H. HYDROLOGY AND WATER QUALITY

This section describes the existing hydrological setting for the project site, including runoff, drainage, and water quality based on available information from published and unpublished reports, internet sources and a reconnaissance of the site conducted in November 2005. This section also identifies impacts that may result from project development, and suggests mitigation measures to reduce potential impacts.

1. Setting

A description of the existing conditions related to hydrology and water quality is provided below.

a. Climate. The climate of the San Jose area is characterized as dry-summer subtropical (often referred to as Mediterranean), with cool wet winters and relatively warmer dry summers. The mean annual rainfall in the vicinity of the project site, for the period between 1948 and 2005, is approximately 14.6 inches.[1] Analysis of long-term precipitation records indicates that wetter and drier cycles lasting several years are common in the region. Severe, damaging rainstorms occur at a frequency of about once every three years.[2]

b. Runoff and Drainage. There are no creeks or streams crossing the project site. Los Gatos Creek, a tributary to the Guadalupe River, flows along the eastern project site boundary. In the vicinity of the site, the bottom of the Los Gatos Creek channel is about 20 to 25 feet below the adjacent grade.[3] The site, which is located within an urbanized area, is relatively flat (at an elevation of approximately 100 to 110 feet above mean sea level (amsl))[4] and largely covered with impervious surfaces (pavement and compacted soil and gravel). Most of the rainfall at the site encounters the impervious surfaces and flows overland into the City-maintained storm drain system. The project site is served by two main storm sewer networks, both of which discharge directly to Los Gatos Creek east of the site.[5] The northern portion of the site is drained by pipes under S. Montgomery Street and W. San Fernando Street. At the Los Gatos Creek outfall, this drainage pipe is 18 inches in diameter. The southern portion of the site is drained by underground pipes in the vicinity of Park Avenue. At the Los Gatos Creek outfall, this drainage pipe is 48 inches in diameter.

c. Flooding. The portion of the project site proposed for development is not located within the 100-year flood hazard zone, as mapped by FEMA.[6] This designation indicates that the site would not be expected to be inundated by flood waters, even in an extreme storm event.

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[1] Western Regional Climate Center, 2005. Website: http://www.wrcc.dri.edu/elimsmsfo.html.

[2] Brown, William M. III, 1988, Historical Setting of the Storm: Perspectives on Population, Development, and Damaging Rainstorms in the San Francisco Bay Region, in Landslides, Floods, and Marine Effects of the Storm of January 3-5, 1982, in the San Francisco Bay Region, California, Stephen D. Ellen and Gerald F. Wieczorek, Eds., U.S. Geological Survey Professional Paper 1434.

[3] Lowney Associates, 2005. Geotechnical Feasibility Consultation, San Jose Ballpark, Park Avenue and Autumn Street, San Jose, California. December 7.

[4] United States Geological Survey, 1980. San Jose West Topographic Quadrangle, 7.5-minute Series.

[5] City of San Jose, Department of Public Works, 2002. Storm Drain System, maps 83A and 83C, revision date November 1.

[6] Federal Emergency Management Agency, 1982 (revised to reflect LOMR October 6, 2005). Flood Insurance Rate Map (FIRM), City of San Jose, California, Community Panel Number 060349 0025 D. August 2.

The project site could be impacted if one or more of the several dams in the vicinity were to fail catastrophically. Catastrophic structural dam failure can be caused by an earthquake or overflow. The dams include Lexington (renamed James H. Lenihan Dam at Lexington Reservoir in 1996) and Leroy Anderson. Each of these dams is under the jurisdiction of the California Department of Water Resources, Division of Safety of Dams (DWR). Existing dams under DWR's jurisdiction are periodically inspected to assure that they are adequately maintained and to direct the owner to correct any identified deficiencies. Regular inspections and required maintenance of the dams substantially reduces the potential for catastrophic failure. Dam failure inundation hazard maps for this area can be viewed at the Association of Bay Area Governments website.

The location of the project site (more than 10 miles from the southern portion of the San Francisco Bay) and the elevation of the site (greater than 100 feet amsl) preclude exposure of the site to coastal hazards, such as tsunamis, extreme high tides, or sea level rise.

d. Water Quality. The quality of surface water and groundwater in the vicinity of the project site is affected by past and current land uses at the site and within the watershed as well as the composition of geologic materials in the vicinity. Water quality in surface and groundwater bodies is regulated by the State Water Resources Control Board and Regional Water Quality Control Boards. The project site is under the jurisdiction of the San Francisco Bay Regional Water Quality Control Board (RWQCB), which is responsible for implementation of state and federal water quality protection regulations and guidelines in the Bay Area. The RWQCB implements the Water Quality Control Plan (Basin Plan), a master policy document for managing water quality issues in the region. The Basin Plan establishes beneficial water uses for waterways and water bodies within the region.

(1) Water Quality Regulatory Setting. Runoff water quality is regulated by the National Pollutant Discharge Elimination System (NPDES) Nonpoint Source Program (established through the Clean Water Act); the NPDES program objective is to control and reduce pollutants to water bodies from nonpoint discharges. Locally, the NPDES program is administered by the RWQCB. The RWQCB has conveyed responsibility for implementation of storm water regulations in the vicinity of the project site to the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP). The SCVURPPP maintains compliance with the NPDES Permit and promotes storm water pollution prevention within that context. Compliance with the NPDES Permit is mandated by state and federal statutes and regulations.

Participating agencies (including the City of San Jose) must comply with the provisions of the County permit by ensuring that new development and redevelopment mitigate water quality impacts to storm water runoff both during the construction and operation of projects. Recent changes to the permit held by the SCVURPPP are detailed in RWQCB Order 01-024 (NPDES Permit No. CAS029718).

New development and significant redevelopment projects that are subject to Provision C.3 of the RWQCB order are grouped into two categories based on project size. While all projects regardless of size should consider incorporating appropriate source control and site design measures that minimize storm water pollutant discharges to the maximum extent practicable, new and redevelopment projects that do not fall into Group 1 or Group 2 are not subject to the requirements of Provision C.3. The general criteria for establishing whether a project is a Group 1 or Group 2 project is presented below [for a detailed definition, refer to the County NPDES permit (No. CAS029718)]:

Group 1:	New development and redevelopment projects that would create or replace more than 1 acre of impervious surface (e.g., roof area, streets, sidewalks, parking lots).
Group 2:	New development and redevelopment projects that would create or replace more than 10,000 square feet of impervious surface. Projects consisting of one single-family home are excluded from Group 2.

The proposed project would be considered a Group 1 project, and would be required to meet all the terms of the permit, including (but not limited to):

- **Numeric Sizing Criteria for Pollutant Removal Treatment Systems.** The project must include source controls, design measures, and treatment controls to minimize storm water pollutant discharges. Treatment controls must be sized to treat a specific amount – about 85 percent – of average annual runoff (in the Bay Area this is equivalent to a storm with precipitation measuring 1 inch).
- **Operation and Maintenance of Treatment Measures.** Treatment controls often do not work unless adequately maintained. The permit requires an operations and maintenance (O&M) program, which includes: 1) identifying the properties with treatment controls; 2) developing agreements with private entities to maintain the controls, and 3) periodic inspection, maintenance (as needed), and reporting.
- **Limitation on Increase of Peak Storm Water Runoff Discharge Rates.** Urbanization creates impervious surfaces that reduce the landscape's natural ability to absorb water and release it slowly to creeks. These impervious surfaces increase peak flows in creeks and can cause erosion. Projects must evaluate the potential for this to occur and provide mitigation as necessary.

In addition, projects disturbing more than one acre of land during construction are required to file a Notice of Intent (NOI) with the RWQCB to be covered under the State NPDES General Construction Permit for discharges of storm water associated with construction activity. A developer must propose control measures that are consistent with the State General Permit. A Storm Water Pollution Prevention Plan (SWPPP) must be developed and implemented for each site covered by the general permit. A SWPPP should include Best Management Practices (BMPs) designed to reduce potential impacts to surface water quality during the construction of the project.

According to records maintained by the Santa Clara Valley Water District (District), up to two abandoned wells and up to nine "other" wells are located at the project site. Installation, maintenance, and destruction of wells are regulated by the Department of Water Resources California Well Standards (Bulletin 74-90). The main purpose of these regulations is the protection of groundwater quality. Under existing regulations, any wells not in use (or where the owner has not demonstrated an intention to use the well) must be properly destroyed. A permit from the District is required for well destruction. If the wells are to be maintained, the owner must demonstrate this intention by ensuring that the well cover is secured, sealed, identified as a well, and the area around the well be kept clear of wastes that could impact groundwater quality.

(2) Groundwater. Based on countywide monitoring studies conducted in 2002 and 2003, groundwater in the vicinity of the project site occurs at elevations of approximately 85 to 100 feet NGVD (based on regional contour mapping) within the Santa Clara Valley Confined Groundwater

Subbasin.[7] The site's surface elevation ranges from about 100 to 110 feet NGVD, and therefore groundwater would be expected to occur near the ground surface. However, this regional monitoring reflects the elevation of the potentiometric surface of a confined groundwater system.[8] Therefore, even though water may rise to near the ground surface in wells that penetrate the confined aquifer, excavations that do not penetrate the confining layer may not encounter free groundwater. Unconfined groundwater may also occur above the confined unit. For example, during drilling for collection of soil samples associated with a Phase II Environmental Assessment at 105 S. Montgomery Street, a boring was completed to a depth of ten feet below the ground surface (bgs) and encountered no groundwater.[9] However, in 1999, groundwater was encountered at depths ranging from about 15 to 20 feet bgs during drilling of geotechnical borings for the Diridon lightrail transit subway structure (just north of the project site).[10] Fluctuations in the depth to groundwater would be expected to occur seasonally with variations in aquifer recharge from winter storms. Previous geotechnical investigations in the vicinity of the site indicate that groundwater occurs in the range of 13.5 to 30 feet bgs.[11]

Shallow groundwater at the project site may have been contaminated by releases of petroleum-related compounds, solvents, and metals from historical land uses. Potential soil and groundwater contaminant issues are discussed in Section V.I, Hazards and Hazardous Materials.

e. San Jose 2020 General Plan Policies. Applicable policies from the City's General Plan are presented below.

- *Post-Construction Urban Runoff Management Policy:* This Policy establishes that all new development projects incorporating 10,000 square feet or more of new building rooftop or paved area are required to include specific measures for improving the water quality of urban runoff to the maximum extent feasible. In addition, the Policy establishes general guidelines and best management practices for particular land uses, and requires that all post-construction treatment control measures be maintained to operate effectively.

Natural Resources

- *Bay and Baylands Policy 5:* The City should continue to participate in the Santa Clara Valley Urban Runoff Pollution Prevention Program and take other necessary actions to formulate and meet regional water quality standards which are implemented through the National Pollution Discharge Elimination System Permits and other measures.
- *Water Resources Policy 6*: When new development is proposed in areas where stormwater runoff will be directed into creeks upstream from groundwater recharge facilities, the potential for surface water and groundwater contamination should be assessed and appropriate preventative measures should be recommended.
- *Water Resources Policy 7:* The City shall require the proper construction and monitoring of facilities storing hazardous materials in order to prevent contamination of the surface water, groundwater and underlying aquifers. In furtherance of this policy, design standards for such facilities should consider high groundwater tables and/or the potential for freshwater or saltwater flooding.

[7] Santa Clara Valley Water District, 2005. *Groundwater Conditions, 2002/2003*. January.

[8] Potentionmetric surface is the surface to which water would rise in an aquifer by hydrostatic pressure. Confined groundwater aquifers are confined between two low permeability geologic units. The uppermost water surface is not free to move up and down (as in an unconfined aquifer).

[9] Soenen, Kurt, 2005. Project Environmental Engineer, Lowney Associates, personal communication with Bruce Abelli-Amen of Baseline. December 5.

[10] Parikh Consultants, Inc., 2000. Geotechnical Engineering Investigation Report, Diridon LRT Subway Structure, Vasona, Light Rail Project, Santa Clara County, California. March.

[11] Lowney Associates, 2005, op.cit.

- *Water Resources Policy 8*: The City should establish nonpoint source pollution control measures and programs to adequately control the discharge of pollutants into the City's storm sewers.
- *Water Resources Policy 9:* The City should take a proactive role in the implementation of the Santa Clara Valley Nonpoint Source Pollution Control Program, as well as implementation of the City's local nonpoint source control and storm water management program.
- *Water Resources Policy 10*: The City should encourage a more efficient use of water by promoting water conservation techniques and the use of water-saving devices.
- *Water Resources Policy 11:* The City should promote the use of reclaimed water when feasible, particularly for industrial uses, for irrigation, and in groundwater recharge areas.
- *Water Resources Policy 12:* For all new discretionary development permits for projects incorporating large paved areas or other hard surfaces (e.g., building roofs), or major expansion of a building or use, the City should require specific construction and post-construction measures to control the quantity and improve the water quality of urban runoff.

Hazards

- *Flooding Policy 1:* New development should be designed to provide protection from potential impacts of flooding during the 100-year-flood.

2. Impacts and Mitigation Measures

This section analyzes impacts related to hydrology and water quality that could result from implementation of the proposed project. The subsection begins with criteria of significance, which establish the thresholds for determining whether a project impact is significant. The latter part of this section presents the potential hydrology and water quality impacts associated with the proposed project. Mitigation measures are provided as appropriate.

a. Criteria of Significance. The project would have a significant effect on hydrology or water quality if it would:

- Violate any water quality standards or waste discharge requirements.
- Create or contribute runoff that would be an additional source of water quality degradation.
- Result in substantial erosion or sedimentation on- or off-site that would affect the quality of receiving water.
- Create or contribute runoff that would exceed the capacity of existing or planned stormwater drainage systems and/or increase upstream or downstream flooding and require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- 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.
- Expose people or structures to a substantial risk of loss, injury or death involving flooding.
- Expose people or structures to a substantial risk of inundation by seiche, tsunami, extreme high tides, and/or sea level rise.
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a significant net deficit in aquifer volume or a lowering of the local groundwater table level.

b. Less-than-Significant Impacts. The following is a discussion of less-than-significant hydrology and water quality impacts associated with the proposed project.

(1) Coastal Hazards, Including Seiches. The distance from the Bay and elevation of the project site would protect the site from coastal flooding hazards, including tsunami, extreme high tides, and sea level rise. There are no surface water bodies in the vicinity of the project site that could generate damaging seiches.

(2) Flood-related Hazards. According to the most recent FEMA mapping, the site is not located within the 100-year flood hazard zone, and therefore, no placement of structures in a flood hazard zone would occur at the site.

The site is located within a mapped dam failure inundation zone. However, existing dam inspection and maintenance programs ensure that dam failures remain a very low probability event. This potential impact is less than significant.

(3) Depletion of Groundwater Resources. As discussed in Section V.M, Utilities, proposed project could cause a reduction in water pressure that would be noticed by other water uses currently being served at the lower end of the pressure range. As such, at the San Jose Water Company's recommendation, the City may install one new well in an easement within the area with access to the existing water lines. Impacts to groundwater resources by the proposed well would be less than significant. The site is highly urbanized under existing conditions and largely covered with impervious surfaces. As explained below in Impact HYD-1, it is expected that the project would decrease the quantity of impervious surfaces and therefore incrementally increase groundwater recharge. Therefore depletion of groundwater resources associated with the proposed project is not expected.

(4) Alteration of Course of Stream or River. Drainage patterns at the site would be locally modified and the amount of impervious cover is expected to decline (the potential for hydromodification impacts are described below). However, the project would not alter the course of an established stream or river.

(5) Hydromodification. Alteration of drainage patterns could result in hydromodification impacts to downstream creeks. Hydromodification is defined as the alteration of the hydrologic characteristics of coastal and noncoastal waters, which in turn could cause degradation of water resources. In the case of a stream channel, this is the process whereby a stream bank is eroded by flowing water. This typically results in the suspension of sediments in the water course.

Provision C.3.f of the applicable NPDES Permit specifies the enhanced requirements for limiting "the increase of peak stormwater runoff rates." However, the NPDES Permit amendment Order No. R2-2005-0035, NPDES Permit No.CAS029718) states that:

> *…projects within "Redevelopment Project Areas" (as defined by Health and Safety Code Section 33000, et seq.) that redevelop an existing Brownfield site or create housing units affordable to persons of low or moderate income as defined by Health and Safety Code Section 50093, are excepted from the requirements of Provision C.3.f. and the HMP, and after impracticability of including onsite treatment measures is established, from the requirement*

> *for alternate, equivalent offsite treatment. Significant change in impervious surface or significant change in stormwater runoff volume or timing is unlikely in these redevelopment circumstances, because these developments would be within a largely already paved catchment, and on a site that is largely already paved or otherwise impervious*[12].

This permit provision exempts the proposed project from hydrograph modification mitigation requirements, recognizing that this type of develop would not generally substantially affect downstream hydrodynamic conditions. In addition, the City of San Jose's City Council Policy 8-14, *Post – Construction Hydromodification Management*, exempts those "projects that do not create an increase in impervious surface cover over pre-project conditions." Therefore, potential impacts associated with hydromodification potentially resulting from the proposed project are less than significant.

c. Significant Hydrology and Water Quality Impacts. The project could result in the following significant impacts related to hydrology and water quality.

<u>Impact HYD-1</u>: Alteration of the local drainage patterns could potentially result in exceedance of the capacity of downstream stormwater conveyance structures, resulting in localized flooding. (S)

Under the existing conditions, the 23.1-acre project site is urbanized and almost entirely covered with impervious surfaces (with the exceptions of landscape planters and street trees scattered throughout the site and a 0.2 acre vegetated island between S. Montgomery and S. Autumn streets). Although the specific design of all the components of the project (i.e., the stadium, parking garage, and electrical substation) have not been completed, the project would result in a net decrease in impervious surfaces relative to the existing conditions. New pervious surfaces associated with the proposed project include:

- The playing field of the stadium would include 3.1 acres of pervious surfaces.[13]
- The new setback along Los Gatos Creek would include approximately 0.8 acres of new pervious surface.
- The project would include street trees throughout the development.

Assuming that the number of street trees under the existing and proposed conditions is approximately the same, the project would be expected to result in a 3.9-acre decrease in impervious cover (existing impervious cover is approximately 22.9 acres (23.1 acres - 0.2 acres = 22.9 acres) and the proposed impervious cover is expected to be approximately 19.2 acres (23.1 acres – 3.1 acres – 0.8 acres = 19.2 acres)).

[12] California Regional Water Quality Control Board, San Francisco Bay Region, 2005. Amendment Revising Order No. 01-119, Order No. R2-2005-0035, NPDES Permit No.CAS029718), page 4.

[13] This qualitative analysis considers the playing field at the stadium to be a pervious surface. The playing surface would be covered with turf grass. The turf would be underlain by a sandy soil with high infiltration capacity and a subsurface network of drainage pipes. However, the turf and soil profile would still retain a substantial amount of water during storms and would not be expected to contribute sediment or other urban pollutants (such as petroleum hydrocarbons and metals) to receiving waters. It should be noted that during some storms (e.g. prior to or during a baseball game), it is likely that the infield portion of the playing surface would be covered with a tarpaulin and would effectively act as an impervious surface.

A decrease in impervious cover would be expected to result in a net decrease in total runoff from the site. However, the drainage patterns (which have not yet been specified) may change so that drainage amounts directed toward particular subareas may increase or decrease. A substantial increase in drainage directed to a particular subarea and conveyance system may result in exceedance of the capacity of the system. This could result in localized flooding during extreme storm events.

> Mitigation Measure HYD-1: As a condition of approval of the final grading and drainage plans for the project, it shall be demonstrated through detailed hydraulic analysis that implementation of the proposed drainage plans would include drainage components that are designed in compliance with City of San Jose standards. The grading and drainage plans shall be reviewed for compliance with these requirements by the City of San Jose Department of Public Works. Any improvements deemed necessary by the City shall be made a part of the conditions of approval.
>
> Implementation of this mitigation measure would reduce potential impacts associated with increased peak runoff volumes to a less-than-significant level. (LTS)

Impact HYD-2: Construction activities and post-construction site uses could result in degradation of water quality in the receiving waters by reducing the quality of stormwater runoff. (S)

(1) Construction-Period Impacts. Construction and grading within the project site would require temporary disturbance of surface soils. During the construction period, grading and excavation activities would result in exposure of soil to runoff, potentially causing erosion and entrainment of sediment (and potentially contaminants associated with releases that may have occurred at industrial sites) in the runoff. Soil stockpiles and excavated areas on the project site would be exposed to runoff and, if not managed properly, the runoff could cause erosion and increased sedimentation and pollutants in stormwater.

The potential for chemical releases is present at most construction sites given the types of materials used, including fuels, oils, paints, and solvents. Once released, these substances could be transported to Los Gatos Creek and the Bay in stormwater runoff, wash water, and dust control water, potentially reducing water quality. In addition, the project site may have experienced historic chemical releases that have affected soil quality. Erosion of contaminated soils could result in the transport of pollutants (along with the sediments) to the Bay.

(2) Operation-Period Impacts. New construction and intensified land uses at the project site would result in increased vehicle use and potential discharge of associated pollutants. Increased numbers of vehicles and parking facilities at the project site will likely result in increased leaks of fuel, lubricants, tire wear, and fallout from exhaust, which will contribute petroleum hydrocarbons, heavy metals, and sediment to the pollutant load in runoff being transported to receiving waters.

Runoff from the stadium playing field and landscaped areas at the site may contain residual pesticides and nutrients. Typical outdoor playing fields are constructed to maximize the reliability of the turf and include advanced drainage systems. These drainage systems typically include a sandy soil with high infiltration capacity and a subsurface network of drainage pipes that collect the infiltrated precipitation and convey it away quickly. If the playing surface is well above the uppermost groundwater level, the drainage systems can be designed to function largely by gravity. The intensity of use (for baseball and other entertainment functions) would stress the turf and therefore frequent fertilization is

likely. The sandy soils with the high infiltration capacity may not provide thorough treatment of the applied fertilizers and pesticides. Maintenance of the playing field could result in degradation of quality of the drainage. Long-term degradation of water quality runoff from the site could impact local water quality in Los Gatos Creek.

Operation of a relocated electrical substation could also result in impacts to runoff water quality. The substation would handle and use transformer oil and include maintenance operations. Surface water runoff from the site after construction is expected to contain minor concentrations of a variety of pollutants typical of electrical substations (e.g., automobile fluids, oils, suspended solids, metals, and organics).

The proposed electrical transformer and switchgear banks would contain inert mineral oil. The transformer and switchgear would be installed and maintained in accordance with a required Spill Prevention Control and Countermeasure Plan. Existing regulatory requirements would ensure that the transformers are supported by a secondary containment system. Pursuant to Environmental Protection Agency (EPA) requirements, the equipment and spill containment area will be inspected by PG&E staff on a monthly basis. Storm water runoff from other portions of the yard which are not included within the drainage ditch that would receive runoff from the transformer pad would be separately discharged to a storm drainage pipe system. This storm drainage pipe system would discharge to an existing storm water collection system. In the unlikely event of mineral oil leakage, the secondary containment would trap the oil and prevent discharge into the stormwater collection system.

The project site discharges into Los Gatos Creek, a tributary to the Guadalupe River. Both Los Gatos Creek and the Guadalupe River are listed as impaired (on the State's 303(d) list) for diazinon (a pesticide) by the Regional Water Quality Control Board (RWQCB). In addition, the RWQCB has designated the Guadalupe River as water quality impaired for mercury. If there is a chance that the project could increase the loading of these pollutants discharged to these waterways, then a significant impact would be expected to occur (the RWQCB has determined that the assimilative capacity of these waterways for these pollutants has already been exceeded).

The contaminants that have been identified as causing the water quality impairment of the Los Gatos Creek and the Guadalupe River are unlikely to be used at the site. Diazinon has been for banned (except, in some cases for agricultural use) and is therefore not available for legal use at the project site. Mercury would not be used at the site and discharges of this contaminant would not be expected to be affected by the project.

The proposed project does not specifically identify any BMPs to treat stormwater runoff prior to discharge to the Los Gatos Creek. A wide range of treatment BMPs would be available for treatment of runoff from the site. It is likely that the final design will include a variety of BMPs, ranging from treatment tree wells to bioswales and detention basins. Many of the types of BMPs typically used in urban settings do not require large areas of dedicated land. These urban-type BPMs are usually incorporated into the urban landscape (e.g. distributed landscape features, tree wells, vortex-type separators). If detention basins are used, some of the site would need to be set aside for this purpose (or a dual-use park is possible where the basin(s), when dry, are used as recreational facilities). Based

on preliminary calculations, if the site were served by a single detention basin approximately four feet deep the basin area would need to be about 0.24 acres to adequately treat the runoff.[14]

Untreated discharge from the site would likely contain elevated levels of pollutants and therefore would result in a significant impact to water quality requiring mitigation. The following two-part mitigation measure shall be implemented.

> Mitigation Measure HYD-2a: **Construction-Period Impact Mitigation.** The project proponent shall comply with the City of San Jose's Post-Construction Urban Runoff Management Policy (Policy Number 6-29), which requires:
>
> > *... all new and redevelopment projects to implement Post-Construction Best Management Practices (BMPs) and Treatment Control Measures (TCMs) to the maximum extent practicable. This Policy also establishes specified design standards for Post-Construction TCMs for Major Projects and minimum Post-Construction BMPs for all Land Uses of Concern, including Expansion Projects. This Policy further establishes the criteria for determining the situations in which it is impracticable to comply with the Major Project design standards, including the criteria for evaluating the equivalency of Alternative Compliance Measure(s)*[15]
>
> In addition, the project proponent shall prepare a SWPPP designed to reduce potential impacts to surface water quality through the construction period of the project. The SWPPP must be maintained on-site and made available to City inspectors and/or RWQCB staff upon request. The SWPPP shall include specific and detailed BMPs designed to mitigate construction-related pollutants. At minimum, BMPs shall include practices to minimize the contact of construction materials, equipment, and maintenance supplies (e.g., fuels, lubricants, paints, solvents, adhesives) with stormwater. The SWPPP shall specify properly designed centralized storage areas that keep these materials out of the rain.
>
> An important component of the stormwater quality protection effort is the knowledge of the site supervisors and workers. To educate on-site personnel and maintain awareness of the importance of stormwater quality protection, site supervisors shall conduct regular tailgate meetings to discuss pollution prevention. The frequency of the meetings and required personnel attendance list shall be specified in the SWPPP.
>
> The SWPPP shall specify a monitoring program to be implemented by the construction site supervisor, which must include both dry and wet weather inspections. In addition, in accordance with State Water Resources Control Board Resolution No. 2001-046,[16] monitoring

[14] Based on the sizing criteria included in the California Storm Water Best Management Practice Handbook (1993), and a 23.1-acre project site and the assumption of 83 percent directly connected impervious area (approximately three acres would be dedicated to the ballfield).

[15] City of San Jose, 2005. City Council Policy, Post-Construction Urban Runoff Management, Policy Number 6-29, May 17, page 2.

[16] State Water Resources Control Board, 2001. Modification of Water Quality Order 99-08-DWQ State Water Resources Control Board (SWRCB) National Pollutant Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction Activity.

would be required during the construction period for pollutants that may be present in the run-off that are "not visually detectable in runoff."[17]

BMPs designed to reduce erosion of exposed soil may include, but are not limited to: soil stabilization controls, watering for dust control, perimeter silt fences, placement of hay bales, and sediment basins. The potential for erosion is generally increased if grading is performed during the rainy season as disturbed soil can be exposed to rainfall and storm runoff. If grading must be conducted during the rainy season, the primary BMPs selected shall focus on erosion control (i.e., keeping sediment on the site). End-of-pipe sediment control measures (e.g., basins and traps) shall be used only as secondary measures. Entry and egress from the construction site shall be carefully controlled to minimize off-site tracking of sediment. Vehicle and equipment wash-down facilities shall be designed to be accessible and functional during both dry and wet conditions.

Mitigation Measure HYD-2b: **Operation-Period Impact Mitigation.** The design-level storm water control plan shall demonstrate through detailed hydraulic analysis that implementation of the proposed drainage plan would result in treatment of the appropriate percentage of the runoff from the site (in compliance with the County NPDES permit). The amount of runoff that is typically required to be treated is about 85 percent of the total average annual runoff from the site. The qualified professionals (a professional engineer with experience in the design of stormwater BMPs that is acceptable to the City) preparing the design-level storm water control plan shall consider additional measures designed to mitigate water quality degradation of runoff from all portions of the completed development. In general, passive, low-maintenance BMPs (e.g., grassy swales, porous pavements) are preferred. The City shall ensure that the project design includes features and operational BMPs to reduce potential impacts to surface water quality associated with operation of the project to the maximum extent practicable. These features shall be included in the storm water control plan and final development drawings.

The final design team for the development project shall review and incorporate as many concepts as practicable from Start at the Source, Design Guidance Manual for Stormwater Quality Protection[18] and the California Stormwater Quality Association's Stormwater Best Management Practice Handbook, Development and Redevelopment The final design team should also consider installing "end-of-pipe" treatment systems, including, but not limited to, baffle boxes, catch basins, and hydrodynamic vortex-type separators. Any use of end-of-pipe treatment systems must be accompanied by a viable maintenance program. Specifically:

- Drainage from the stadium playing surface and seating areas should be treated prior to discharge to Los Gatos Creek.
- The enclosed parking areas shall not be drained to the stormwater conveyance system. The garages should be dry-swept or, if washdown water is used the effluent should be dis-

[17] Construction materials and compounds that are not stored in water-tight containers under a water-tight roof or inside a building are examples of materials for which the discharger may have to implement sampling and analysis procedures.

[18] Bay Area Stormwater Management Agencies Association, 1999. *Start at the Source, Design Guidance Manual for Stormwater Quality Protection*.

charged to the sanitary sewer system under permit from the San Jose/Santa Clara Water Pollution Control Plant.

The City of San Jose Department of Public Works shall review and approve the SWPPP and drainage plan prior to approval of the grading plan. City staff may require more stringent stormwater treatment measures, at their discretion. Implementation of this mitigation would reduce the level of significance of this impact to a less-than-significant level. (LTS)

Impact HYD-3: Dewatering may contain contaminants and if not properly managed could cause impacts to construction workers and the environment. (S)

Groundwater at the project site could be encountered at about 15 feet below the ground surface (and, on a seasonal basis, may be present at shallower depths) and may therefore be encountered during excavation for building foundations, utilities, and other improvements.

There are two general classes of pollutants that may result from dewatering operations: sediment and chemical compounds (including toxics and petroleum hydrocarbons). High sediment content in dewatering discharges is common because of the nature of the operation in which soil and water mixes in the turbulent flow of high volume pump intakes. Chemical pollutants are most commonly found during dewatering in areas with a history of groundwater contamination (e.g. leaks to the sub-surface from industrial sites). Much of the project site is located in an area of industrial activity (refer to the Section V.I, Hazards and Hazardous Materials, for discussion of identified areas of potential subsurface contamination). Direct discharge of dewatering to the storm drainage system could result in water quality impacts to the Bay.

Mitigation Measure HYD-3: The SWPPP shall include provisions for the proper management of construction-period dewatering activities. At minimum, all dewatering shall be contained prior to discharge to allow the sediment to settle out, and filtered, if necessary to ensure that only clear water is discharged to the storm or sanitary sewer system, as appropriate. In areas of suspected groundwater contamination (i.e., underlain by fill or near sites where chemical releases are known or suspected to have occurred), groundwater shall be analyzed by a State-certified laboratory for the suspected pollutants prior to discharge. Based on the results of the analytical testing, the project proponent shall acquire the appropriate permit(s) prior to discharge of the dewatering effluent. Discharge of the dewatering effluent would require a permit from the RWQCB (for discharge to the storm sewer system) and/or the San Jose/Santa Clara Water Pollution Control Plant (for discharge to the sanitary sewer system).

Proper implementation of the mitigation measure described above would reduce this impact to a less-than-significant level. (LTS)