs for new development and significant redevelopment projects that qualify as Priority Development Projects.

The proposed project is considered a Priority Development Project under the following categories specified in the South Orange County MS4 Permit:

- **Category (a)** New development projects that create 10,000 square feet or more of impervious surfaces (collectively over the entire project site). This includes commercial, industrial, residential, mixed-use, and public development projects on public or private land.
- **Category (c)** New and redevelopment projects that create 5,000 square feet or more of impervious surface (collectively over the entire project site), and support one or more of the following uses:
  - (i) Restaurants. This category is defined as a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC code 5812).
  - (iii) Parking lots. This category is defined as a land area or facility for the temporary parking or storage of motor vehicles used personally, for business, or for commerce.
  - (iv) Streets, roads, highways, freeways, and driveways. This category is defined as any paved impervious surface used for the transportation of automobiles, trucks, motorcycles, and other vehicles.

- **Category (d)** New or redevelopment projects that create or replace 2,500 square feet or more of impervious surface (collectively over the entire project site), and discharging directly to an Environmentally Sensitive Area (ESA). “Discharging directly to” includes flow that is conveyed overland a distance of 200 feet or less from the project to the ESA, or conveyed in a pipe or open channel any distance as an isolated flow from the project to the ESA (i.e. not commingled with flows from adjacent lands).
- **Category (f)** New or redevelopment projects that result in the disturbance of one or more acres of land and are expected to generate pollutants post construction.

**Drainage Area Management Program.** The Drainage Area Management Plan (DAMP) was created by the County of Orange, the OCFCD, and incorporated cities (permittees), and includes specific water pollutant requirements of the Orange County Stormwater Program. The DAMP is the principal guidance and compliance document for the county-wide implementation of the Stormwater Program. It is the foundation for the permittees to implement model programs designed to prevent pollutants from entering receiving waters to the maximum extent practicable. Section 7 of the DAMP discusses issues relating to new developments and significant redevelopments.

**Model Water Quality Management Plan.** The *Model Water Quality Management Plan (Model WQMP) for South Orange County* (County of Orange 2011) was developed to aid Orange County, the OCFCD, the cities in Orange County (permittees), and developers in Orange County to address post-construction urban runoff and stormwater pollution from new development and significant redevelopment projects that qualify as Priority Development Projects.

Priority Projects are required to develop a project WQMP to minimize adverse impacts of development to on-site hydrology, volume, and rate of runoff, and pollutants of concern. Project WQMPs include project-specific BMPs to minimize these effects (e.g., Low Impact Development [LID], site design measures, source control BMPs). The requirements identified in the project WQMPs are subject to Section 7 of the DAMP.

**Technical Guidance Document.** The County of Orange developed the *Technical Guidance Document for the Preparation of Conceptual/Preliminary and/or Project Water Quality Management Plans (WQMPs) in South Orange County* (TGD) (County of Orange 2018) in cooperation with the incorporated cities of South Orange County to aid agency staff and project proponents with addressing post-construction urban runoff and stormwater pollution from new development and significant redevelopment projects in Orange County. The TGD serves as a technical guidance to complete the project WQMP.

**Hydromodification Plan.** Pursuant to the requirements of the South Orange County MS4 Permit, the County prepared the *South Orange County Hydromodification Management Plan (HMP)* (County of Orange 2017b). All priority development projects that do not meet the exemption criteria are required to comply with hydromodification criteria in the HMP. The goal of hydromodification control is to integrate hydrologic controls into a proposed project so that post-project runoff discharge rates and durations do not exceed predevelopment (naturally occurring) discharge rates and durations.

**Orange County Construction Runoff Guidance Manual.** The *Construction Runoff Guidance Manual for Contractors, Project Owners, and Developers* (County of Orange 2012) presents the requirements related to construction from the DAMP. The goal of this Guidance Manual is to control pollutant discharges from construction sites. As such, it helps applicants with building and grading permits to understand the water quality requirements during the construction phase of development projects.

**Groundwater Dewatering Permit.** On June 24, 2015, the San Diego RWQCB issued the *General Waste Discharge Requirements for Discharges from Groundwater Extraction Discharges to Surface Waters within the San Diego Region* (Order No. R9-2015-0013, NPDES No. CAG919003) (Groundwater Discharge Permit). This permit regulates construction dewatering and discharges of groundwater to surface waters during excavation. This permit specifies the discharge prohibitions, receiving water limitations, monitoring and reporting program requirements, and general compliance determination criteria for groundwater dewatering during construction activities. Dischargers are required to collect and analyze representative groundwater samples for all constituents listed in the Groundwater Discharge Permit. Based on the results, dischargers would be required to provide treatment for any toxic compounds detected above the applicable screening levels. To obtain coverage under the Groundwater Discharge Permit, each permittee must submit a Notice of Intent to begin the application process.

#### 4.9.4.4 Local Regulations

**Jurisdictional Runoff Management Plan.** The City Jurisdictional Runoff Management Plan (JRMP) is the principal guidance and compliance document specific to the City's jurisdiction for compliance with the requirements of the South Orange County MS4 Permit. The JRMP provides the description and details of the City's water quality program implementation activities. The JRMP is designed to work in conjunction with the Orange County DAMP.

**Municipal Code.** Chapter 2 of the City Municipal Code regulates construction activities within the City. Chapter 14 of the City Municipal Code contains water quality regulations for stormwater discharges within the City.

- **Section 8-2.15** of the Municipal Code requires that erosion control devices be installed year round in compliance with a City-approved erosion control plan.
- **Section 8-2.16** of the Municipal Code requires maintenance of construction BMPs during and after rain events.
- **Section 8-14.105** of the Municipal Code requires that all new development and redevelopment projects comply with the DAMP and JRMP and implement BMPs.
- **Section 8-14.106** of the Municipal Code requires developers of a priority development project to submit a WQMP to the City for approval.
- **Section 8-14.107** of the Municipal Code requires that proof of coverage under the Construction General Permit and a pollution control plan, construction BMP plan, and/or erosion and sediment control plan be prepared for construction plans and submitted to the City.

- **Section 8-11.115** of the Municipal Code specifies the design requirements for developments within a 100-year floodplain. Certification of the final elevation of the first floor by a registered professional engineer or surveyor is required to be provided to the floodplain administrator for new developments within a 100-year floodplain.

#### 4.9.5 Thresholds of Significance

The thresholds for hydrology and water quality impacts used in this analysis are consistent with Appendix G of the California Environmental Quality Act Guidelines (*State CEQA Guidelines*) and the City's *Local Guidelines for Implementing CEQA* (2019). The proposed project may be deemed to have a significant impact with respect to hydrology and water quality if it would:

- Threshold 4.9.1: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?**
- Threshold 4.9.2: Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede substantial groundwater management of the basin?**
- Threshold 4.9.3: 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 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 off-site;
  - 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; or
  - iv. Impede or redirect flood flows?
- Threshold 4.9.4: In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?**
- Threshold 4.9.5: 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 Thresholds 4.9.2, 4.9.4, and 4.9.5 would be less than significant. Regarding Threshold 4.9.2, although there is a potential for groundwater to be encountered during construction, any groundwater dewatering would be temporary, and the volume of groundwater removed would not be substantial. Furthermore, the project would comply with the requirements of Groundwater Discharge Permit, including testing and treatment, if necessary. The project would also include operational BMPs to increase infiltration of stormwater runoff on the project site to reduce impacts related to depletion or interference with groundwater recharge.

In response to Threshold 4.9.4, the project site is not located within a tsunami inundation area<sup>1</sup> and is not at risk of inundation from seiches as there are no large lakes or reservoirs in the vicinity of the project site. Finally, because BMPs would reduce introduction of pollutants on the site and any hazardous materials used on site would be properly stored and contained, impacts related to release of pollutants in the event of inundation from flooding would be less than significant.

In response to Threshold 4.9.5, the project would be required to comply with the Construction General Permit, which requires preparation of an SWPPP and Erosion Control Plan and implementation of construction BMPs to control stormwater runoff and discharge of pollutants. The project would also comply with the requirements of Groundwater Discharge Permit, if required. During operations, the project would comply with applicable NPDES permits, which require preparation of a Final WQMP and implementation of construction and operational BMPs to reduce pollutants of concern. As such, the project would not result in water quality impacts that would conflict with the RWQCB's Water Quality Control Plan (Basin Plan).

Therefore, impacts related to these thresholds would be less than significant, and no mitigation would be required. These thresholds will not be addressed in the following analysis.

#### 4.9.6 Project Impacts

**Threshold 4.9.1: Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?**

***Less than Significant Impact.***

Construction. The proposed project would allow for the development of a lumber yard and hardware store, drive-through restaurant uses, and a crushed-rock gravel area for long-term vehicle storage. Pollutants of concern during construction include, but are not limited to, sediments, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. Each of these pollutants on its own or in combination with other pollutants can have a detrimental effect on water quality. During construction activities, excavated soil would be exposed, and there would be an increased potential for soil erosion and sedimentation compared to existing conditions. In addition, chemicals, liquid products, petroleum products (e.g., paints, solvents, and fuels), and concrete-related waste may be spilled or leaked and have the potential to be transported via stormwater runoff into receiving waters (i.e., San Juan Creek and ultimately the Pacific Ocean). Sediment from increased soil erosion and chemicals from spills and leaks have the potential to be discharged to downstream receiving waters during storm events, which can affect water quality and impair beneficial uses.

Because construction of the proposed project would disturb greater than 1 acre of soil, the proposed project is subject to the requirements of the Construction General Permit, as specified in Regulatory Compliance Measure WQ-1. As also specified in Regulatory Compliance Measure WQ-1, a SWPPP would be prepared and construction BMPs detailed in the SWPPP would be

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<sup>1</sup> California Department of Conservation (DOC) Tsunami Inundation Map for Emergency Planning, Dana Point Quadrangle/San Juan Capistrano Quadrangle.

implemented during construction, in compliance with the requirements of the Construction General Permit. In addition, as specified in Regulatory Compliance Measure WQ-2, a pollution control plan, construction BMP plan, and/or erosion and sediment control plan would be prepared and submitted to the City's Building Official prior to issuance of a grading or building permit in compliance with the City Municipal Code. The SWPPP and pollution control plan, construction BMP plan, and/or erosion and sediment control plan would detail the BMPs to be implemented during construction. Construction BMPs would include, but not be limited to, Erosion Control and Sediment Control BMPs designed to minimize erosion and retain sediment on site, and Good Housekeeping BMPs to prevent spills, leaks, and discharge of construction debris and waste into receiving waters. The Construction General Permit and City Municipal Code also require inspection and maintenance of construction BMPs prior to, during, and after rain events. Compliance with the requirements of the Construction General Permit and City Municipal Code, including incorporation of construction BMPs to target and reduce pollutants of concern in stormwater runoff, would ensure that construction impacts related to waste discharge requirements, water quality standards, and degradation of water quality would be less than significant.

The project site lies within the southerly portion of the San Juan Groundwater Basin. As discussed in the Update Geotechnical Investigation Report, groundwater was encountered in all exploratory borings drilled to a depth of 18 to 22 ft bgs. Groundwater depth can fluctuate due to factors such as rainfall and presence of water near the project site. Because excavation is anticipated to reach a maximum depth of approximately 20 ft bgs, there is a potential for groundwater to be encountered during construction and for groundwater dewatering to be required. Release of dewatered groundwater to surface waters can introduce total dissolved solids and other constituents to surface waters. In the event that groundwater or perched groundwater is encountered during construction and groundwater dewatering is necessary, disposal of dewatered groundwater can introduce total dissolved solids and other constituents to surface waters. Any groundwater dewatering during excavation would be conducted in accordance with the Groundwater Discharge Permit, as specified in Regulatory Compliance Measure Regulatory Compliance Measure WQ-3. The Groundwater Discharge Permit would require testing and treatment (as necessary) of groundwater encountered during groundwater dewatering prior to release to surface waters to ensure that discharges do not exceed water quality limits specified in the permit. Compliance with the requirements of the Groundwater Discharge Permit, as specified in Regulatory Compliance Measure WQ-3, would ensure impacts related to waste discharge requirements, water quality standards, and surface water quality would be less than significant during dewatering activities, and no mitigation would be required.

Although groundwater dewatering would likely be required, dewatered groundwater would be discharged to the storm drain system, which discharges to San Juan Creek, rather than back into groundwater and therefore would not have the potential to introduce pollutants to groundwater. Infiltration of stormwater has the potential to affect groundwater quality in areas of shallow groundwater. However, according to the Preliminary Water Quality Management Plan prepared for the proposed project, a majority of the on-site soils are not favorable for infiltration. Additionally, as discussed above, groundwater could occur at depths from 18 to 22 ft bgs. Pollutants in stormwater are generally removed by soil through absorption as water

infiltrates. In areas of deep groundwater, there is more absorption potential and, as a result, less potential for pollutants to reach groundwater. As such, due to the depth to groundwater and low infiltration potential of the majority on-site soils, there is not a direct path for pollutants to reach groundwater. As such, the potential for stormwater to infiltrate and introduce pollutants to groundwater during construction would be minimal and project construction activities would not substantially degrade groundwater quality.

In conclusion, construction of the proposed project would comply with existing NPDES regulations (as specified in Regulatory Compliance Measures WQ-1, WQ-2, and WQ-3), which include preparation of a SWPPP and a pollution control plan; preparation of a construction BMP plan, and/or erosion and sediment control plan; implementation of Construction BMPs to target and reduce pollutants of concern in stormwater runoff; and testing and treatment (if required) of any groundwater prior to discharge to surface waters. Compliance with these regulatory requirements would ensure that impacts related to violation of any water quality standards or waste discharge requirements, and degradation of surface or ground water quality, during construction would be less than significant, and no mitigation is required.

Operation. According to the Preliminary Water Quality Management Plan prepared for the project, based on the existing impairments and water quality condition of the receiving waters for runoff from the project site (San Juan Creek and the Pacific Ocean), the primary pollutants of concern from long-term operation of commercial and restaurant developments include suspended solids, nutrients, heavy metals, bacteria/viruses/pathogens, pesticides, toxic organic compounds, trash and debris, and dry weather runoff; other pollutants of concern include oil and grease. The project would comply with the requirements of Title 8, Chapter 14 of the City's Municipal Code and the South Orange County MS4 Permit. WQMPs specify the Site Design, Source Control, Low Impact Development (LID) BMPs that would be implemented to capture, treat, and reduce pollutants of concern in stormwater runoff. Site Design BMPs are stormwater management strategies that emphasize conservation and use of existing site features to reduce the amount of runoff and pollutant loading generated from a project site. Source Control BMPs are preventative measures that are implemented to prevent the introduction of pollutants into stormwater. LID BMPs mimic a project site's natural hydrology by using design measures that capture, filter, store, evaporate, detain, and infiltrate runoff rather than allowing runoff to flow directly to piped or impervious storm drains.

The Preliminary Water Quality Management Plan prepared for the project specifies the Source Control, Site Design, and LID BMPs proposed for the project. The Preliminary Water Quality Management Plan will be refined during final design based on the final site plans, as specified in Regulatory Compliance Measure WQ-4. The proposed project BMPs are detailed, below.

As detailed in the Preliminary Water Quality Management Plan, proposed Site Design BMPs include: maximize pervious areas, preserve existing drainage patterns and time of concentration, disconnect impervious areas, revegetate disturbed areas, protection of soil stockpiling, water efficient landscaping, and slope and channel buffers.

Proposed Non-Structural Source Control BMPs include education for property owners, tenants and occupants; activity restrictions; common area landscape management; BMP maintenance;

common area litter control; employee training; housekeeping of loading docks; common area catch basin inspections; and street sweeping public streets and parking lots.

Proposed Structural Source Control BMPs include: provide storm drain system stenciling and signage; design and construct outdoor material storage areas to reduce pollution introduction; design and construct trash and waste storage areas to reduce pollution introduction; use of efficient irrigation systems and landscape design, water conservation, smart controllers, and source control; protect slopes and channels and provide energy dissipation; incorporate requirements applicable to individual priority project categories (from SDRWQCB NPDES Permit); loading dock areas; fueling areas; hillside landscaping; and wash water control for food preparation areas.

The proposed LID BMPs include underground detention systems and proprietary treatment BMPs (Modular Wetland Stormwater Biofiltration Systems). On-site runoff will be conveyed into catch basins, then to the underground detention system, and then into the proprietary biofiltration treatment system before discharging into San Juan Creek channel. Flogard Catch Basin Insert Filter with absorbent pouches (for inlet type) or Flogard Trash and Debris Guard (for curb opening type) with absorbent pouches would be installed on the on-site catch basins to prevent trash and debris from entering the storm drain system and being conveyed to the LID BMP systems.

Please refer to the Preliminary Water Quality Management Plan included in Appendix H for additional details of the proposed Site Design BMPs, Non-Structural Source Control BMPs, Structural Source Control BMPs, and LID BMPs.

The proposed BMPs would target and reduce pollutants of concern from runoff from the project site in compliance with the South Orange County MS4 Permit requirements. Compliance with the requirements of the South Orange County MS4 Permit, including incorporation of operational BMPs to target pollutants of concern, would ensure that impacts related to waste discharge requirements, water quality standards, and degradation of water quality during project operation would be less than significant.

As discussed previously, infiltration of stormwater could have the potential to affect groundwater quality in areas of shallow groundwater. However, any infiltration would be minimal due to the low infiltration potential of the majority of on-site soils. Due to the depth to groundwater, it is not expected that any stormwater that may infiltrate during operation would affect groundwater quality because there is no direct path for pollutants to reach groundwater. In addition, the proposed project would be required to implement LID BMPs to treat stormwater before it could reach groundwater. Therefore, project operation would not substantially degrade groundwater quality.

In conclusion, construction of the proposed project would comply with existing NPDES regulations (as specified in Regulatory Compliance Measure WQ-4), which includes preparation of a Final WQMP and implementation of operational BMPs to target and reduce pollutants of concern in stormwater runoff from the project site. Compliance with regulatory requirements would ensure that impacts related to violation of any water quality standards or waste discharge

requirements, and degradation of surface water or groundwater quality during project operation would be less than significant, and no mitigation is required.

**Threshold 4.9.3.i: 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;**

***Less than Significant Impact.***

**Construction.** During project construction activities, soil would be exposed and disturbed, drainage patterns would be temporarily altered during grading and other construction activities, and there would be an increased potential for soil erosion and siltation compared to existing conditions. Additionally, during a storm event, soil erosion and siltation could occur at an accelerated rate. Project construction would not disturb San Juan Creek because the proposed project does not include physical improvements to the creek. As discussed above in response to Threshold 4.9.1, the Construction General Permit requires preparation of a SWPPP (Regulatory Compliance Measure WQ-1) and the City of San Juan Capistrano Municipal Code requires preparation of pollution control plan, construction BMP plan, and/or erosion and sediment control plan (Regulatory Compliance Measure WQ-2). The SWPPP and pollution control plan, construction BMP plan, and/or erosion and sediment control plan would detail Erosion Control and Sediment Control BMPs to be implemented during project construction to minimize erosion and retain sediment on site. With compliance with the requirements of the Construction General Permit and the City's Municipal Code, and with implementation of the construction BMPs, construction impacts related to on- or off-site erosion or siltation would be less than significant, and no mitigation is required.

**Operation.** In the proposed condition, 10.81 acres (66.08 percent) of the project site would be impervious surface area and not prone to on-site erosion or siltation because no exposed soil would be included in these areas. The remaining 5.55 acres (33.92 percent) of the site would consist of pervious surface area, which would contain landscaping that would minimize on-site erosion and siltation by stabilizing the soil. Therefore, on-site erosion and siltation impacts would be minimal. However, the proposed project would increase impervious area on the project site by 10.73 acres, which would result in a net increase in stormwater runoff that can lead to downstream erosion in receiving waters (San Juan Creek). However, because San Juan Creek is an engineered concrete channel, it is not susceptible to hydromodification.<sup>1</sup> According to the South Orange County Hydromodification Management Plan (HMP), major storm drains, concrete lined conveyance channels, and engineered channels (including San Juan Creek) are exempt from hydromodification requirements of the South Orange County MS4 Permit. Therefore, any increase in stormwater runoff from the project site to San Juan Creek would not have a potential to result in downstream erosion or siltation. For these reasons, operation

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<sup>1</sup> Hydromodification is the alteration of the hydrologic characteristics of water bodies. Increased stream flows and changes in sediment transport caused by increased impervious areas from urbanization or other land use changes can result in increased stream flows, erosion, and changes in sediment transport.

impacts related to substantial on- or off-site erosion or siltation would be less than significant, and no mitigation is required.

**Threshold 4.9.3.ii: 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 off-site;**

***Less than Significant Impact.***

**Construction.** As discussed in response to Threshold 4.9.1, project construction would comply with the requirements of the Construction General Permit and would include the preparation and implementation of a SWPPP. The SWPPP would include construction BMPs to control and direct on-site surface runoff and would include detention facilities, if required, to ensure that stormwater runoff from the construction site does not exceed the capacity of the stormwater drainage systems. With implementation of BMPs, construction impacts related to a substantial increase in the rate or amount of surface runoff that would result in flooding would be less than significant, and no mitigation is required.

**Operation.** In the existing condition, on-site drainage is conveyed to two outfalls that discharge to San Juan Creek. Outfall #1 is located approximately 350 ft north of the Stonehill Drive center line and collects on-site stormwater runoff from 12.7 acres of the project site as well as run-on from the LOSSAN rail corridor and the adjacent hillside. On-site runoff sheet flows to graded swales that convey stormwater to the Outfall #1 outlet structure that discharges directly to San Juan Creek through a 48-inch diameter pipe. Outfall #2 is located approximately 975 ft north of the Stonehill Drive center line and collects stormwater runoff from 7.52 acres of the project site. On-site stormwater sheet flows to graded swales that convey water to the Outfall #2 outlet structure that discharges directly to San Juan Creek through two 48-inch diameter pipes.

The proposed project would not alter on-site drainage patterns and stormwater would continue to be conveyed to the two outfalls (via the proposed on-site stormdrain systems) and then into San Juan Creek. However, the proposed project would increase impervious area on the project site by 10.73 acres, which would increase stormwater runoff from the project site. The proposed on-site storm drain facilitates would be appropriately sized to convey stormwater runoff so that on-site flooding would not occur. As demonstrated in the *Preliminary Hydrology and Hydraulics Analysis* prepared for the proposed project, the proposed project would decrease stormwater runoff to Outfall #1 by 15.03 cubic feet per second (cfs), a 66 percent decrease compared to existing conditions. The proposed project would increase discharge to Outfall #2 by 24.9 cfs, a 228 percent increase compared to existing conditions. The overall discharge from the project site would increase by 9.87 cfs, a 29 percent increase compared to existing conditions. It should be noted that this is a conservative analysis and does not account for the reduction in stormwater runoff that would be achieved by the proposed underground detention systems. As demonstrated in the *Preliminary Hydrology and Hydraulics Analysis*, the existing outfalls have sufficient capacity to accommodate the increased stormwater discharge from the project site. The proposed discharge to Outfall #1 and Outfall #2 represents 3 percent and 8 percent,

respectively, of the overall outfall capacity. Because of the close proximity of the project site to San Juan Creek and the lag time of discharge stormwater runoff from the entire watershed to San Juan Creek, runoff from the project site would discharge to the outfalls well before the remainder of stormwater runoff from the watershed would discharge to San Juan Creek. As such, the increased runoff from the project site would not exceed the capacity in San Juan Creek. For these reasons, the proposed project would not result in downstream flooding.

As detailed further in Threshold 4.9.3.iv, flow from the project site to the outfalls is regulated by flap gates. In both the existing and proposed condition, in the unlikely event that the flap gates are closed during a storm event due to high flows within San Juan Creek, stormwater would pond on the project site before overflowing the east property line, flowing along the west limit of the LOSSAN rail corridor, and flowing southerly to discharge to the Pacific Ocean at Doheny State Beach through an existing drainage culvert. The on-site ponding combined with the storage capacity of the underground detention storage would limit the increase in discharge volume from the proposed project to the railroad during this unlikely catastrophic flood event. According to the *Hydrology and Hydraulics Analysis* prepared for the project, taking into account the combined storage volume, the proposed project would increase the 100-year storm overflow runoff volume by less than 4 percent in the event that a catastrophic flood event occurs. However, due to the lag time between the watershed peak flow and the project site peak flow reaching San Juan Creek, this condition is not expected to occur during the project lifespan and represents a conservative, worst-case scenario to ensure a conservative project design for structure protection. In addition, the railroad tracks are currently inundated and inoperable during a 100-year storm event in the existing condition. During the low likelihood condition that the project site were to overflow to the railroad in the proposed condition, the 4 percent increase in overflow to the railroad would not further impede the operations of the railroad beyond the flooding experienced in the existing condition.

As specified in Regulatory Compliance Measure WQ-5, a Final Hydrology and Hydraulic Analysis would be required to be prepared and submitted to the City for approval. The Final Hydrology and Hydraulic Analysis would be required to confirm that the final design of the project meets the City and County requirements, that peak flow of stormwater runoff in the proposed condition would not exceed the outfall capacity, the on-site stormdrain and detention facilities are appropriately sized to accommodate stormwater runoff from the design storm, and the project would not substantially increase off-site flooding. As demonstrated in the *Preliminary Hydrology and Hydraulic Analysis* prepared for the proposed project and to be subsequently confirmed in the Final Hydrology and Hydraulic Analysis, impacts related to an increase in the rate or amount of surface runoff in a manner that would result in on- or off-site flooding would be less than significant, and no mitigation is required.

**Threshold 4.9.3.iii:** **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; or**

***Less than Significant Impact.***

**Construction.** As discussed above in response to Threshold 4.9.1, construction of the proposed project has the potential to introduce pollutants to the storm drain system from erosion, siltation, and accidental spills. However, as specified in Regulatory Compliance Measures WQ-1 and WQ-2, the Construction General Permit requires preparation of a SWPPP, and the City of San Juan Capistrano Municipal Code requires preparation of pollution control plan, construction BMP plan, and/or erosion and sediment control plan. Both the SWPPP and the pollution control plan, construction BMP plan, and/or erosion and sediment control plan would identify construction BMPs to be implemented during construction to reduce impacts to water quality, including those impacts associated with soil erosion, siltation, and spills. In addition, any groundwater extracted during groundwater dewatering activities that is discharged to surface waters would be tested and treated (if necessary) to ensure that any discharges meet the water quality limits specified in the applicable NPDES permit (as specified in Regulatory Compliance Measure WQ-3). Regulatory Compliance Measures WQ-1, WQ-2, and WQ-3 are existing NPDES requirements with which the project is required to comply. These measures would prevent substantial additional sources of polluted runoff being discharged to the storm drain system through implementation of construction BMPs that target pollutants of concern in runoff from the project site as well as testing and treatment (if required) of groundwater prior to its discharge to surface waters.

Additionally, as discussed above in response to Threshold 4.9.3.ii, the SWPPP would include construction BMPs to control and direct surface runoff on site and would include detention measures if required to ensure that stormwater runoff from the construction site does not exceed the capacity of the stormwater drainage systems. For these reasons, construction impacts related to creation or contribution of runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff would be less than significant, and no mitigation is required.

**Operation.** As discussed above in response to Thresholds 4.9.1, operation of the project has the potential to introduce pollutants to the storm drain system from the proposed on-site uses. However, as specified in Regulatory Compliance Measure WQ-4, permanent operational BMPs that target and reduce pollutants of concern in stormwater runoff would be implemented and maintained throughout the life of the project. Regulatory Compliance Measure WQ-4 is an existing NPDES requirement with which the project is required to comply. This measure would prevent substantial additional sources of polluted runoff being discharged to the storm drain system through implementation of operational BMPs to target pollutants of concern in runoff from the project site. Additionally, as discussed above in response to Threshold 4.9.3.ii, the proposed underground detention facilities would reduce stormwater runoff from the project

site. Even without the proposed underground detention facilities, the two outfalls that convey runoff from the project site to San Juan Creek have sufficient capacity to accommodate any increase in stormwater from the project site. In addition, the increase in stormwater runoff from the project site would not reduce the capacity of San Juan Creek because of the project site's close proximity to the creek. Peak flow from the project site would discharge to San Juan Creek prior to the peak flow from the remainder of the watershed reaching San Juan Creek, resulting in a substantial lag time between the watershed peak flow and the project site peak flow. As specified in Regulatory Compliance Measure WQ-5, a Final Hydrology and Hydraulic Analysis would be required to be prepared and submitted to the City for approval to confirm that, based on final project design, the peak flow of stormwater runoff in the proposed condition would not exceed the outfall capacity. For these reasons, operational impacts related to creation or contribution of runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff would be less than significant, and no mitigation is required.

**Threshold 4.9.3.iv: 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?**

**Less than Significant Impact.** The majority of the project site is located within 100-year floodplain Zone AO. Zone AO is defined by FEMA as areas subject to inundation by 1-percent-annual-chance (100-year) flood with shallow flooding (1 ft depth for the project site). A portion of the project site (along the western boundary) is located within Zone A, which is classified as an area subject to inundation by the 1-percent-annual-chance flood event.

In the existing condition, the outfall structures that convey stormwater runoff from the project site to San Juan Creek are designed with flap gates. When San Juan Creek is experiencing high flows, the flap gates close to prevent water from the creek from back flowing into the project site. The flap gates remain closed for short periods of time until there is sufficient pressure from water accumulated on site to open the flap gates and allow flow from the project site to the creek to resume. Because of the lag time between stormwater peak flow from the project site reaching San Juan Creek and stormwater peak flow from the remainder of the watershed reaching San Juan Creek, stormwater from the project site would be expected to discharge to San Juan Creek before water levels in San Juan Creek are high enough to close the flap gates. In the unlikely event that the flap gates are closed during a storm event, stormwater ponds on the project site, overflows the east property line, is conveyed along the west limit of the LOSSAN rail corridor, and flows southerly to discharge to the Pacific Ocean at Doheny State Beach through an existing drainage culvert. In the existing conditions, the railroad tracks are inundated and inoperable during a 100-year storm event.

The proposed project would be designed in compliance with the design requirements of the Section 8-11.115 of the City Municipal Code, which specifies design requirements for developments within the 100-year floodplain. The proposed project would be designed to not impede or redirect flood flows. In the event of a 100-year flood event, stormflows would be conveyed similar to existing conditions. In the unlikely event that the flap gates are closed during a storm event, stormwater would pond on the project site and would rise to 1 ft below the finish floor elevation before

overflowing to the east property line, being conveyed along the west limit of the LOSSAN rail corridor, and flowing southerly to discharge to the Pacific Ocean at Doheny State Beach through an existing drainage culvert. The on-site ponding combined with the storage capacity of the underground detention storage would limit the increase in discharge volume during this unlikely catastrophic flood event. According to the Hydrology and Hydraulics Analysis prepared for the project, taking into account the combined storage volume, the proposed project would increase the 100-year storm overflow runoff volume by less than 4 percent in the event that a catastrophic flood event occurs. However, due to the lag time between the watershed peak flow and the project site peak flow reaching San Juan Creek, this condition is not expected to occur during the project lifespan and represents a conservative, worst-case scenario to ensure a conservative project design for structure protection. In addition, the railroad tracks are inundated and inoperable during a 100-year storm event in the existing condition. During the low likelihood condition that the project site were to overflow to the railroad in the proposed condition, the 4 percent increase in overflow to the railroad would not further impede the operations of the railroad beyond the flooding experienced in the existing conditions.

The proposed project would also be required to obtain an Elevation Certificate, as outlined in Regulatory Compliance Measure WQ-6. The Elevation Certificate is part of the National Flood Insurance Program (NFIP) and is used to provide elevation information necessary to ensure compliance with community floodplain management ordinances, to determine the proper insurance premium rate, and may serve as documentation supporting a Conditional Letter of Map Revision (CLOMR) or Letter of Map Revision based on fill (LOMR).

As specified in Regulatory Compliance Measure WQ-7, the project would be required to process a CLOMR during final design and a LOMR upon project completion through the City, the Orange County Flood Control District (OCFCD), and FEMA. A CLOMR is FEMA's comment on a proposed project that would, upon construction, affect the hydrologic or hydraulic characteristics of a floodplain and thus result in the modification of the existing floodplain or floodway or the base flood elevation. A CLOMR does not revise an effective FIRM; instead, it indicates whether the project, if built as proposed, would be recognized by FEMA. An LOMR is FEMA's modification to an effective FIRM. The CLOMR and LOMR would ensure that the FEMA FIRM reflects the changes to the floodplain that would result from project implementation. With implementation of Regulatory Compliance Measures WQ-6 and WQ-7, potential impacts related to impeding or redirecting flood flows would be less than significant and no mitigation is required.

#### **4.9.7 Level of Significance Prior to Mitigation**

Construction and operational impacts related to hydrology and water quality would be less than significant. No mitigation measures are required.

#### **4.9.8 Regulatory Compliance Measures and Mitigation Measures**

##### **4.9.8.1 Regulatory Compliance Measures (RCMs)**

The proposed project would comply with the following regulatory standards.

- RCM WQ-1 Construction General Permit.** Prior to commencement of construction activities, the project Applicant shall obtain coverage under the *National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit)*, NPDES No. CAS000002, Order No. 2009-0009-DWQ, as amended by Order No. 2010-0014-DWQ and Order No. 2012-0006-DWQ, or any other subsequent permit. This shall include submission of Permit Registration Documents (PRDs), including permit application fees, a Notice of Intent (NOI), a risk assessment, a site plan, a Stormwater Pollution Prevention Plan (SWPPP), a signed certification statement, and any other compliance-related documents required by the permit, to the State Water Resources Control Board via the Stormwater Multiple Application and Report Tracking System (SMARTS). As required by the Section 8-14.107 of the City of San Juan Capistrano's (City) Municipal Code, construction activities shall not commence until a Waste Discharge Identification Number (WDID) is obtained for the project from the SMARTS and provided to the City of San Juan Capistrano Building Official, or designee, to demonstrate that coverage under the Construction General Permit has been obtained. Project construction shall comply with all applicable requirements specified in the Construction General Permit, including but not limited to, preparation of a SWPPP and implementation of construction site Best Management Practices (BMPs) to address all construction-related activities, equipment, and materials that have the potential to impact water quality for the appropriate risk level identified for the project. The SWPPP shall identify the sources of pollutants that may affect the quality of stormwater and shall include BMPs (e.g., Sediment Control, Erosion Control, and Good Housekeeping BMPs) to control the pollutants in stormwater runoff. Construction Site BMPs shall also conform to the requirements specified in the latest edition of the Orange County Stormwater Program *Construction Runoff Guidance Manual for Contractors, Project Owners, and Developers* to control and minimize the impacts of construction and construction-related activities, materials, and pollutants on the watershed. Upon completion of construction activities and stabilization of the project site, a Notice of Termination shall be submitted via SMARTS.
- RCM WQ-2 Erosion and Sediment Control Plans.** In compliance with the requirements of Sections 8-2.15, 8-2.16, and 8-14.107 of the San Juan Capistrano Municipal Code, the project Applicant shall submit a pollution control plan, construction BMP plan, and/or erosion and sediment control plan to the City of San Juan Capistrano Building Official, or designee, for review and approval prior to issuance of a grading permit. The project Applicant shall also install and maintain erosion control devices year round in compliance with the City-approved pollution control plan, construction BMP plan, and/or erosion and sediment control plan. The project Applicant shall ensure that the construction BMPs are inspected and maintained prior to, during, and after rain events.
- RCM WQ-3 Groundwater Dewatering Permits.** Prior to initiation of excavation activities, the project Applicant shall obtain coverage under San Diego RWQCB issued the *General*

*Waste Discharge Requirements for Discharges from Groundwater Extraction Discharges to Surface Waters within the San Diego Region* (Order No. R9-2015-0013, NPDES No. CAG919003), or any other subsequent permit, and provide evidence of coverage to the City of San Juan Capistrano Building Official, or designee. This shall include submission of a Notice of Intent (NOI) for coverage under the permit to the San Diego Regional Water Quality Control Board (RWQCB) at least 60 days prior to the start of excavation activities and anticipated discharge of dewatered groundwater to surface waters. Groundwater dewatering activities shall comply with all applicable provisions in the permit, including water sampling, analysis, treatment (if required), and reporting of dewatering-related discharges. Upon completion of groundwater dewatering activities, a Notice of Termination shall be submitted to the San Diego RWQCB.

**RCM WQ-4** **Water Quality Management Plan.** Prior to issuance of building permits, the project Applicant shall submit a Final Water Quality Management Plan (WQMP) to the City of San Juan Capistrano Building Official, or designee, for review and approval in compliance with Sections 8-14.105 and 8-14.106 of the City Municipal Code and the *National Pollutant Discharge Elimination System (NPDES) Permit and Waste Discharge Requirements for Discharges from the Municipal Separate Storm Sewer Systems (MS4) Draining the Watersheds within the San Diego Region* (South Orange County MS4 Permit), Order R9-2013-0001, NPDES No. CAS6010266, as amended by Order No. R9-2015-0001, or any other subsequent permit. The Final WQMP shall be prepared consistent with the requirements of the *Model Water Quality Management Plan (Model WQMP) for South Orange County* (County of Orange 2017) and the *Technical Guidance Document for the Preparation of Conceptual/ Preliminary and/or Project Water Quality Management Plans (WQMPs)* (County of Orange 2018), or subsequent guidance manuals. The Final WQMP shall specify the BMPs to be incorporated into the project design to target pollutants of concern in runoff from the project site. The City of San Juan Capistrano Building Official, or designee, shall ensure that the BMPs specified in the Final WQMP are incorporated into the final project design.

**RCM WQ-5** **Final Hydrology and Hydraulics Analysis.** Prior to issuance of building permits, the project Applicant shall submit Final Hydrology and Hydraulics Analysis to the City of San Juan Capistrano Building Official, or designee, for review and approval. The Final Hydrology and Hydraulics Analysis shall be prepared consistent with the requirements of the *Orange County Hydrology Manual* (Orange County Public Works [OCPW] 1986) and the *Orange County Hydrology Manual Addendum No. 1* (OCPW 1996), or subsequent guidance manuals. The Final Hydrology and Hydraulics Analysis shall confirm that the on-site storm drains, on-site detention systems, and any other drainage structures are appropriately sized to accommodate stormwater runoff from the design storm so that the capacity of downstream storm drain facilities is not exceeded. The City of San Juan Capistrano Building Official, or designee, shall ensure that the drainage facilities specified in the Final Hydrology and Hydraulics Analysis are incorporated into the final project design.

**RCM WQ-6 Flood Hazard Certification.** Prior to issuance of any Certificates of Occupancy, the project Applicant shall obtain certification from a registered professional engineer or surveyor that the constructed structures on comply with the requirements of Section 8-11.115 of the City's Municipal Code. The certification shall be a Federal Emergency Management Agency (FEMA) Elevation Certificate and shall verify that the elevation of the first floor of the completed building is located above the 100-year floodplain and complies with the elevation requirements in Section 8-11.115 of the City's Municipal Code. In addition, the certification shall verify that the on-site structure would not impede or increase the 100-year flood elevations. The certification shall be submitted to and verified by the City Floodplain Administrator.

**RCM WQ-7 Letter of Map Revision. Flood Insurance Rate Map Revisions.** Prior to the issuance of any grading or construction permits, the project Applicant shall process a Conditional Letter of Map Revision (CLOMR) through the City of San Juan Capistrano, Orange County Flood Control District (OCFCD), and the Federal Emergency Management Agency (FEMA). Project construction shall not commence until the CLOMR is approved by FEMA. Upon completion of construction, the project Applicant shall process a Letter of Map Revision (LOMR) through the City of San Juan Capistrano, OCFCD, and FEMA. The City of San Juan Capistrano shall not issue the first Certificate of Occupancy until the LOMR is approved by FEMA.

#### 4.9.8.2 Mitigation Measures (MMs)

No mitigation is required for the proposed project.

#### 4.9.9 Level of Significance after Mitigation

Construction and operational impacts related to hydrology and water quality would be less than significant. No mitigation is required.

#### 4.9.10 Cumulative Impacts

Cumulative development in the San Juan Creek Watershed is a continuation of the existing urban pattern of development that has already resulted in extensive modifications to watercourses in the area. The area's watercourses have been channelized and drainage systems have been put into place to respond to the past urbanization that has occurred in this area. For the cumulative analysis related to hydrology and water quality, the cumulative projects being considered include the related projects, which all discharge to the same watershed as the proposed project (i.e., the San Juan Creek Watershed). Each of these related projects could potentially increase the volume of stormwater runoff and contribute to pollutant loading in stormwater runoff reaching both the City's storm drain system and the San Juan Creek Watershed, thereby resulting in cumulative impacts to hydrology and surface water quality.

New development and redevelopment can result in increased stormwater runoff and increased urban pollutants in stormwater runoff from project sites. Each related project must include BMPs to reduce impacts to water quality and hydrology in compliance with local ordinances and plans adopted to comply with requirements of the various NPDES permits. Specifically, all projects that

disturb 1 acre or more of soil must comply with the requirements of the Construction General Permit, the South Orange County MS4 Permit, and the City of San Juan Capistrano Municipal Code. The preparation and approval of a SWPPP and pollution control plan, construction BMP plan, and/or erosion and sediment control plan (for construction), and a WQMP (for operation) would be required for each related project to determine appropriate BMPs to minimize water quality impacts. In addition, the preparation and approval of a hydrology study would be required to determine the hydrologic control required to minimize increases in runoff from each site so they do not exceed regulatory requirements or exceed the capacity of downstream stormdrain systems. In addition, the City's Building Official reviews all development projects on a case-by-case basis to ensure that sufficient local and regional drainage capacity is available.

Each related project must consider impaired receiving waters and TMDLs for receiving waters. The TMDL program is designed to identify all constituents that adversely affect the beneficial uses of water bodies and then identify appropriate reductions in pollutant loads or concentrations from all sources so that the receiving waters can maintain/attain the beneficial uses in the Basin Plan. Thus, by complying with TMDLs, a project's contribution to overall water quality improvement in the San Juan Creek Watershed in the context of the regulatory program is designed to account for cumulative impacts.

Regional programs and BMPs such as TMDL programs and the MS4 Permit Program have been designed under an assumption that the San Juan Creek Watershed would continue their pattern of urbanization. The regional control measures contemplate the cumulative effects of proposed development. The proposed project would be required to comply with the requirements of the Construction General Permit and the South Orange County MS4 Permit and implement construction and operational BMPs to reduce pollutants in stormwater runoff. Compliance with these regional programs and permits constitutes compliance with programs intended to address cumulative water quality impacts. As stated above, each related project would be required to develop a SWPPP; pollution control plan, construction BMP plan, and/or erosion and sediment control plan; a WQMP; and a hydrology study, and would be evaluated individually to determine appropriate BMPs and treatment measures to reduce impacts to surface water quality and hydrology. Because the proposed project and other related projects would comply with applicable NPDES requirements and would include BMPs to reduce the volume of stormwater runoff and pollutants of concern in stormwater runoff, the cumulative hydrology and water quality impacts of the proposed project and the related projects would be less than significant. Therefore, the proposed project's incremental hydrology and water quality impacts would not be cumulatively considerable.

#### **4.9.11 Project Alternatives**

##### **4.9.11.1 Alternative 1 – No Restaurant Uses**

Alternative 1 would allow for the future construction of a 161,385-square-foot (sf) Ganahl Lumber hardware store and lumber yard and a 399-space vehicle storage facility, but no drive-through restaurant uses would be developed. This alternative represents a reduction of 6,000 sf of drive-through restaurant use as compared to the proposed project. Under Alternative 1, Area A would provide 150 parking spaces, compared to 62 parking spaces provided in Area A as part of the proposed project.

Most components of the proposed project, such as outdoor lighting, circulation and access, signage, utilities and drainage, sustainability features, landscaping, and construction phasing, and grading, would not significantly change with the implementation of Alternative 1. Components specific to Area A, such as the location of walkways, retaining walls fences, and gates, would also not change under Alternative 1.

The modification and installation of existing and new utilities and infrastructure associated with the proposed project would still occur under Alternative 1. Alternative 1 would involve the grading and paving of Area A for surface parking; however, no construction of a drive-through restaurant uses would occur. Although Alternative 1 would not involve the development of structures on Area A as the proposed project would, the entirety of Area A would still be cleared, excavated, graded, and paved to accommodate surface parking.

Similar to the proposed project, Alternative 1 would change the use on the project site, increase impervious surface area, increase stormwater runoff, and change the pollutants of concern in stormwater runoff. Alternative 1 would be required to comply with all NPDES regulations, including the Construction General Permit, South Orange County MS4 Permit, and Groundwater Discharge Permit (Regulatory Compliance Measures WQ-1 through WQ-3). In addition, a Final WQMP and Hydrology and Hydraulics Analysis would be required to be prepared and implemented for Alternative 1 (Regulatory Compliance Measures WQ-4 and WQ-5). Implementation of BMPs and drainage infrastructure would be required to reduce pollutants of concern on the project site and convey stormwater runoff in compliance with NPDES and City requirements.

Similar to the proposed project, Alternative 1 would be constructed within a 100-year floodplain. Alternative 1 would comply with existing NFIP, FEMA, and City regulations governing development within a 100-year floodplain. An elevation certification would be obtained from a certified engineer or surveyor and a Conditional Letter of Map Revision (CLOMR) and Letter of Map Revision (LOMR) would be obtained from FEMA, as required by Regulatory Compliance Measures WQ-6 and WQ-7.

With compliance with adopted regulations, Alternative 1 would result in less than significant impacts related to hydrology and water quality. With implementation of BMPs and drainage infrastructure in compliance with adopted regulations, the hydrology and water quality impacts of Alternative 1 would be similar to those of the proposed project.

Because impacts related to hydrology and water quality for Alternative 1 would be similar to those associated with the proposed project, cumulative impacts would also be less than cumulatively significant, and no mitigation would be required.

#### 4.9.11.2 Alternative 2 – 2,000 Square Feet of Restaurant Uses

Alternative 2 would allow for the future construction of a 161,385 sf Ganahl Lumber hardware store and lumber yard, a 399-space vehicle storage facility, and 2,000 sf of drive-through restaurant uses, which represents a reduction of 4,000 sf of drive-through restaurant uses as compared to the proposed project. Specifically, Alternative 2 would provide 80 parking spaces, compared to 62 parking spaces provided in Area A as part of the proposed project.

Most components of the proposed project, such as outdoor lighting, circulation and access, signage, utilities and drainage, sustainability features, landscaping, and construction phasing and grading, would not significantly change with the implementation of Alternative 2. Components specific to Area A, such as the location of walkways, retaining walls, fences, and gates, would also not change under Alternative 2.

The modification and installation of existing and new utilities and infrastructure associated with the proposed project would still occur under Alternative 2. Under Alternative 2, similar to the proposed project, the entirety of Area A would be cleared, excavated, graded, and paved to accommodate surface parking and a building pad.

Similar to the proposed project, Alternative 2 would change the use on the project site, increase impervious surface area, increase stormwater runoff, and change the pollutants of concern in stormwater runoff. Alternative 2 would be required to comply with all NPDES regulations, including the Construction General Permit, South Orange County MS4 Permit, and Groundwater Discharge Permit (Regulatory Compliance Measures WQ-1 through WQ-3). In addition, a Final WQMP and Hydrology and Hydraulics Analysis would be required to be prepared and implemented for Alternative 2 (Regulatory Compliance Measures WQ-4 and WQ-5). Implementation of BMPs and drainage infrastructure would be required to reduce pollutants of concern on the project site and convey stormwater runoff in compliance with NPDES and City requirements.

Similar to the proposed project, Alternative 2 would be constructed within a 100-year floodplain. Alternative 2 would comply with existing NFIP, FEMA, and City regulations governing development within a 100-year floodplain. An elevation certification would be obtained from a certified engineer or surveyor and a Conditional Letter of Map Revision (CLOMR) and Letter of Map Revision (LOMR) would be obtained from FEMA, as required by Regulatory Compliance Measures WQ-6 and WQ-7.

With compliance with adopted regulations, Alternative 2 would result in less than significant impacts related to hydrology and water quality. With implementation of BMPs and drainage infrastructure in compliance with adopted regulations, the hydrology and water quality impacts of Alternative 2 would be similar to those of the proposed project.

Because impacts related to hydrology and water quality for Alternative 2 would be similar to those associated with the proposed project, cumulative impacts would also be less than cumulatively significant, and no mitigation would be required.

#### 4.9.11.3 Alternative 3 - 4,000 Square Feet of Restaurant Uses

Alternative 3 would allow for the future construction of a 161,385 sf Ganahl Lumber hardware store and lumber yard, a 399-space vehicle storage facility, and 4,000 sf of drive-through restaurant uses, which represents a reduction of 2,000 sf of drive-through restaurant use as compared to the proposed project. Specifically, Area A would provide 101 parking spaces, compared to 62 parking spaces provided as part of the project. Under Alternative 3, these additional parking spaces would be used by the drive-through restaurant use.

Most components of the proposed project, such as outdoor lighting, circulation and access, signage, utilities and drainage, sustainability features, landscaping, construction phasing, and grading, would not significantly change under the implementation of Alternative 3. Components specific to Area A, such as the location of walkways, retaining walls, fences, and gates, would also not change under Alternative 3.

The modification and installation of existing and new utilities and infrastructure associated with the proposed project would still occur under Alternative 3. Under Alternative 3, similar to the proposed project, the entirety of Area A would be cleared, excavated, graded, and paved to accommodate surface parking and a building pad.

Similar to the proposed project, Alternative 3 would change the use on the project site, increase impervious surface area, increase stormwater runoff, and change the pollutants of concern in stormwater runoff. Alternative 3 would be required to comply with all NPDES regulations, including the Construction General Permit, South Orange County MS4 Permit, and Groundwater Discharge Permit (Regulatory Compliance Measures WQ-1 through WQ-3). In addition, a Final WQMP and Hydrology and Hydraulics Analysis would be required to be prepared and implemented for Alternative 3 (Regulatory Compliance Measures WQ-4 and WQ-5). Implementation of BMPs and drainage infrastructure would be required to reduce pollutants of concern on the project site and convey stormwater runoff in compliance with NPDES and City requirements.

Similar to the proposed project, Alternative 3 would be constructed within a 100-year floodplain. Alternative 3 would comply with existing NFIP, FEMA, and City regulations governing development within a 100-year floodplain. An elevation certification would be obtained from a certified engineer or surveyor and a Conditional Letter of Map Revision (CLOMR) and Letter of Map Revision (LOMR) would be obtained from FEMA, as required by Regulatory Compliance Measures WQ-6 and WQ-7.

With compliance with adopted regulations, Alternative 3 would result in less than significant impacts related to hydrology and water quality. With implementation of BMPs and drainage infrastructure in compliance with adopted regulations, the hydrology and water quality impacts of Alternative 3 would be similar to those of the proposed project.

Because impacts related to hydrology and water quality for Alternative 3 would be similar to those associated with the proposed project, cumulative impacts would also be less than cumulatively significant, and no mitigation would be required.

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