

NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

FACT SHEET

(pursuant to NAC 445A.236)

Applicant: Harrah's Las Vegas Hotel and Casino
3475 Las Vegas Blvd. South
Las Vegas, NV 89109

Permit Number: NV0022845

Location: Harrah's Las Vegas Hotel & Casino
3475 Las Vegas Blvd. South
Las Vegas, Clark County, Nevada 89109
Latitude: 36° 07' 06"N, Longitude: 115° 10' 26"W
S16 T21S, R61E MDB&M

Discharge Outfall: Clark County storm drain drop inlet near the intersection of Desert Inn Road and McLeod Drive in Las Vegas. The storm drain system eventually discharges to the Flamingo Wash, which discharges to the Las Vegas Wash.

General: The Permittee has applied for renewal of National Pollutant Discharge Elimination System (NPDES) permit, NV0022845, to discharge treated groundwater and stormwater from a sump in the Permittee's South Roadway Tunnel (Tunnel) to the Las Vegas Wash via the Clark County stormdrain system and the Flamingo Wash. This permit was originally issued in July 1997.

The Permittee operates a 2,677-room hotel and casino, Harrah's Las Vegas Hotel & Casino, at 3475 Las Vegas Blvd. South in Las Vegas, Clark County, Nevada. This facility includes a dewatering system to prevent the Tunnel from flooding. The Tunnel provides employee vehicular access from the main entrance to the valet parking area. Due to the presence of volatile organic compounds (VOC) and petroleum hydrocarbons in the shallow groundwater and sediment in the stormwater, water recovered during dewatering of the Tunnel is treated prior to discharge to the Clark County storm drain system. The storm drain system discharges the sump water to an outfall located at the Flamingo Wash. Monitoring of the discharge is conducted to ensure that surface waters are not degraded as a result of the tunnel dewatering discharge. The discharge flow is permitted at a maximum rate of 0.072 million gallons per day (MGD), but the flow varies seasonally according to the area's water table level and precipitation. For the past 2 years there has been no flow.

The treated groundwater and stormwater is collected through a series of French drains in the Tunnel. The collected water is directed into an approximately 660-gallon collection sump. The sump is equipped with discrete float sensors that trigger either one or both 3-hp pumps when the water reaches predetermined levels. From the collection sump, the water is pumped through a flow regulator, a flowmeter, and one of two parallel trains consisting of sets of filters that decrease in size from 100 microns, to 50 microns and finally 10 microns to remove particulates. The water then travels through two in-series activated carbon units for VOC removal. There are three monitoring ports, influent, mid, and effluent, associated with the carbon units. From the carbon units, the treated water is discharged into the effluent sump that is part of the facility storm sewer system. The treatment system is not designed with a bypass for the water collected in the initial sump. The treatment system is powered by electricity and is connected to the Permittee's emergency generator system. Potassium permanganate, to control biofouling of the sediment filters and carbon units, is the only chemical used in the water treatment system.

Flow: The facility's daily maximum design flow through the U.S. Filter/Weststates Aqua-Scrub™ carbon units is 50 gallons per minute (gpm) or 0.072 MGD from the South Roadway dewatering. The flow into the collection sump depends on the groundwater elevation in the Las Vegas Valley water table aquifer system and the amount of precipitation. The water table varies in depth from zero to 30 feet below ground surface. There has been no flow from the treatment system and sump and zero discharge to the Wash as a result of Tunnel dewatering since August, 2007.

Receiving Water Characteristics: Groundwater and stormwater drainage from the Tunnel sump will be discharged to the Clark County stormdrain system. The stormdrain conveys the water to the Upper Las Vegas Wash via the Flamingo Wash. The discharge point for the stormdrain at the Flamingo Wash is located near the intersection of Desert Inn Road and McLeod Drive. Water quality standards for the Upper Las Vegas Wash are specified in NAC 445A.199.

The beneficial uses of the Upper Las Vegas Wash, as designated in NAC 445A.198, are propagation of aquatic life, excluding fish; propagation of wildlife; irrigation; recreation not involving contact with water; maintenance of a freshwater marsh; and watering of livestock.

Corrective Actions Sites: There are six (6) Bureau of Corrective Actions (BCA) remediation sites located within a one-mile radius of the permitted facility. One of the sites is up-gradient of the facility, and contains relatively low concentrations of PCE. BCA case officers have stated that the current and permitted discharge rates at the Harrah's South Roadway Tunnel will not substantially impact the PCE clean-up efforts.

Well Head and Drinking Water Supply Protection: The facility is not within 6000' of a public water supply. The facility is not within an established Wellhead Protection Area (WPA) or capture zone.

Proposed Effluent Limitations:

Table I. Effluent Limits and Sampling and Monitoring Requirements

Parameters & Units		Discharge Limitations	Sampling Location	Monitoring Frequency	Monitoring Type
Flow ¹	MGD	0.072	001	Continuous	Flow meter, calculation
Purgeable & Extractable Total TPH ²	mg/L	1.0	001, 002	Quarterly	Discrete
Trichloroethylene (TCE)	µg/L	5.0	002	Quarterly	Discrete
Tetrachloroethylene (PCE)	µg/L	5.0	002	Quarterly	Discrete
MTBE ³	µg/L	20	002	Quarterly	Discrete
Benzene	µg/L	5.0	002	Quarterly	Discrete
Toluene	µg/L	100	002	Quarterly	Discrete
Ethylbenzene	µg/L	100	002	Quarterly	Discrete
Total Xylenes	µg/L	200	002	Quarterly	Discrete
Total Ammonia as N	mg/L	M&R	002	Quarterly	Discrete
Nitrite + Nitrate as N	mg/L	M&R	002	Quarterly	Discrete
Total Inorganic Nitrogen	mg/L	20	002	Quarterly	Discrete
Total Phosphorus	lbs/day	1.0	002	Quarterly	Discrete
pH	S.U.	6.5 - 9.0	002	Quarterly	Discrete

TDS ⁴	lbs/day	M&R	002	Quarterly	Discrete
Selenium ⁵	µg/L	5.0	002	Annually	Discrete
Manganese ⁵	mg/L	M&R	002	Annually	Discrete
All Profile I Metals ⁶	µg/L	M&R	002	Once -2012	Discrete

001 = Tunnel collection sump, prior to treatment system.

002 = Post-treatment effluent sump discharge prior to discharge to storm drain drop inlet.

1. Monitor and report average gallons per day in MGD quarterly on DMR forms, for Outfall 001.
2. Report full range, C6-C40, analyses with EPA Methods 8015B and 8260B, report all parameters, including the organics listed below this entry in the Table.
3. Methyl tert-butyl ether.
4. Sample and report TDS load in average lbs/day, quarterly (April, July, October, and January).
5. Sample and report total recoverable metal annually in calendar year 4th quarter (January).
6. Sample and report in 2012 calendar year 4th quarter total recoverable Profile I metals (January 2013).

gpd: gallons per day

mg/L: milligrams per liter

M&R: Monitor and Report

S.U.: standard pH units

lbs/day: pounds per day load

TPH: Total Petroleum Hydrocarbons

µg/L: micrograms per liter

N: Nitrogen

TDS: Total Dissolved Solids

Rationale for Permit Requirements: The Division has established the monitoring requirements in Table 1 above to ensure that the receiving water, Flamingo Wash, is not degraded appreciably as a result of project activities.

Flow: The rationale for the 30-day average daily discharge was explained in the Flow section of this fact sheet. This requested flow rate is equal to the permitted flow rate for the previous permit.

Purgeable and extractable TPH (full range C6-C40) -EPA 8015B/8260B: 1.0 mg/L. TPH and volatile organics (VOC) are being treated by a filtration system including 3 in-series granular activated carbon absorption canisters. Specific VOCs are noted in the table below the TPH. TPH and VOC concentrations are measured prior to entering the treatment system and at the effluent of the last carbon canister, and may be monitored between each canister to better determine breakthrough of an individual canister. Same requirements and limits as in the previous permit.

Inorganic Nitrogen: Monitor & Report individual inorganic species noted in Table I. Same requirements and limits as in the previous permit.

Phosphorus: 1.0 lbs/day. Same requirements and limits as in the previous permit.

pH: 6.5 - 9.0, standard units. pH is required monitoring per NAC 445A.198 and NAC 445A.199.

TDS: Monitor & Report. The shallow groundwater with naturally occurring elevated TDS levels would flow to the Wash, if it was not intercepted by the dewatering system. Therefore, the TDS standard is not applied to dewatering discharges in this area. This permit is for the interception and passage of groundwater and thus is exempted under the Colorado River Basin Salinity Control Forum's policy on groundwater interception. Same requirements and limits as in the previous permit.

Selenium: 5.0 µg/L. In 2006 the Flamingo Wash was placed on the Federal 303(d) list for impaired waters due to Selenium.

Manganese: Monitor & Report due to the Permittee's use of potassium permanganate to control biofouling. If the Permittee determines that chemical addition to control biofouling is not necessary, manganese will be removed from the monitoring requirements after the Operations and Maintenance Manual has been revised.

All Profile I Metals: Monitor & Report. Sample and report once only during term of permit. This data will provide additional information to demonstrate that there are no other heavy metal water quality impacts to the Wash.

Schedule of Compliance: The Permittee shall implement and comply with the provisions of the schedule of compliance after approval by the Administrator, including in said implementation and compliance, any additions or modifications which the Administrator may make in approving the schedule of compliance:

- The Permittee shall achieve compliance with the effluent limitations upon issuance of the permit.
- Within 90 days of the permit effective date (**MM DD, 2010**), the Permittee shall submit to the Division, for review and approval, an updated **Operations & Maintenance Manual (O&MM)** for the groundwater treatment system. Before implementing changes to an approved O&MM, the Permittee shall submit proposed changes to the Division for review and approval.

Proposed Determination: The Division has made the tentative determination to issue the proposed renewal permit for a period of five (5) years.

Procedures for Public Comment: The Notice of the Division's intent to renew a NPDES permit authorizing this facility to discharge into the Flamingo Wash for a five-year period, subject to the conditions contained within the permit, is being sent to the **Las Vegas Review-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 for a period of thirty (30) days following the date of publication of the public notice in the newspaper. The comment period can be extended at the discretion of the Administrator. The deadline date and time by which all comments are to be submitted (via postmarked mail or time-stamped faxes, e-mails, or hand-delivered items) to the Division is **February 20, 2010 by 5:00 P.M.**

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected interstate agency, the Regional Administrator 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 determines to be appropriate. All public hearings must be conducted in accordance with NAC 445A.238.

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

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Prepared by: Jeryl R. Gardner, P.E.
Date: January, 2010

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