

3.7 - Hydrology and Water Quality

3.7.1 - Introduction

This section describes the existing hydrology and water quality setting and potential effects from project implementation on the site and its surrounding area. Descriptions and analysis in this section are based on site reconnaissance, review of project plans, and review of resources including the City of American Canyon General Plan, the California Department of Water Resources Bulletin 118, the Clean Water Act 303(d) list, and the Western Regional Climate Center.

3.7.2 - Environmental Setting

Climate

The City of American Canyon is characterized by a Mediterranean climate with warm summers, mild winters, and moderate precipitation. Temperatures in American Canyon range from an average monthly low of 38.3 degrees Fahrenheit (°F) in January to an average monthly high of 82.1°F in September. Average annual rainfall is 24.6 inches with the majority occurring from November to March. General meteorological data for the American Canyon area, as measured at the Napa State Hospital weather station, are presented in Table 3.7-1.

Table 3.7-1: American Canyon Meteorological Summary

Month	Temperature (°F)		Average Precipitation (inches)
	Average Low	Average High	
January	38.3	57.0	5.14
February	40.8	61.5	4.38
March	42.0	65.0	3.35
April	43.7	69.6	1.65
May	47.6	74.6	0.68
June	51.3	79.8	0.21
July	53.4	81.9	0.02
August	53.2	81.7	0.06
September	51.5	82.1	0.31
October	47.9	76.5	1.36
November	42.6	65.9	2.98
December	38.8	57.6	4.50
Annual Average	45.9	71.1	24.66
Note: Averages derived from measurements taken between January 1, 1893 and January 20, 2015 at Napa State Hospital (WRCC ID# 046074). Source: Western Regional Climate Center, 2015.			

Watershed

In a very broad sense, the project site is located within the 426-square-mile Napa River Watershed. The Napa River drains 47 tributaries along its 55-mile length from the headwaters of Mount St. Helena in the Mayacamas Mountain Range at approximately 3,700 feet above mean sea level to San Pablo Bay, part of San Francisco Bay.

At a more local scale, the project site has a contributing watershed area of 650 acres, measured where No Name Creek leaves the northwest corner of the site. Site drainage and the watershed boundary have been heavily influenced by the construction of ditches, roadway embankments, and other development. It is plausible that an additional area east of State Route 29 (SR-29) contributes runoff to the project site; however, this area does not affect the hydrology of the development footprint because either (1) it is routed through the drainage channel along Airport Road (which will not be affected by the project), or (2) it is routed through the undeveloped land to the south of the project site (also unaffected by the project). The watershed is not part of one of the larger, regional watersheds used for stormwater master planning.

Land Use

Within the large, Napa River Watershed, major land cover types are forest (35 percent), grassland/rangeland (23 percent), and agriculture (19 percent). The San Francisco Bay Regional Water Quality Control Board (RWQCB) indicates that two-thirds of the agricultural land is vineyards, and urban development covers approximately 8 percent of the watershed. The majority of streams in the Napa Valley have been altered by urbanization, agriculture, and grazing. Since the 1800s, large sections of the Napa River have been straightened, the banks hardened, flows redirected, and several levees constructed.

The project site contains undeveloped land. The project slopes gently from east to west. A soil stockpile is located near the intersection of S. Kelly Road/Devlin Road. A 3.5-acre wetland area is located in the central portion of the site near Pacific Auto Salvage. Grassy and weedy vegetation is present throughout the project site.

Storm Drainage

Portions of the project site are served by the municipal storm drainage system. The northeasterly portion of the project site drains to existing storm drains that run under the intersection of Devlin Road/South Kelly Road. These storm drains discharge onto the County's Devlin Road Transfer Station property and eventually discharge beneath the Napa Branch line. In addition, the portion of the project site on the west side of Devlin Road drains to two 24-inch-diameter culverts that cross under Devlin Road at the base of the grade crossing and discharge to the portion of the site south of the roadway. Additionally, there is a roadside drainage ditch along SR-29. Runoff from all of these facilities is ultimately discharged into the Napa River.

For the balance of the site, runoff either ponds on-site and percolates into the soil or sheet flows into the municipal storm drainage facilities within Devlin Road and S. Kelly Road or the roadside ditch along SR-29.

Surface Water Quality

The Napa River is listed as impaired on the Clean Water Act 303(d) list for pathogens and sediment/siltation. These pollutants are a result of agriculture, urban runoff, and storm sewers; land development; and construction. The Napa River was previously listed on the Clean Water Act 303(d) list for nutrients; however, the RWQCB de-listed the Napa River for this pollutant in 2014 (Resolution Number R2-2014-0006).

Groundwater

The project site is located within the 40,500-acre Napa-Sonoma Lowlands Groundwater Subbasin. The subbasin consists primarily of alluvium and alluvial fans that were deposited at and near the mouths of the Napa River and Sonoma Creek adjacent to San Pablo Bay. To a lesser extent, portions of the City are underlain by sandstone and mudstone/shale, of which the former comprises some of the more productive water-bearing units within the region. The City of American Canyon does not maintain any municipal groundwater wells; however, as many as 41 private wells have been identified that draw from the subbasin within and near the City. Nearly all of these wells reported relatively low-flow rates, ranging from 0.5 gallon per minute (gpm) to 45 gpm.

Groundwater Quality

Groundwater quality in the Napa-Sonoma Lowlands Subbasin is generally suitable for municipal and agricultural uses. Primary constituents of concern are high total dissolved solids (TDS), nitrate, boron, and organic compounds. High TDS are typically found in wells in areas closest to the San Francisco Bay. The California Department of Water Resources indicates that the Napa-Sonoma Lowlands Subbasin shows a TDS range of 50 to 300 milligrams per liter (mg/L) with an average of 185 mg/L.

Geology and Soils

Napa County lies within the Coast Range of California, formed at and near the boundary of two major tectonic plates—the North American and Pacific plates. The lower Napa Valley can generally be considered a down-warped basin, the depth of which has been accentuated by additional down-faulting. The oldest rocks in the area, exposed along the flanks of the valley, are the sedimentary units of the Cretaceous-period Great Valley sequence. These units were originally part of the intact, overriding (North American) plate that were uplifted after the plate margin changed from a subduction zone to a transform fault, approximately 25 million years ago. The Great Valley sequence, in turn, is overlain by shales, sandstones, and siltstones of early to mid-Tertiary period. These sedimentary units were deformed and in some places moderately metamorphosed as a result of the uplift of the region. Thick deposits of late-Tertiary-period volcanic material, primarily tuff and rhyolite, cover the sedimentary units throughout much of the valley, as far south as Suscol Canyon. The Napa Valley floor is composed of Quaternary-period sediments, deposited on the Napa River floodplain and in alluvial fans built up at tributary mouths along the base of the valley flanks.

The project site is located near the southern end of the Napa Valley, at the distal end of the younger alluvial fan deposits that emanate from the hills to the east of the site. Young alluvial silt and clay floodplain and tidal deposits are also present at the site, deposited by the nearby Napa River.

The vast majority of the project site is underlain by Clear Lake clay and small areas of Haire loam, 2-9 percent slopes and Fagan clay loam, 5-15 percent slopes. These soils are classified as hydrologic soils group D, meaning they have high runoff potential and very low infiltration rates, particularly when thoroughly wetted.

3.7.3 - Regulatory Framework

Federal

Section 303 of the Clean Water Act (CWA) requires states to adopt water quality standards for all surface waters of the United States. Water quality standards are typically numeric, although narrative criteria based upon biomonitoring methods may be employed where numerical standards cannot be established or where they are needed to supplement numerical standards (see description the Porter-Cologne Water Quality Control Act, below). Standards are based on the designated beneficial use(s) of the water body. Where multiple uses exist, water quality standards must protect the most sensitive use.

Section 401 of the CWA requires any person applying for a federal permit or license that may result in the discharge of pollutants into waters of the United States (including wetlands) to obtain a state certification. In California, certifications are administered by the State Water Resources Control Board (SWRCB) through the nine RWQCBs (see a description of state regulations below). In order to acquire certification, it must be demonstrated that the activity complies with all applicable water quality standards, limitations, and restrictions. No license or permit by a federal agency may be granted until 401 certification has been granted. Section 401 water quality certifications are typically required prior to obtaining a Section 404 permit from the United States Army Corps of Engineers (USACE).

Section 402 of the CWA mandates that certain types of construction activity comply with the requirements of National Pollutant Discharge Elimination System (NPDES) stormwater program. In California, any construction activity (with the exception of certain industrial activities, none of which are proposed for this project) that disturbs at least 1 acre is covered under the Construction General Permit issued by the SWRCB and implemented and enforced by RWQCBs.

Section 404 of the CWA requires that a permit be obtained from the USACE prior to any activity associated with discharge of dredged or fill material into waters of the United States, including wetlands.

FEMA oversees floodplains and administers the National Flood Insurance Program (NFIP) adopted under the National Flood Insurance Act of 1968. The program makes federally subsidized flood insurance available to property owners within communities who participate in the program. Areas of special flood hazard (those subject to inundation by a 100-year flood) are identified by FEMA through regulatory flood maps titled Flood Insurance Rate Maps. The NFIP mandates that development cannot occur within the regulatory floodplain (typically the 100-year floodplain) if that development results in more than 1 foot increase in flood elevation. In addition, development is not allowed in delineated floodways within the regulatory floodplain.

Executive Order 11988 (Floodplain Management) addresses floodplain issues related to public safety, conservation, and economics. It generally requires federal agencies constructing, permitting, or funding a project in a floodplain to do the following:

- Avoid incompatible floodplain development,
- Be consistent with the standards and criteria of the NFIP, and
- Restore and preserve natural and beneficial floodplain values.

Executive Order 11990 requires federal agencies to follow avoidance, mitigation, and preservation procedures, with public input, before proposing new construction in wetlands. It generally requires:

- Avoidance of wetlands,
- Minimization of activities in wetlands, and
- Coordination with the USACE and CWA Section 404 regarding wetlands mitigation.

State

Section 303(d) of the CWA requires that the SWRCB identify surface water bodies within California that do not meet established water quality standards. Once identified, the affected water body is included in the SWRCB's "303(d) Listing of Impaired Water Bodies" and a comprehensive program must then be developed to limit the amount of pollutant discharges into that water body. This program includes the establishment of "total maximum daily loads" (TMDL) for pollutant discharges into the designated water body. The most recent 303(d) listing for California was approved by the United States Environmental Protection Agency (EPA) in 2010.

The Porter-Cologne Water Quality Control Act of 1969 authorized the SWRCB to provide comprehensive protection for California's waters through water allocation and water quality protection. The SWRCB implements the requirement of the Clean Water Act Section 303, indicating that water quality standards have to be set for certain waters by adopting water quality control plans under the Porter-Cologne Act. The Porter-Cologne Act established the responsibilities and authorities of the nine RWQCBs, which include preparing water quality plans for areas in the region, identifying water quality objectives, and issuing NPDES permits and Waste Discharge Requirements (WDRs). Water quality objectives are defined as limits or levels of water quality constituents and characteristics established for reasonable protection of beneficial uses or prevention of nuisance. The Porter-Cologne Act was later amended to provide the authority delegated from the EPA to issue NPDES permits. The RWQCB for the project site is the San Francisco Bay Region.

Post-construction stormwater controls to satisfy requirements of the NPDES Program are permitted under the Phase II Small Municipal Separate Storm Sewer System (MS4) Permit (Order No. 2013-0001 DWQ, effective July 1, 2013). Facilities must be designed to evapotranspire, infiltrate, harvest/use, and bio treat stormwater. Effective July 1, 2016, hydromodification management procedures will be required.

Projects disturbing more than 1 acre of land during construction are required to comply with the Construction General Permit (Order No. 2009-0009-DWQ as amended by 2010-0014-DWQ, effective

February 14, 2011; NPDES No. CAS000002). Construction General Permit activities are regulated at a local level by the RWQCB. To obtain coverage under the Construction General Permit, a project applicant must provide a Notice of Intent, a Stormwater Pollution Prevention Plan (SWPPP), and other documents required by Attachment B of the Construction General Permit. Activities subject to the Construction General Permit include clearing, grading, and disturbances to the ground, such as grubbing or excavation.

The Construction General Permit uses a risk-based permitting approach and mandates certain requirements based on the project risk level (Level 1, Level 2, or Level 3). The project risk level is based on the risk of sediment discharge and the receiving water risk. The sediment discharge risk depends on project location and timing (such as wet season versus dry season activities). The receiving water risk depends on whether the project would discharge to a sediment-sensitive receiving water. The determination of the project risk level would be made when the Notice of Intent is filed (once more details of the timing of the construction activity are known).

The performance standard in the Construction General Permit is that dischargers minimize or prevent pollutants in stormwater discharges and authorized non-stormwater discharges through the use of controls, structures, and best management practices (BMPs). A SWPPP must be prepared by a qualified SWPPP developer that meets the certification requirements in the Construction General Permit. The purpose of the SWPPP is (1) to help identify the sources of sediment and other pollutants that could affect the quality of stormwater discharges, and (2) to describe and ensure the implementation of BMPs to reduce or eliminate sediment and other pollutants in stormwater as well as non-stormwater discharges resulting from construction activity. Operation of BMPs must be overseen by a qualified SWPPP practitioner who meets the requirements outlined in the permit.

Section 1600–1616 of the California Fish and Game Code requires that the California Department of Fish and Wildlife (CDFW) be notified of activity that will: substantially divert or obstruct the natural flow of any river, stream or lake; or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake; or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. If CDFW determines that the activity may substantially adversely affect fish and wildlife resources, a Lake or Streambed Alteration Agreement will be prepared that outlines reasonable conditions necessary to protect natural resources threatened by the proposed activity.

Local

City of American Canyon

General Plan

The City of American Canyon General Plan sets forth the following guiding and implementing policies relevant to hydrology and water quality:

- **Goal 10:** Protect the lives and property of American Canyon’s residents and visitors from flood hazards.
- **Objective 10.1:** Design both new development and redevelopment projects in a manner that minimizes hazards associated with flooding.

- **Policy 10.1.1:** Retain and enhance natural watercourses, including perennial and intermittent streams, as the City's primary flood control channels whenever feasible.
- **Policy 10.1.4:** Ensure that storm water drainage is designed for peak flow conditions.
- **Policy 10.1.5:** Prohibit the development of structures designed for human occupancy within the 100-year floodplain, unless flood hazards are adequately mitigated. Mitigation can be accomplished by building foundations a minimum of one (1) foot above the 100-year flood elevation, or by other means approved by the City Engineer.
- **Policy 10.1.12:** Require that proposed developments within the 100-year floodplain submit information regarding the flood hazard prepared by a qualified Civil Engineer or Hydrologist.
- **Policy 10.1.13:** Require that proposed developments within the 100-year floodplain submit plans to adequately mitigate flood hazards and demonstrate that such improvements will not create or increase downstream or upstream flood hazards.

Stormwater Management

As required under State Water Resources Control Board Order No. 2013-001 DWQ, the City of American Canyon maintains a Stormwater Management Program (NPDES Permit No. CAS 612007). As one element of that Program, the City requires regulated projects to address post-construction stormwater quality. The City of American Canyon requires regulated projects, such as this one, to prepare a Stormwater Control Plan (SWCP) in accordance with the Bay Area Stormwater Management Agencies Association—Post Construction Manual. The SWCP must include post-construction stormwater treatment measures such as bio-retention facilities and source control BMPs. The SWMP must also address ongoing maintenances of those facilities.

A Stormwater Control Plan and a Stormwater Best Management Practice Operations and Maintenance Plan will be required for the proposed project in accordance the Bay Area Stormwater Management Agencies Association—Post Construction Manual. The proposed project should also incorporate low impact development design strategies.

In addition, the City requires that a Preliminary Hydrology and Hydraulics Study be prepared to determine whether there are significant impacts. Storm drain design is required to conform to Section 4 of the City's Engineering Standard Plans and Specifications for Public Improvements. Those standards require, among other things, that post-development runoff be no greater than 90 percent of pre-development runoff.

3.7.4 - Methodology

Descriptions and analysis in this section are based on site reconnaissance, review of project plans, and review of resources including the City of American Canyon General Plan, the California Department of Water Resources Bulletin 118, the Clean Water Act 303(d) list, and the Western Regional Climate Center.

3.7.5 - Thresholds of Significance

According to Appendix G, Environmental Checklist, of the CEQA Guidelines, hydrology and water quality impacts resulting from the implementation of the proposed project would be considered significant if the project would:

- a) Violate any water quality standards or waste discharge requirements?
- b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted?)
- c) Substantially alter the existing drainage pattern of area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?
- d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site?
- e) 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?
- f) Otherwise substantially degrade water quality?
- g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? (Refer to Section 7, Effects Found Not To Be Significant.)
- h) Place within a 100-year flood hazard area structures, which would impede or redirect flood flows? (Refer to Section 7, Effects Found Not To Be Significant.)
- i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? (Refer to Section 7, Effects Found Not To Be Significant.)
- j) Inundation by seiche, tsunami, or mudflow? (Refer to Section 7, Effects Found Not To Be Significant.)

3.7.6 - Project Impacts and Mitigation Measures

This section discusses potential impacts associated with the development of the project and provides mitigation measures where appropriate.

Water Quality

Impact HYD-1: Construction activities and changes to drainage patterns associated with the proposed project may degrade surface water quality in downstream water bodies

Impact Analysis

This analysis assesses the potential for the proposed project to degrade surface water quality in downstream water bodies (Checklist questions a, c, and f).

The potential for the proposed project to degrade water quality arises from (1) short-term land disturbance from construction activities and presence of contaminants associated with construction machinery, and (2) long-term changes to land use and drainage patterns that may increase the delivery of sediments, nutrients, organic compounds, trash/debris, and other contaminants to waterways tributary to the Napa River. Left unabated, increased loading of such pollutants could cause geomorphic change in downstream channel reaches, degrade habitat, and undermine TMDL and other water quality requirements.

Construction activities would include grading, erecting buildings, paving, and utility installation. Construction would require the use of gasoline and diesel-powered heavy equipment, such as bulldozers, backhoes, water pumps, and air compressors. Chemicals such as gasoline, diesel fuel, lubricating oil, hydraulic oil, lubricating grease, automatic transmission fluid, paints, solvents, glues, and other substances could be used during construction. An accidental release of any of these substances could degrade the quality of the surface water runoff and adversely affect receiving waters. As such, Mitigation Measure HYD-1a is proposed, requiring the development and implementation of a SWPPP to outline site-specific stormwater quality control measures (such as BMPs) during construction activities to prevent pollutants from entering downstream waterways. With implementation of Mitigation Measure HYD-1a, impacts would be reduced to a less than significant level.

Post-construction, typical urban contaminants associated with streets, parking areas, and rooftops will be introduced to the project site. Moreover, the increase in impervious area increases the efficiency by which sediment and other pollutants are delivered downstream. Concentration of flow by the storm drain system could increase the erosive energy of flows, thereby increasing sediment supply from the project site. Runoff from landscaped areas may also contain residual pesticides and nutrients. Consequently, there is potential for long-term degradation of runoff water quality from the implementation of the project.

The project proposes the following post-construction stormwater management features, according to a three-tiered LID/BMP design approach:

- The purpose of site design BMPs is to maintain pre-development runoff characteristics, protect sensitive resource areas, and attempt to minimize new impervious areas. The site has been designed to limit the amount of disturbed area and new impervious areas.
- Source control BMPs use structural controls and operational procedures to limit pollutants at their source. The project would implement the following source control BMPs: marking “No Dumping! Flows to River” on storm drain inlets; interior floor drains plumbed to sanitary sewer; careful management of pesticide use for landscaped areas; posting “Do Not Dump Hazardous Materials Here” on refuse areas; utilize enclosed trash compactors; grade loading docks to minimize run-on and contain spills; and draining parking areas to bioretention planters.
- Treatment control BMPs are designed to reduce the amount of pollutants in stormwater and to reduce runoff rates. All new impervious areas will be routed through either a bioretention basin or an infiltration planter. The floors of bioretention basins will be amended with a layer

of gravel overlain by a layer of specialized biosoil. The biosoil will be a sandy loam material to promote infiltration while allowing for vegetation to establish. An underdrain will be installed to facilitate infiltration as the local soils have low infiltration potential. Bioretention basins have been configured to drain within 48 hours to prevent vector concerns.

Mitigation Measure HYD-1b is proposed requiring (1) the Stormwater Control Plan to be backchecked and verified by the City of American Canyon to ensure the proposed stormwater controls are adequate pursuant to the requirements the MS4 Permit, and (2) that an operation and maintenance program is in place to ensure the long-term functionality of the stormwater controls. Impacts would be less than significant with mitigation.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM HYD-1a Prior to issuance of grading permits for the proposed project, the City of American Canyon shall verify that the applicant has prepared a Stormwater Pollution Prevention Plan (SWPPP) in accordance with the requirements of the statewide Construction General Permit. The SWPPP shall be designed to address the following objectives: (1) all pollutants and their sources, including sources of sediment associated with construction, construction site erosion, and all other activities associated with construction activity are controlled; (2) where not otherwise required to be under a Regional Water Quality Control Board permit, all non-stormwater discharges are identified and either eliminated, controlled, or treated; (3) site best management practices (BMPs) are effective and result in the reduction or elimination of pollutants in stormwater discharges and authorized non-stormwater discharges from construction activity; and (4) stabilization BMPs are installed to reduce or eliminate pollutants after construction are completed. The SWPPP shall be prepared by a qualified SWPPP developer. The SWPPP shall include the minimum BMPs required for the identified Risk Level. BMP implementation shall be consistent with the BMP requirements in the most recent version of the California Stormwater Quality Association Stormwater Best Management Handbook-Construction or the Caltrans Stormwater Quality Handbook Construction Site BMPs Manual.

MM HYD-1b Prior to issuance of building permits for the proposed project, the project applicant shall prepare a Stormwater Control Plan that includes post-construction stormwater controls in the site design to satisfy requirements of the Phase II Small MS4 Permit. This shall include a review of the final Stormwater Control Plan by the City of American Canyon to ensure that the required controls are in place.

Provision E.12.h of the MS4 Permit requires that an operation and maintenance program be implemented for post-construction stormwater management features. Responsible parties and funding for long-term maintenance of all BMPs must be

specified. This plan shall specify a regular inspection schedule of stormwater treatment facilities in accordance with the requirements of the MS4 Permit. Reports documenting inspections and any remedial action conducted shall be submitted regularly to the City for review and approval.

Level of Significance After Mitigation

Less than significant impact.

Groundwater

Impact HYD-2: The proposed project would not deplete groundwater supplies or interfere substantially with groundwater recharge.

Impact Analysis

This analysis assesses the potential for the proposed project to deplete groundwater supplies or interfere substantially with groundwater recharge (Checklist question b).

Groundwater Overdraft

The proposed project would be served with potable water service provided by City of American Canyon; no groundwater wells would be drilled on-site. Therefore, the proposed project would not contribute to groundwater overdraft. In addition, the City of American Canyon's primary water supply source is imported water; local groundwater is not used for municipal purposes. Therefore, no impacts associated with groundwater overdraft would occur.

Groundwater Recharge

The proposed project would result in an increase in additional pervious surfaces, however, the nature of the local soils preclude a significant existing groundwater recharge benefit. The project site contains mostly clay soils, which have a very low infiltration rate—particularly when thoroughly wetted—and thus offer marginal groundwater recharge qualities. Nearby private wells are likely recharged where sandstone outcrops in the upper watershed and along the valley margins where soils are more conductive. For these reasons, impacts to groundwater recharge would be less than significant.

Groundwater Impairment

Under Option 2, an eight-pump gas station with up to four underground storage tanks (USTs) with capacity of up to 10,000 gallons would be developed on Lot 1. Pursuant to state regulations, all USTs would undergo pre-installation testing to verify structural integrity and employ safety features such as primary and secondary containment systems, spill containment and overflow prevention systems, and leak detection systems. All USTs would be permitted by the County of Napa.

Collectively, these safety requirements provide assurances that the operational activities associated with the gas station would not impair groundwater resources through leaks. Impacts would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

Drainage

Impact HYD-3: The proposed project would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems.

Impact Analysis

This impact assesses the potential for the proposed project to create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or cause flooding on- or off-site (Checklist questions d and e).

Portions of the project site are served by the municipal storm drainage system. The northeasterly portion of the project site drains to existing storm drains that run under the intersection of Devlin Road/South Kelly Road. These storm drains discharge onto the County's Devlin Road Transfer Station property and eventually discharge beneath the Napa Branch line. In addition, the portion of the project site on the west side of Devlin Road drains to two 24-inch-diameter culverts that cross under Devlin Road at the base of the grade crossing and discharge to the portion of the site south of the roadway. Additionally, there is a roadside drainage ditch along SR-29. Runoff from all of these facilities is ultimately discharged into the Napa River.

For the balance of the site, runoff either ponds on-site and percolates into the soil or sheet flows into the municipal storm drainage facilities within Devlin Road and S. Kelly Road or the roadside ditch along SR-29.

The proposed project would introduce impervious surfaces to the project site. The increase in impervious area has the potential to concentrate storm runoff more rapidly, thus increasing the magnitude of peak runoff rates, as well as total runoff volume.

A storm drainage collection system consisting of vegetated bio-swales, inlets, underground piping, and detention basins would be installed. Consistent with City of American Canyon requirements, outlet structures would meter 100-year, 24-hour storm outflow rates to no more than 90 percent of existing condition flows prior to discharge into downstream storm drainage facilities. This would ensure that downstream waterways and properties are not inundated with runoff during peak storm events.

In terms of impacts on existing storm drainage facilities (e.g., the Devlin Road Transfer Station storm drain, the twin culverts under Devlin Road, and the SR-29 roadside ditch), the proposed project would either reduce or result in no net increase in the flow rate of runoff discharged to these facilities. The

proposed storm drainage system would impound runoff generated on-site and meter the release of peak flows to no more than 90 percent of existing condition flows prior to discharge into downstream storm drainage facilities. Thus, there would no adverse impacts on these facilities in terms of flooding from the proposed project.

Impacts would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

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