



STATE OF NEVADA

Department of Conservation & Natural Resources

DIVISION OF ENVIRONMENTAL PROTECTION

Brian Sandoval, Governor

Leo M. Drozdoff, P.E., Director

Colleen Cripps, Ph.D., Administrator

FACTSHEET (pursuant to NAC 445A.236)

Permittee Name: 50 SOUTH VIRGINIA LLC
165 W. LIBERTY ST.
RENO, NV - 89501

Permit Number: NV0024217

Location: RENO POST OFFICE, WASHOE
50 SOUTH VIRGINIA STREET, RENO, NV - 89501
LATITUDE: 39.524873, LONGITUDE: -119.811705
TOWNSHIP: T19N, RANGE: R19E, SECTION: S11

Outfall / Well Num	Outfall / Well Name	Location Type	Well Log Num	Outfall City	Outfall State	Outfall Zip	Outfall County	Latitude	Longitude	Receiving Water
001	INLET	Intake Structure		RENO	NV	89501	WASHOE	39.524936	-119.811644	COCHRANE DITCH
002	SAMPLING POINT	Internal Outfall		RENO	NV	89501	WASHOE	39.524936	-119.811644	COCHRANE DITCH

General:

The Permittee has applied for the National Pollutant Discharge Elimination System (NPDES) permit NV0024217. This permit authorizes the discharge of non-contact process water into the Cochrane Ditch (Ditch) from a newly designed HVAC system in the Historical Reno Post Office. The Ditch, constructed in 1861, was one of the first irrigation ditches constructed in Reno. Surface water is diverted from the Truckee River near Wingfield Park and is conveyed the ~1.5 miles to Virginia Lake via concrete pipes that run under the streets of Reno. As part of its route to Virginia Lake, the Ditch serves as a terminus for many storm drains in Reno and flows underneath the Reno Post Office parking lot. The facility located on the south bank of the Truckee River was built in 1932 and is considered to be a historic landmark. The building was severely impacted by the addition of an HVAC system in the 1960s and is currently being restored to its original 1932 configuration. The old HVAC system and components will be removed and an energy efficient HVAC system will be installed that utilizes water source heat pumps. The heat pumps use the water source as a thermal source or a thermal sink depending on heating and cooling needs. The City of Reno has given permission to the Permittee allowing the use of the Ditch water as the thermal source and sink for the Post Office's water source heat pumps. Energy limits were calculated to ensure that downstream users are afforded the same energy and water savings as the upstream users. The Permittee indicates that a maximum limit of 750,000 British Thermal Unit/hour (BTU/hr) can be pulled from or contributed to the Ditch with a daily limit of 4,500,000 BTUs. During the winter, incoming water temperatures from the Ditch may be near freezing and flow could be stopped due to ice forming at the Ditch entrance. If the incoming Ditch water is less than 40°F, the pump supplying Ditch water to the Post Office will be turned off and the building isolated from the Ditch. Winter operations are the limiting factor for the use of the Ditch water. The possibility of freezing the heat exchanger and associated piping is minimized by turning off the Ditch supply pump when the river water is less than 40°F.

Flow meters installed to measure the inlet and outlet flows will be used to determine whether there is a loss of water within the heat exchanger system. In the event there is a difference in the supply of water from the Ditch and the return of water to the Ditch, the pumping system will be turned off using an automated device. The heat exchanger system will have two layers of separation between the Ditch water and the non-toxic, food grade propylene glycol used as the building's working fluid. A screen with 1" x 1" square mesh will be installed on the intake to prevent aquatic life from entering the heat exchanger system and to keep the

intake from becoming clogged.

Discharge Characteristics:

The Reno Post Office non-contact process water consists of water taken from the Cochrane Ditch, which is used as a thermal source/sink for the HVAC system, and is then returned to the Ditch. The authorized discharge daily maximum flow limit is 180,000 gallons per day (gpd).

Receiving Water:

The non-contact process water discharged from the Reno Post Office is placed back into the Cochrane Ditch with the existing Ditch water. The Ditch water is then conveyed to Virginia Lake via concrete pipes that run under the streets of Reno. The water flows into the northwest corner of Virginia Lake and out at the northeast corner of the lake where the water continues to flow into the Boynton Slough. The Slough discharges into Steamboat Creek which eventually flows back into the Truckee River downstream of the Truckee Meadows Water Reclamation Facility.

Summary of Changes From Previous Permit:

This is a new NPDES permit.

Proposed Effluent Limitations:

During the period beginning on the effective date of this permit and lasting until the permit expires, the Permittee is authorized to discharge from Outfall 001. Discharge limitations can be found below.

Discharge Limitations Table for Sample Location 001 (Intake Structure) To Be Reported Monthly

Parameter	Discharge Limitations			Monitoring Requirements			
	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Flow rate	Daily Maximum	<= 180,000 Gallons per Day (gal/d)		Intake	001	Continuous	METER
Flow rate	30 Day Average	M&R Gallons per Day (gal/d)		Intake	001	Continuous	METER

Discharge Limitations Table for Sample Location 002 (Internal Outfall) To Be Reported Quarterly

Parameter	Discharge Limitations			Monitoring Requirements			
	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
pH	Daily Maximum		M&R Standard Units (SU)	Internal Monitoring Point	001	Quarterly	DISCRT
Oxygen, dissolved (DO)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Internal Monitoring Point	001	Quarterly	DISCRT
Nitrogen, ammonia total (as N)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Internal Monitoring Point	001	Quarterly	DISCRT
E. coli	Daily Maximum		M&R Number per 100 Milliliters T (#/100mL)	Internal Monitoring Point	001	Quarterly	DISCRT
Temperature, water deg. fahrenheit	Daily Maximum		M&R Degrees Fahrenheit (deg F)	Internal Monitoring Point	001	Quarterly	DISCRT

Rationale for Permit Requirements:

Monitoring is required to assess the quality of water discharged and to ensure that the standards of water quality for Steamboat Creek (32 miles downstream) are maintained. Water quality standards for beneficial uses at Steamboat Creek are listed in NAC 445A.1726 for pH, Dissolved Oxygen, Total Ammonia, and E. Coli. It is reasonable to expect that the non-contact process water collected from Cochrane Ditch for the Reno Post Office heating and cooling system, which is then discharged back into Cochrane Ditch, flows into Steamboat Creek with the same water quality as if it were not used by the Post Office heat exchanger system. For that reason, discharge limits for pH, Dissolved Oxygen, Total Ammonia, and E. Coli are not applied to this discharge. The required parameters will be monitored to allow NDEP the opportunity to ensure that concentrations remain consistent with the background levels found upstream of the collection point and that degradation of the water does not occur.

Flow: Discharge flow is limited to the design discharge of the HVAC system, which is a daily maximum of 180,000 gpd.

Temperature: There are currently no temperature standards on this reach of Steamboat Creek. The Permittee expects that temperature will be temporarily altered with discharge back into the Ditch; however this temperature is expected to be mitigated within 850 feet of the discharge point. Based on the assumption that the Ditch construction is consistent downstream of the Post Office, a simple analysis of the heat transfer rate was developed and it was determined that the largest thermal impact to the Ditch water would occur when the Ditch flow rate is the same flow rate required by the building (300 gpm for 10 hours). Although a temperature increase of 6°F was assumed for the Ditch water undergoing the heat exchange process, the discharge temperature into the ditch is not expected to exceed 10°F above or below the inlet temperature from the Ditch, at temperatures of 85°F and 38°F respectively. Approximately 850 feet downstream from the Post Office, the impacts associated with the energy transfer from the Post Office to the Ditch will be eliminated due to the heat transfer from the ditch water to the soil. For that reason,

discharge temperature does not present a reasonable potential to cause or contribute to the degradation of water quality.

Propylene glycol: This reporting requirement is included to ensure that the two layers of separation between the ditch water and the building working fluid are not damaged and causing the fluid to be introduced to the ditch water.

Special Conditions:

See Special Approvals/Conditions Table.

SA – Special Approvals / Conditions Table

Item #	Description
1	To ensure that no leaks are present in the heat exchanger system, the Permittee shall sample for propylene glycol once during the 4th quarter of each year and submit the results with the annual report.

Flow:

The daily maximum flow limit is 180,000 gpd.

Corrective Action Sites:

There are five remediation sites managed by the Washoe County Health District (WCHD) and four sites managed by the Bureau of Corrective Actions (BCA) that are located within one (1) mile of this facility. The WCHD and the BCA do not expect the permitted discharge to have adverse effects on the remediation sites.

Wellhead Protection Program:

This facility is located within a 10-year wellhead protection area and a 3000-ft drinking water protection area for two wells. With the issuance of this permit no impacts to groundwater are anticipated.

Schedule of Compliance:

SOC – Schedule of Compliance Table

Item #	Description	Due Date
1	Within 60 days of permit issuance the Permittee shall submit, for Division review and approval, two (2) copies of an Operations and Maintenance (O&M) Manual signed by a Nevada Professional Engineer or Division-approved qualified person. If prepared by a Nevada Professional Engineer, the O&M shall be wet stamped.	9/21/2014

Deliverable Schedule:

DLV– Deliverable Schedule for Reports, Plans, and Other Submittals

Item #	Description	Interval	First Scheduled Due Date
1	Quarterly Discharge Monitoring Report	Quarterly	10/28/2014
2	Annual Report	Annually	1/28/2015

Procedures for Public Comment:

The Notice of the Division's intent to issue a permit authorizing the facility to discharge to surface waters of the State of Nevada subject to the conditions contained within the permit, is being sent to the **Reno Gazette**

Journal for publication. The notice is being mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit can do so in writing until 5:00 P.M. **7/9/2014**, a period of 30 days following the date of the public notice. The comment period can be extended at the discretion of the Administrator.

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected interstate agency, the Regional Administrator of EPA Region IX or any interested agency, person or group of persons. The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted. Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determined to be appropriate. All public hearings must be conducted to accordance with NAC 445A.238.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.605.

Proposed Determination:

The Division has made the tentative determination to issue / re-issue the proposed 5-year permit.

Prepared by: **Briana Johnson**

Date: **6/5/2014**

Title: **Environmental Scientist**