

4.4 HYDROLOGY AND WATER QUALITY

This section evaluates the existing hydrology, site drainage, and water quality at Gness Field Airport (DVO or Airport) and the potential impacts as a result of the Proposed Project. Details concerning the methodology and data sources are included in Appendix G, *Water Quality*.¹

Public scoping comments regarding the Proposed Project were received by the County in August 2008. Concerns raised include impacts to water quality.

4.4.1 ENVIRONMENTAL SETTING

4.4.1.1 Regulatory Framework

FEDERAL LAWS AND POLICIES

Federal Clean Water Act

The 1972 Federal Water Pollution Control Act, also known as the Clean Water Act (CWA), establishes the basic structure for the United States Environmental Protection Agency (USEPA) to regulate discharges of pollutants into waters of the United States. The CWA's primary intent is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters.

Section 401 of the CWA (33 USC 1341) requires any Federal license or permit applicant to obtain a water quality certification if any proposed project activity may result in a discharge of a pollutants into waters of the United States. This certification assures that the discharge would comply with the applicable effluent limitations and water quality standards. Section 301 of the CWA (33 USC Section 1311) prohibits discharges to waters of the U.S. except with a permit. As a condition of the permit, application of the best practicable control technology currently available is required.

National Pollutant Discharge Elimination System (NPDES)

The CWA was amended in 1987 with the addition of Section 402(p), which established a framework for regulating storm water discharges under the NPDES. The NPDES permit system was established in the CWA to regulate point source pollution such as municipal and industrial discharges to surface waters of the United States. In California, the USEPA has given the state the authority to administer the NPDES program, which is implemented by the State Water Resources Control Board (SWRCB).

¹ *Water Quality Technical Report, Gness Field Airport, Marin County, California*. Prepared by Foothill Associates, November 2009.

Safe Water Drinking Act

If the potential exists for contamination of an aquifer designated by the USEPA as a sole or principal drinking water resource within the project area, the Federal Aviation Administration (FAA) is required to consult with the USEPA regional office, Tribal, state, or local officials as required by Section 1424(e) of the Safe Drinking Water Act, as amended.

Fish and Wildlife Coordination Act of 1980 (USFWCA)

If a proposed action would impound, divert, drain, control, or otherwise modify the waters of any stream or other body of water, the Fish and Wildlife Coordination Act is applicable, unless the project is for the impoundment of water covering an area of less than ten acres. The Fish and Wildlife Coordination Act (USFWCA) requires the FAA to consult with the U.S. Fish and Wildlife Service and the applicable state agency to identify means to prevent loss or damage to wildlife resources resulting from a proposed action. Separate from, but related to this Act is the Magnuson-Stevens Fishery Conservation and Management Act, which governs U.S. marine fisheries management. The act mandates the identification of Essential Fish Habitat for managed species, as well as measures to conserve and enhance the habitat necessary for fish to carry out their life cycles. ~~More information regarding potential impacts to essential fish habitat is located in Section 5.9, Fish, Wildlife, and Plants.~~

STATE OF CALIFORNIA LAWS AND POLICIES

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act establishes the SWRCB and the Regional Water Quality Control Board (RWQCB) as the principal state agencies having primary responsibility for coordinating and controlling water quality in California. The Porter-Cologne Act establishes the responsibility of the RWQCBs for adopting, implementing, and enforcing water quality control plans (Basin Plans), which set forth the state's water quality standards (i.e., beneficial uses of surface waters and ground water) and the objectives or criteria necessary to protect those beneficial uses. NPDES permits for projects must be consistent with the Basin Plan for the region.

State Water Resources Control Board (SWRCB) and Regional Water Quality Control Boards (RWQCB)

Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the United States. Where multiple beneficial uses exist, water quality standards must protect the most sensitive use.

The SWRCB and the nine Regional Water Quality Control Boards are responsible for ensuring implementation and compliance with the provision of the Federal CWA and California’s Porter-Cologne Water Quality Control Act. The project area is situated within the jurisdiction of the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB).

Regional boards have the authority to implement water quality protection standards through the issuance of permits for discharges to waters at locations within their jurisdiction and through multiple enforcement mechanisms. Regional water quality objectives for all water bodies in the Petaluma River watershed (including Black John Slough and its tributaries) are specified in the Water Quality Control Plan (Basin Plan) for the San Francisco Bay Basin, prepared by the SFBRWQCB in compliance with the Federal CWA and the Porter-Cologne Water Quality Control Act. Section III of the Basin Plan contains both narrative and numeric water quality objectives that are intended to protect these beneficial uses. **Table 4.4-1** summarizes the beneficial uses pertinent to the Proposed Project site.

**Table 4.4-1
BENEFICIAL USES PERTINENT TO THE PROPOSED PROJECT
Gross Field Airport**

County Water Body	Aquatic Life Uses						Wildlife Uses	Recreational Uses		
	COLD	EST	MIGR	RARE	SPWN	WARM	WILD	REC-1	REC-2	NAV
Petaluma River	E	E	E	E	E	E	E	E	E	E
San Antonio Creek	E		P		P	E	E	P	P	

Key:

- | | |
|---|------------------------------------|
| E: Existing Beneficial Uses | SPWN: Fish Spawning |
| P: Potential Beneficial Uses | WARM: Warm Freshwater Habitat |
| COLD: Cold Freshwater Habitat | WILD: Wildlife Habitat |
| EST: Estuarine Habitat | REC-1: Water Contact Recreation |
| MIGR: Fish Migration | REC-2: Noncontact Water Recreation |
| RARE: Preservation of Rare and Endangered Species | NAV: Navigation |

California Water Code

Section 13260 of the California Water Code requires that any person discharging waste or proposing to discharge waste, other than to a community sewer system, that could affect the quality of the waters of the state, shall file a Report of Waste Discharge (ROWD) with the appropriate regional board. Section 13260 of the California Water Code requires a ROWD for persons discharging or proposing to discharge waste that could affect the quality of the waters of the state.

The Regional Board reviews the applicant's ROWD and may establish Waste Discharge Requirements (WDRs) for the proposed action. WDRs may include effluent limitations, as well as monitoring and reporting requirements.

4.4.1.2 Existing Conditions

REGIONAL HYDROLOGY

The Proposed Project site is located within the San Francisco Bay Hydrologic Region, as defined by the California Department of Water Resources. Within this Hydrologic Region, the Airport is located in the 146 square mile Petaluma River watershed (Hydrologic Unit Code #18050002). The Petaluma River is the major drainage within this watershed and empties into San Pablo Bay.

LOCAL HYDROLOGY

The existing hydrologic boundaries of the DVO area are the southeastern slope of Burdell Mountain to the west of the Airport, the northernmost extent of the Airport levee to the north, the levee along Black John Slough to the south, and the easternmost levee between the Airport and the adjacent agricultural field. The following discusses surface waters and groundwater within the area.

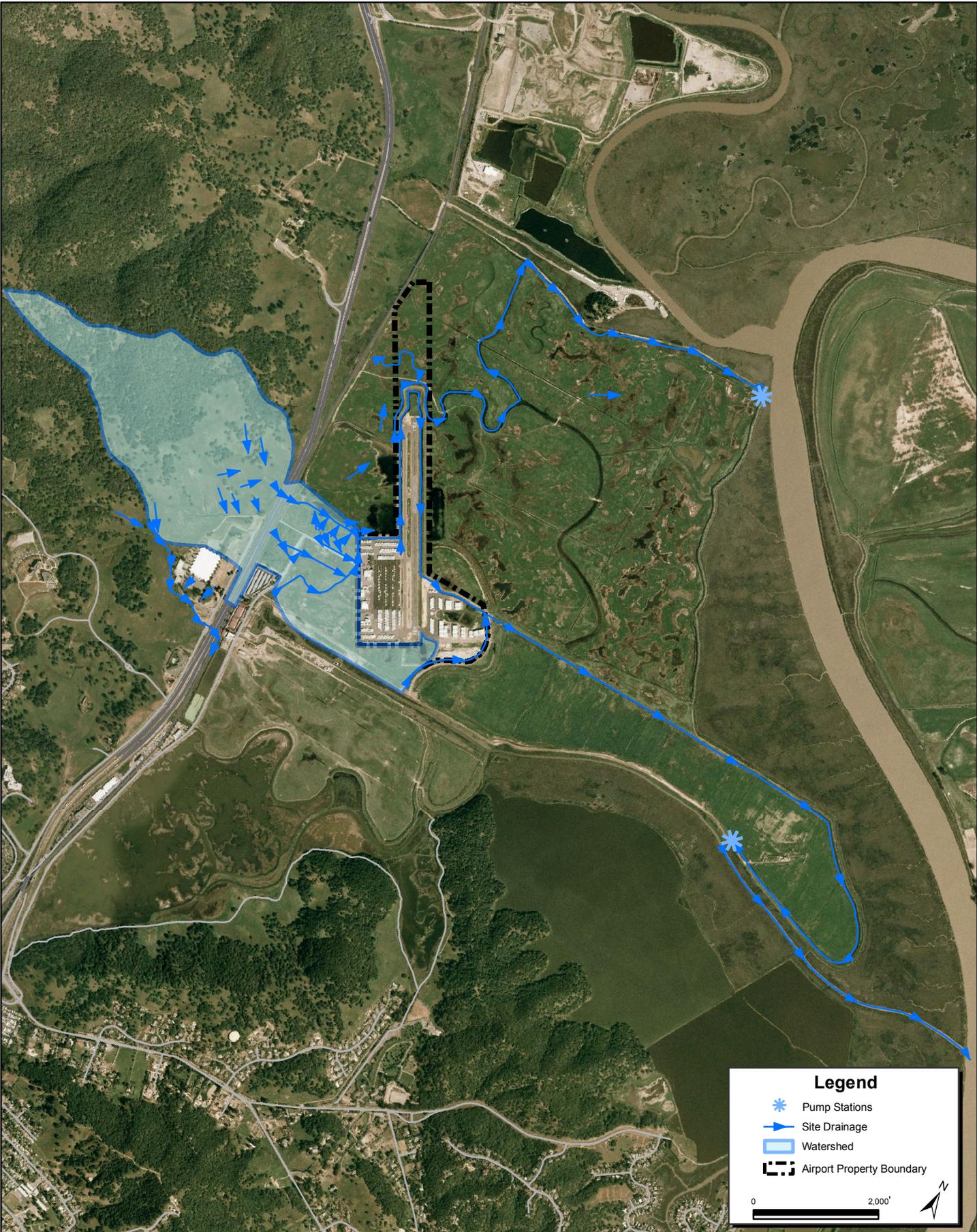
SURFACE WATERS

Surface water drainage flows at the Airport can be delineated into the following four basic categories:

- 1) Run-on/perimeter flows
- 2) Runway/taxiway flows
- 3) Asphalt apron flows
- 4) Off-site flows

Run-On/ Perimeter Flows

Water from the adjacent hillside, which includes open space, the Olompali State Park, and fully developed land, flows towards DVO through culverts under US Highway 101. These waters are currently routed around the Airport and are combined with Airport run-off on the east side of Airport property, which is then pumped over the levee into the Petaluma River (see **Exhibit 4.4-1, Local Drainage** and **Exhibit 4.4-2, Site Drainage**).

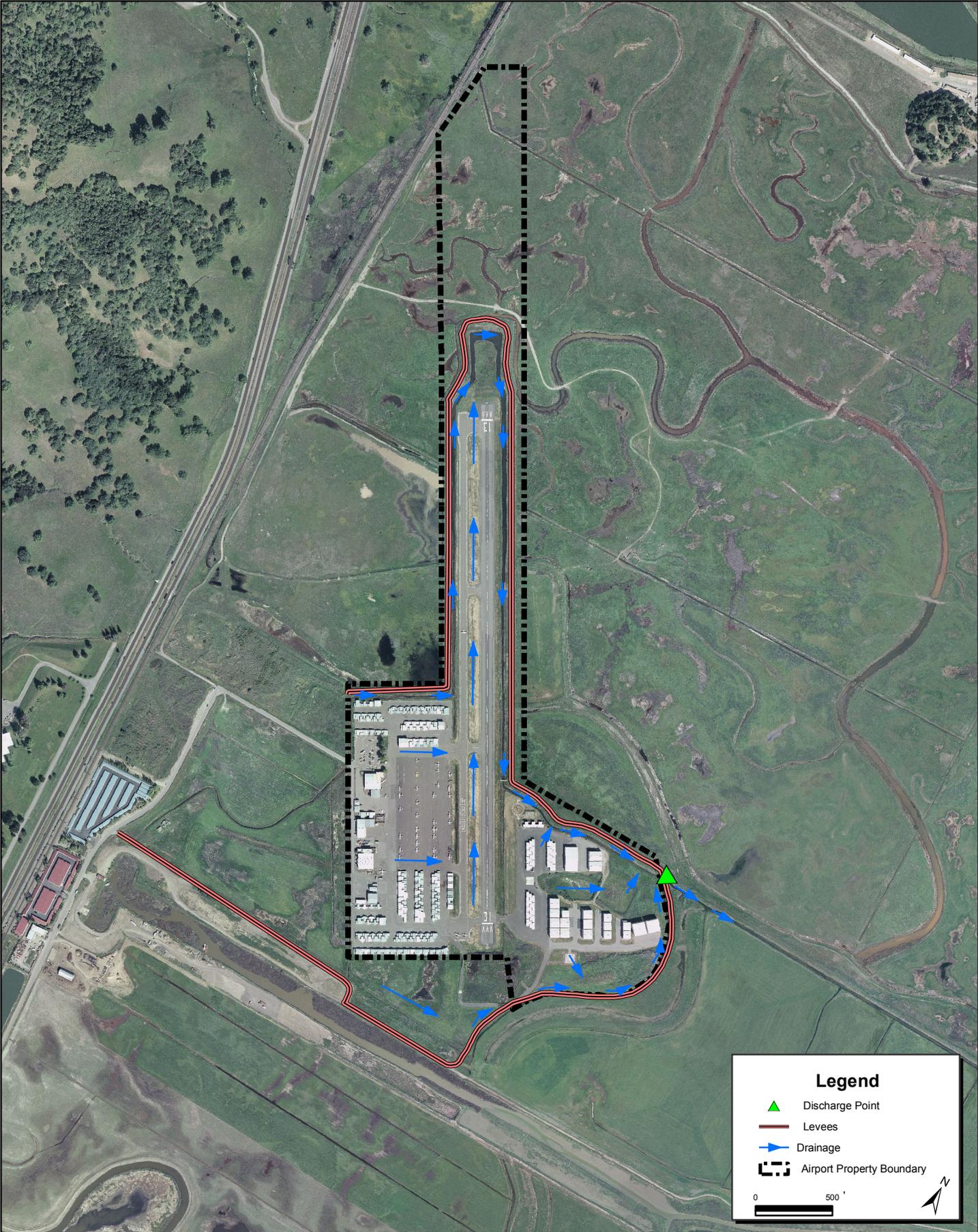


Legend

- Pump Stations
- Site Drainage
- Watershed
- Airport Property Boundary

0 2,000'

BACK OF EXHIBIT 4.4-1



Legend

-  Discharge Point
-  Levees
-  Drainage
-  Airport Property Boundary

0 500'



BACK OF EXHIBIT 4.4-2

Runway and Taxiway Flows

Runway and taxiway flows run perpendicular to the operational flow of the structures at the Airport. The existing asphalt runway and taxiway were each designed with a center crown whereby rainfall would sheet to the shoulders of the runway and the taxiway. Rainfall that flows to the shoulders continues flowing into the vegetated perimeter channel. Storm water run-off between the taxiway and runway flows together in the center drainage inlets and then flow east through culverts under the runway into the perimeter drainage channel (see Exhibit 5.6-2, *Site Drainage*).

Asphalt Apron Flows

Precipitation that falls onto the asphalt hangar and operational aprons on the west side of the Airport flows east into the drainage ditch parallel to the taxiway, which then flows north into the vegetated perimeter channel or waters flow directly north into the perimeter channel. Rainfall on the southwestern most portion of the Proposed Project site flows south into the southern vegetated area, then east, to join the north flowing vegetated perimeter channel on the eastern most property boundary. Rainfall that reaches the eastern asphalt hangar apron flows northeasterly in the northern portion, easterly from the wash area in the central portion of the eastern apron, and southeasterly in the southern portion. The north and south portions flow into the vegetated perimeter channels immediately adjacent to their locations.

Flows in the central portion of the eastern asphalt apron drain into a subsurface storm water filtration conveyance system. The flows that enter the wash drain flow through a sediment filter and then through an oil and grease separator before the flows are released into an evaporation basin on the eastern portion of Airport boundary. If it should occur during an extreme storm condition that run-off volumes exceed the capacity of the evaporation basin, the flows would enter the vegetated perimeter channel prior to off-site discharge.

Off-site Flows

Off-site flow is the fourth category of surface water at the Airport. Due to the existing Levee System, these flows would not enter the runway and taxiway environment unless in the unlikely event of a levee breach was to occur during an extreme storm condition. These flows originate from Burdell Mountain and Olompali State Park to the north. Rainfall from these areas is directed along U.S. Highway 101 to culverts, and with highway run-off, exit on the east side of the Highway and continue east through culverts under the railroad tracks and into the tributaries and sloughs adjacent to the Petaluma River. Offsite surface water flows are pumped into the Petaluma River to the northeast (see Exhibit 4.4-1, *Local Drainage*).

GROUND WATER

The Airport is located within the northern San Francisco Bay region within the north-coast ranges geomorphic province of California. Ground water occurs principally in alluvial deposits of Pleistocene to Holocene age that unconformably overlies non-water bearing rocks of the Franciscan assemblage. The alluvial deposits are composed of unconsolidated clay, silt, and sand with discontinuous lenses of gravel. The total thickness of the alluvial deposits ranges from 60 feet near the city of Novato to more than 200 feet near San Pablo Bay. Wells in sand and gravel layers 25 feet to 50 feet deep generally yield an average of 50 gallons per minute.

Natural recharge occurs principally as infiltration from streambeds that exit in the upland areas within the drainage basin and from direct percolation of precipitation that falls on the basin floor. Ground water is typically of the calcium bicarbonate type. Ground water in the tidal areas of the alluvium is of the sodium chloride type and the total mineral content is greater than in areas farther from the bay.

In 1991, three Underground Storage Tanks (USTs) (one jet fuel and two aviation gasoline USTs), each with a capacity of 10,000 gallons, were removed from Airport property, east of the manager's office. During removal, it was determined that the USTs and product lines were pitted and had holes in them. In 1999, during excavation work to replace a section of the storm drain sewer line, ground water with a sheen and solvent-like and petroleum odors were encountered. Sixty-three tons of soil and 9,600 gallons of ground water were subsequently removed from the excavation and transported offsite to proper disposal facilities. Soil samples of the excavated soil were also completed. It was recently determined by the SFBRWQCB that this subsurface contamination poses a potential threat to human health and water quality and needs to be addressed. Marin County was issued a Requirement for Technical Report in June 2009. Marin County submitted a technical report in September 2009 and is currently coordinating with the RWQCB to address this situation. The area in question is located immediately east of the Airport manager's office and would not be disturbed by the Sponsor's Proposed Project. As this site is not located in the vicinity of the Proposed Project, it is not anticipated that contaminated groundwater would be found during construction. Any groundwater quality issues or contamination that is associated with this site would be remediated with or without implementation of the Sponsor's Proposed Project. See Appendix L, *Hazardous Materials*, for a copy of the correspondence regarding this issue.

EXISTING PERMITS

DVO currently operates under the current Industrial Permit for Air Transportation Industrial Activities, SIC code 4581, under Waste Discharge Identification Number 221I000647. Under the NPDES permit system, the SWRCB adopted the current Industrial Storm Water General Permit (General Industrial Permit) in 1997. The General Industrial Permit regulates discharges associated with 10 broad categories of industrial activities, each of which are identified in the Federal regulations by a Standard Industrial Classification.

Pollutant thresholds are not defined by the Airport's current General Industrial Permit. General conditions of NPDES Permits require storm water discharges to meet all applicable provisions of Sections 301 and 402 of the CWA. These provisions of the General Industrial Permit require the implementation of management measures (Best Management Practices or BMPs) that will achieve the performance standard of best available technology economically achievable and best conventional pollutant control technology to prevent and reduce pollutants and any more stringent controls necessary to meet water quality standards. However, the SWRCB has determined that it is not feasible at this time to establish numeric effluent limitations, nor have thresholds been established by this permit for individual pollutants.

Nonpoint pollution sources are defined as those that originate over a wide area, rather than from a definable location or point source. Nonpoint sources of pollution are generally exempt from Federal NPDES permit program requirements with the exception of storm water discharges. Storm water discharges during and after project construction can transport pollutants from impervious surfaces such as roads and parking lots into creeks, sloughs, and Bay waters. NPDES municipal Phase II regulations require jurisdictions to initiate actions to prevent long term non-point pollution through appropriate design. Marin County operates under a General Permit for the Discharge of Storm Water from Small Municipal Separate Storm Sewer Systems and has developed a Storm Water Management Plan (EOA 2005). The goal of the NPDES nonpoint source regulations is to improve the quality of storm water discharged to receiving waters to the "maximum extent practicable" through the use of BMPs.

In accordance with NPDES regulations, to minimize the potential effects of construction run-off on receiving water quality, the SWRCB requires that any construction activity affecting one acre or more must obtain coverage under the General Construction Activity Storm Water Permit (Construction General Permit, 99-08-DWQ). Additionally, permit applicants are required to develop and implement a Storm Water Pollution Prevention Plan that specifies erosion and sediment control BMPs to reduce or eliminate construction-related impacts on receiving water quality. Permit applicants are also required to perform regular inspections of all BMPs.

EXISTING BEST MANAGEMENT PRACTICES (BMPS)

Daily use of the current BMPs employed at DVO reduce concentrations of pollutants of concern below regulatory criteria and minimize or eliminate storm water quality impacts to Black John Slough and the Petaluma River. BMPs in effect currently at DVO include:

- Existing Airport levee system and vegetated drainage ditch.
- Designated aircraft wash area on the southeastern asphalt apron that drains all wash waters into a subsurface storm water filtration system. This system is comprised of a sediment filter and an oil separator and then an evaporation basin. Wash waters normally do not enter the perimeter drainage.

- Established Spill Prevention, Control, and Countermeasure (SPCC) plans.
 - Spill response items include oil booms, absorbent pads, absorbent materials, brooms, shovels, and waste containers.
 - Perimeter drainage channel that, in the event of a spill, shall be closed with sluice gates at the twin culverts on the east side of the Airport in order to support required spill response activities and subsequent water quality protection.
- Airport activities such as herbicide application along runway and taxiway aprons, and along perimeter drainage channels use chemicals that have the potential to pollute stormwater. In order to reduce or eliminate the potential for contact with stormwater, spraying activities are scheduled for non-rain days with low to non-existent winds. Herbicides are only applied in accordance with herbicide labeling directions and EPA label requirements. In addition, chemical spray solutions are mixed away from storm drainages.
- The Airport tests the outflow of runoff monthly and reports the results annually to the Regional Water Quality Control Board.

Construction BMPs at Gness Field include:

- Use of temporary mulching, seeding or other stabilization measures to protect uncovered soils; storing materials and equipment to ensure that spills or leaks cannot enter the storm drain system or surface water; developing and implementing a spill prevention and cleanup plan; and
- Installation of traps, filters, or other devices at drop inlets to prevent contaminants from entering storm drains; and using barriers, such as straw wattles or silt fencing to minimize the amount of uncontrolled run-off that could enter storm drain inlets or surface water.

Implementation of these BMPs ensures that activities at Gness Field are managed carefully through proper implementation, monitoring, and maintenance of daily and construction activities.

EXISTING POLLUTANT LOADS

Airport activities have the potential to generate pollutants that could enter the storm water drainage system and subsequently affect surface water quality in Black John Slough and the Petaluma River. These activities and the potential pollutant types are described in **Table 4.4-2**.

**Table 4.4-2
AIRPORT OPERATIONS WITH THE POTENTIAL TO AFFECT STORM WATER
POLLUTANT LOADS
Gross Field Airport**

Current Airport Operations	Potential Storm Water Pollutants
Aircraft, vehicle and equipment maintenance/cleaning	Cleaning solutions, petroleum hydrocarbons, rubber particles, solvents, oils and grease, paint, and metals
Airport construction activities	Sediment, oil, grease, petroleum hydrocarbons, pH, and pesticides
Aircraft, vehicle and equipment fueling	petroleum hydrocarbons, rubber particles, oil and grease
Aircraft runway maintenance	petroleum hydrocarbons, rubber particles, oil and grease, and paint
Chemical storage and wastewater pretreatment	Cleaning solutions, herbicides, petroleum hydrocarbons, oil, rubber particles, and solvents
Fire/Department Public Safety training activities	Firefighting foam; petroleum hydrocarbons, rubber particles, and oil and grease
Fuel storage and transfer	Petroleum hydrocarbons, oil and grease
Loading/unloading operations	Rubber particles
Grounds and building maintenance	Petroleum hydrocarbons, herbicides, fertilizers, paint, and sediment
Roadway maintenance	Herbicides and fertilizers
Outdoor equipment, material and waste storage	Petroleum hydrocarbons, oils, grease, solvents, herbicides, fertilizers, and trash
Non-allowable non-storm water discharges/spill response	Petroleum hydrocarbons, oils, hydraulic fluids, grease, cleaning solutions, Aircraft firefighting foam, herbicides, and paint
Storm water channel maintenance and rehabilitation	Sediment and herbicides
Non-Point Source Pollution	Sediment

Source: Foothill Associates, 2009.

In order to determine the potential for water quality impacts of the Proposed Project, the limitations on acceptable pollutant levels in the DVO area were obtained from the following sources.

- The San Francisco Bay Basin Water Quality Control Plan (Basin Plan);
- The conditions required by the SWRCB for the Airport's General Industrial Permit mandated by the NPDES (Water Quality Order No. 97-03-DWQ NPDES General Permit No. CAS000001);
- The American Association of Airport Executives and the Airport Research and Development Foundation Monitoring Group Storm Water Monitoring Requirements; and
- The California Environmental Protection Agency 2006 Clean Water Act Section 303(d) List of Water Quality Limited Segments for San Francisco Bay.

The Basin Plan identifies the following state-established pollutants of concern, many of which are generally found in storm water run-off and airport run-off (see Appendix G for detailed descriptions of each pollutant):

- pH
- Specific conductance
- Oil and Grease
 - Total Petroleum Hydrocarbons (TPH)
 - Diesel
 - Gasoline
 - Motor Oil
- Total Organic Carbon (TOC)
- Biological Oxygen Demand (BOD)
- Chemical Oxygen Demand (COD)
- Sediment
 - Total Suspended Solids (TSS)
 - Turbidity
- Nutrients
 - Total Nitrogen (TN)
 - Total Kjeldahl Nitrogen (TKN)
 - Total Phosphorous (TP)
- Metals
 - Copper (Cu)
 - Lead (Pb)
 - Nickel (Ni)
 - Zinc (Zn)
- Pathogens
 - Total Coliform
 - Fecal Coliform
- Pesticides
 - Diazinon
 - Glyphosate

Although the Basin Plan identifies the pollutants listed above as those with state-established pollutants of concern that must be identified for the Airport, thresholds have not been established in the Basin Plan for all the pollutants listed above. In addition, as previously stated, pollutant thresholds are not defined by the Airport's current General Industrial Permit. Furthermore, the SWRCB has determined that it is not feasible at this time to establish numeric effluent limitations, nor have thresholds been established by this permit for individual pollutants.

After reviewing all available sources listing potential pollutants of concern, including the Industrial General Permit pollutant parameters, the Group Stormwater Monitoring Plan (GMP), the current water quality sampling data, and all of the Airport operational activities that potentially contribute these pollutants, a subset of nine pollutants were identified for the Airport that could be expected in stormwater runoff and that had useable data for analysis. These nine pollutants include: Total Copper (Cu); Total Lead (Pb); Total Zinc (Zn); Biological Oxygen Demand (BOD); Oil & Grease; Chemical Oxygen demand (COD), Total Suspended Solids (TSS), Total Kjeldahl Nitrogen (TKN), and Total Phosphorous (P). **Table 4.4-3** provides the average annual pollutant load for each of the nine pollutants.

**Table 4.4-3
EXISTING AVERAGE ANNUAL POLLUTANT LOAD (LBS/YEAR)
Gross Field Airport**

Pollutant	Existing Conditions (2008)
Total Copper (Cu)	4
Total Lead (Pb)	17
Total Zinc (Zn)	7
Biological Oxygen Demand (BOD)	2,800
Total Suspended Solids (TSS)	13,078
Total Phosphorous (P)	147
Total Kjeldahl Nitrogen (TKN)	808
Oil and Grease	1,021
Chemical Oxygen Demand (COD)	32,705

Source: *Water Quality Technical Report, Gness Field Airport, Marin County, California*, Prepared by Foothill Associates, November 2009. See Appendix G.

4.4.2 ENVIRONMENTAL IMPACTS AND MITIGATION

4.4.2.1 Significance Criteria

Based on California Environmental Quality Act guidelines regarding energy usage, outlined in Appendix G, impacts of the Proposed Project may be considered significant if it:

- Violates any water quality standards or waste discharge requirements.
- Substantially depletes ground water supplies or interferes substantially with ground water recharge such that there would be a net deficit in aquifer volume or a lowering of the local ground water 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).
- Substantially alters the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site.
- Substantially alters 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 run-off in a manner which would result in flooding on- or off-site.
- Creates or contributes run-off water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted run-off.
- Otherwise substantially degrades water quality.

- Places 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.
- Places within a 100-year flood hazard area structures which would impede or redirect flood flows.
- Exposes 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.
- Causes inundation by seiche, tsunami, or mudflow.

4.4.2.2 Environmental Impacts of the Proposed Project

The potential impacts to hydrology and water were assessed based on an analysis of existing site conditions and the expected changes due to the Proposed Project. The assessment was prepared according to guidelines established under the California Code of Regulations, *Guidelines for Implementation of the California Environmental Quality Act*.²

All information, assumptions, and methodologies used to develop this assessment are provided in Appendix G.

As previously discussed under the Ground Water heading of this chapter, the Proposed Project does not have the potential to disturb hazardous materials that could impact water quality. However, previous contamination from leaking USTs exists on Airport property. It was recently determined by the SFBRWQCB that this subsurface contamination poses a potential threat to human health and water quality and needs to be addressed. Marin County was issued a Requirement for Technical Report in June 2009. Marin County submitted a technical report in September 2009 and is currently coordinating with the RWQCB to address this situation. The area in question is located immediately east of the Airport manager's office and will not be disturbed by the Proposed Project. As such, no mitigation is required. Further, it is assumed that any impact to water quality that is present due to this site will be remediated with or without implementation of the Proposed Project. Therefore, due to these remediation efforts, the contamination it is not expected to cause significant cumulative impacts to water quality.

Impact 4.4-1: Short-term impacts to water quality may occur during construction (Potentially significant).

Short-term impacts to water quality may potentially occur during the construction phase of the Proposed Project. Grading and construction activities typically increase the potential for sediment related pollutants (e.g. Total Suspended Solids (TSS), nutrients, metals) to enter waterbodies.

² Title 14, California Code of Regulations, Chapter 3, Guidelines for Implementation of the California Environmental Quality Act.

Mitigation 4.4.1: Minimize short-term impacts on water quality through vigilant adherence to a construction schedule that calendars site grading and land disturbance activities during the dry season, and includes provisions to protect against erosion and silting if said activities carry over into the rainy season, also adhere to the project SWPPP and BMPs.

Examples of construction BMPs identified in SWPPPs and should be required as a condition of project approval include: using temporary mulching, seeding or other stabilization measures to protect uncovered soils; storing materials and equipment to ensure that spills or leaks cannot enter the storm drain system or surface water; developing and implementing a spill prevention and cleanup plan, installing traps, filters, or other devices at drop inlets to prevent contaminants from entering storm drains; and using barriers, such as straw wattles or silt fencing to minimize the amount of uncontrolled run-off that could enter storm drain inlets or surface water.

BMPs included as part of the proposed project include levee extensions around the entire project and a slow flowing vegetated internal drainage system that will facilitate pollutant uptake and settlement prior to reaching the Airport discharge point. Additionally, existing Airport operations utilize multiple spill prevention and clean up procedures that protect against potential pollutant impacts.

Construction of the Proposed Project would require the facility to obtain coverage under the NPDES General Construction Permit for construction activities. As of July 1, 2010, coverage under the newly adopted General Construction Permit must be obtained electronically via the SWRCB.

Significance After Mitigation: BMPs included in the proposed project in conjunction with recommended mitigation measure to minimize short-term impacts on water quality would reduce construction water quality impacts to a less-than-significant level.

Responsibility and Monitoring – Marin County Department of Public Works will be responsible for implementing BMPs and adopting a construction schedule that calendars site grading and other ground disturbance activities during the dry season to the extent practical. The airport manager is responsible for monitoring BMPs and insuring contractor compliance with the construction schedule.

Impact 4.4-2: Long-term impacts to water quality may occur due to an increase in impervious surface area causing an increase in stormwater runoff (significant unless mitigated).

Under the Proposed Project, there would be an increase in impervious surfaces from the 1,100-foot runway extension, which would result in an increase in stormwater runoff that could potentially contribute to minor impacts to Black John Slough and the Petaluma River.

Mitigation Measure 4.4-2: Modifications to the Airport levee and ditch system would result in an additional 4,400 feet of drainage ditch being created. This increase in the ditch system would more than compensate for the additional runoff created by the increased impervious surface. In addition, implementation of the measures outlined in the Stormwater Pollution Prevention Plan (SWPPP), in accordance with the NPDES Construction General Permit, and Industrial General Permit, coupled with the implementation, monitoring and maintenance of site-specific BMPs, is expected to reduce the potential for increased impacts to water quality and maintain water quality objectives.

In addition, it is recommended that adherence to or modification of existing SWPPP and future sampling and visual observations be employed to minimize or eliminate water quality impacts.

Significance After Mitigation – Modifications to the Airport levee and ditch system resulting in an additional 4,400 feet of drainage ditch being created would more than compensate for the additional runoff created by the increased impervious surface reducing this impact to a less-than-significant level.

In addition, continued adherence to the current BMPs, SWPPP, and permits that are in place would minimize potential water quality impacts so that the Proposed Project would not exceed water quality standards, create water quality problems that cannot be avoided or mitigated, or result in difficulties in obtaining permits. Therefore, adherence to the current BMPs, SWPPP, and permits in place in conjunction with future modifications to existing SWPPP if warranted would reduce long term water quality impacts to a less-than-significant level.

Responsibility and Monitoring – Marin County Department of Public Works will ensure that the modifications to the Airport levee and ditch system as a result of the Proposed Project are designed and constructed to result in an additional 4,400 feet of drainage ditch being created.

In addition, Marin County Department of Public Works will be responsible for obtaining all applicable permits and for ensuring compliance with all existing permit provisions. If at any time the Airport is found to not be in compliance with the SWPPP or the Industrial General Permit conditions, the facility inspector is required to document noncompliance specifics and modifications to the facility SWPPP and BMPs may be required. Similarly, if warranted by sampling data analyses, the SWRCB may require modifications to the SWPPP and BMPs.

4.4.3 CUMULATIVE IMPACTS OF THE PROPOSED PROJECT

There would be an increase in storm water quantity from implementing this and other ongoing or planned projects. However, modifications to the Airport levee and ditch system as a result of the Proposed Project would result in an additional 4,400 feet of drainage ditch being created, which would more than compensate for the additional runoff created by the increased impervious surface. In addition,

Marin County Department of Public Works would amend the existing SWPPP for DVO and BMPs would be adhered to in order to minimize erosion and run-off in the long-term, as well as short-term during construction.

Other projects, as listed below, have the potential to impact water quality. Like the Proposed Project, these other project would be required to comply with all existing and future water quality regulatory criteria and permit requirements. In addition, these projects would also be required to develop BMPs that would ensure that concentrations of pollutants of concern do not exceed regulatory criteria. Therefore, there would be no significant cumulative impacts to water quality. The following other projects have the potential to impact water quality.

- Sonoma Marin Area Rail Transit Project – SMART has the potential to impact water quality by increasing stormwater runoff. As described in Mitigation Measure WR-1a, SMART will prepare and submit for approval a SWPPP to the Regional Water Quality Control Board (RWQCB). As part of the BMPs, SMART will also implement structural treatment controls designed to use infiltration, retention/detention and biofiltering techniques to remove pollutants from stormwater runoff. Surface water runoff would be dispersed in accordance with the measures required under a SWPPP from the RWQCB and under a Standard Urban Storm Water Mitigation Plan developed by the City of Santa Rosa and County of Sonoma.³
- Marin Sonoma Narrows HOV Widening Project – This project has the potential to create short-term construction impacts to water quality, as well as post-construction, permanent water quality impacts as a result of the additional stormwater pollution that washes off new impervious surface areas. To mitigate short-term construction impacts, the Project shall be regulated under the applicable NPDES Permit for Construction Activities and will adhere to construction BMPs established for the project. In addition, design pollution prevention BMPs and treatment BMPs will be established and adhered to in order to mitigate permanent impacts.⁴
- Redwood Landfill Solid Waste Facility – This project has the potential to impact ground water quality. The impacts can, however, be mitigated to less-than-significant by utilizing a continuous landfill gas monitoring and alarm system at designated areas, revising the landfill’s water quality monitoring and gas monitoring programs as necessary, and preparing a final Closure and Post-Closure Maintenance Plan that demonstrates that waste would remain isolated and prevent groundwater degradation.⁵

³ *Sonoma-Marin Area Rail Transit Final Environmental Impact Report*, June 2006.

⁴ Marin-Sonoma Narrow (MSN) HOV Widening Project Final Environmental Impact Report/Final Environmental Impact Statement, July 2009.

⁵ Redwood Landfill Solid Waste Facilities Permit Revision Environmental Impact Report, July 2005.

- North Coast Rail Authority (NCRA) Russian River Division Freight Rail Project – Temporary impacts to water quality due to construction activities, and to maintenance and repair activities will be mitigated through adherence to NCRA’s developed BMPs, which shall be implemented as a result of the project. In addition, the appropriate resource agencies will be consulted to develop additional protective measures, as necessary.⁶
- Binford Road LLC Storage Project – This project is designed to eliminate significant adverse environmental impacts on the water quality of the bay and marshes over the long run by including construction of two on-site water quality retention ponds. To reduce construction impacts to insignificance, a Storm Water Pollution Prevention Plan shall be submitted for approval to the San Francisco Regional Water Quality Control Board.⁷
- ~~Redevelopment of Fireman's Fund Campus/The Commons at Mount Burdell— This project will include the operation of an on-site water treatment facility to capture, treat, and reuse black water and rain water. Rainwater run-off generated on-site and flowing through the project site from off-site locations would be captured and routed to a central utility plant for treatment up to potable water standards or a lesser standard acceptable for irrigation or other non-potable uses. Rain water run-off would be stored in the existing on-site pond.~~⁸

⁶ Sonoma-Marín Area Rail Transit Draft Supplemental EIR, March 2008.

⁷ Binford Road LLC Storage Project Negative Declaration, 2007.

⁸ ~~City of Novato, Notice of Preparation of Draft Environmental Impact Report & Notice of Public Scoping Meeting: The Commons of Mt. Burdell EIR, September 8, 2009.~~