



STATE OF NEVADA

Department of Conservation & Natural Resources

Brian Sandoval, Governor

Leo M. Drozdoff, P.E., Director

DIVISION OF ENVIRONMENTAL PROTECTION

Colleen Cripps, Ph.D., Administrator

FACTSHEET (pursuant to NAC 445A.236)

Permittee Name: NATIONAL PARK SERVICE - LAKE MEAD
601 NEVADA WAY
BOULDER CITY, NV - 89005

Permit Number: NS0050014

Location: NPS - ECHO BAY WASTEWATER TREATMENT SYSTEM, CLARK
NORTH OF ECHO BAY ACCESS ROAD, OVERTON, NV - 89040
LATITUDE: 36.313889, LONGITUDE: -114.436389
TOWNSHIP: 19S, RANGE: 68E, SECTION: 06

Outfall / Well Num	Outfall / Well Name	Location Type	Well Log Num	Outfall City	Outfall State	Outfall Zip	Outfall County	Latitude	Longitude	Receiving Water
001	INFLUENT METER (MAIN LIFT STATION)	Internal Outfall		OVERTON	NV	89040	CLARK	36.313056	-114.433056	GROUNDWATER
002	PORTABLE TOILET WASTE	Internal Outfall		OVERTON	NV	89040	CLARK	36.313333	-114.438333	GROUNDWATER
003	SUM OF TOTAL FLOW RECEIVED	Sum		OVERTON	NV	89040	CLARK	36.313333	-114.438333	GROUNDWATER
004	PERCOLATION/EVAPORATION BASIN	Surface Disposal Site		OVERTON	NV	89040	CLARK	36.313333	-114.436944	GROUNDWATER
005	MONITORING WELL	Monitoring Well		OVERTON	NV	89040	CLARK	36.313889	-114.435833	GROUNDWATER

General:

The National Park Service owns and operates the Echo Bay Wastewater Treatment System (EBWTS), an aerated partial-mix pond treatment plant located near Echo Bay in the Lake Mead National Recreation Area (LMNRA). EBWTS is designed to receive and treat a 30-day average flow of 0.036 million gallons per day (MGD) and a daily maximum flow of 0.082 MGD. EBWTS includes a force main system, three lift stations, an aerated 1.08-acre asphalt-lined primary treatment pond (pond #1), an aerated 0.39-acre asphalt-lined secondary treatment pond (pond #2), and a 1.34-acre percolation/evaporation basin (pond #3). Two additional percolation/evaporation basins are available for facility expansion if needed. One monitoring well is located down-gradient of the treatment system. EBWTS may occasionally receive hauled waste from vault/portable toilets located throughout LMNRA.

Wastewater from residential, commercial, and recreational facilities in the Echo Bay area flows through ponds #1 and #2 in series. Treated effluent is discharged to pond #3 for percolation/evaporation.

Concessioner owned or operated collection systems are considered part of the NPS treatment system and may require standards of oversight.

Discharge Characteristics:

During the previous 12-month reporting period, July 2012 through June 2013, the following average discharge characteristics were reported:

1. BOD – 33 mg/L. 25% of the sample results submitted exceeded the permit daily maximum limit of ≤45 mg/L.

2. TSS – 77 mg/L. 50% of the sample results submitted exceeded the permit daily maximum limit of ≤ 90 mg/L.
3. pH – 8.8 S.U. 50% of the sample results submitted exceeded the permit maximum limit of ≤ 9.0 Standard Units.

These exceedances have been attributed to low influent flows and subsequent algae growth in the treatment ponds.

Receiving Water:

Receiving water is groundwater of the State via percolation. One monitoring well is located down-gradient of the percolation/evaporation basin. During the previous 12-month reporting period, July 2012 through June 2013, the following groundwater characteristics were reported:

1. Depth to groundwater – 37 feet.
2. Total nitrogen – 2.40 mg/L.
3. Chloride – 278 mg/L.
4. TDS – 4292 mg/L.

Summary of Changes From Previous Permit:

In order to maintain consistency with current NDEP policy, and the monitoring requirements of similar treatment facilities, the following permit changes have been made:

1. The requirement to measure the amount of vault/portable toilet waste discharged to the treatment facility has been added to this permit.
2. The requirement to report the sum of the total influent (domestic wastewater plus vault/portable toilet waste) discharged to the treatment plant has been added to this permit.
3. The requirement to monitor the amount of total nitrogen in the treated effluent has been added to this permit.
4. The requirement to monitor effluent biochemical oxygen demand (BOD) has been removed and replaced with a requirement to monitor effluent carbonaceous biochemical oxygen demand (CBOD).
5. The requirement to monitor sewage influent for BOD and total suspended solids has been removed from this permit. This requirement is applicable to facilities that require an NPDES permit.
6. The requirement to monitor the amount of dissolved oxygen in the effluent has been removed from this permit. The discharge is not to surface water.
7. The monitoring frequency for pH has been changed from weekly to quarterly. This frequency is consistent with the monitoring frequency for BOD, TSS, and total nitrogen.
8. The requirement to report the pond liquid level has been removed from this permit. The Permittee is required to maintain the freeboard depths outlined in Section B.PB.10. of the permit.
9. The requirement to report the amount of nitrate as nitrogen in the groundwater has been removed from this permit. The Permittee is required to report the amount of total nitrogen in the groundwater.
10. The requirement to report the groundwater elevation has been removed from this permit. The Permittee is required to report the depth to groundwater.
11. Due to a new Permit naming convention at NDEP, Bureau of Water Pollution Control, the permit ID has

been changed from NEV50014 to NS0050014. This change does not reflect a change in the type of permit being issued.

Proposed Effluent Limitations:

The Division proposes the following permit limitations and monitoring requirements:

WWTP Discharge Limitations Table for Sample Location 001 (Internal Outfall) To Be Reported Monthly^[1]

Parameter	Discharge Limitations			Monitoring Requirements			
	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Flow rate	30 Day Average	M&R Million Gallons per Day (Mgal/d)		Raw Sewage Influent	001	Continuous	METER
Flow rate	Daily Maximum	M&R Million Gallons per Day (Mgal/d)		Raw Sewage Influent	001	Continuous	METER

Notes (WWTP Discharge Limitations Table):

1. Measure and report the total flow to the treatment ponds from the main lift station each month.

WWTP Discharge Limitations Table for Sample Location 002 (Internal Outfall) To Be Reported Monthly^[1]

Parameter	Discharge Limitations			Monitoring Requirements			
	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Flow rate	30 Day Average	M&R Million Gallons per Day (Mgal/d)		See Footnote ^[2]	002	Continuous	METER
Flow rate	Daily Maximum	M&R Million Gallons per Day (Mgal/d)		See Footnote ^[2]	002	Continuous	METER

Notes (WWTP Discharge Limitations Table):

1. Measure and report the amount of vault/portable toilet waste delivered to the treatment ponds each month.
2. Discharge from pump truck.

WWTP Discharge Limitations Table for Sample Location 003 (Sum) To Be Reported Monthly^[1]

Parameter	Discharge Limitations			Monitoring Requirements			
	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	S a m p l e Type
Flow rate	30 Day Average	<= 0.036 Million Gallons per Day (Mgal/d)		Raw Sewage Influent	003	Continuous	SUMATN
Flow rate	Daily Maximum	<= 0.082 Million Gallons per Day (Mgal/d)		Raw Sewage Influent	003	Continuous	SUMATN

Notes (WWTP Discharge Limitations Table):

1. Measure and report the sum of total flow from the main lift station and delivered vault/portable toilet waste to the treatment ponds each month.

Groundwater Monitoring Wells Table for Sample Location 005 (Monitoring Well) To Be Reported Quarterly^[1]

Parameter	Discharge Limitations			Monitoring Requirements			
	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	S a m p l e Type
Nitrogen, total	Value		< 10.0 Milligrams per Liter (mg/L)	Groundwater	005	Quarterly	DISCRT
Solids, total dissolved	Value		M&R Milligrams per Liter (mg/L)	Groundwater	005	Quarterly	DISCRT
Chloride (as Cl)	Value		M&R Milligrams per Liter (mg/L)	Groundwater	005	Quarterly	DISCRT
Depth to water level ft below landsurface	Value	M&R Feet (ft)		Groundwater	005	Quarterly	VISUAL

Notes (Groundwater Monitoring Wells Table):

1. If the monitoring well is found to be dry during the reporting period, report as "Dry" on the DMR for this outfall.

Ponds / Rapid Infiltration Basins for Sample Location 004 (Surface Disposal Site) To Be Reported Quarterly^[1]

Parameter	Discharge Limitations			Monitoring Requirements			
	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
BOD, carbonaceous, 05 day, 20 C	Value		<= 45 Milligrams per Liter (mg/L)	Effluent Gross	004	Quarterly	DISCRT
pH, minimum	Minimum Value ^[2]		>= 6.0 Standard Units (SU)	Effluent Gross	002	Quarterly	DISCRT
Nitrogen, total	Value		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Quarterly	DISCRT
Solids, total suspended	Value		<= 90 Milligrams per Liter (mg/L)	Effluent Gross	002	Quarterly	DISCRT
pH, maximum	Maximum Value ^[2]		<= 9.0 Standard Units (SU)	Effluent Gross	002	Quarterly	DISCRT

Notes (Ponds / Rapid Infiltration Basins):

1. If no discharge takes place from this outfall during the reporting period, enter "No Discharge" on the DMR for this outfall.
2. If fewer than two samples are taken during the monitoring period, enter the single result as both the minimum and maximum value.

Rationale for Permit Requirements:

Monitoring is required to ensure that the treatment plant capacity is not exceeded, to assess the quality of the effluent being discharged, and to monitor groundwater quality.

Fecal Coliform:

No coliform limits have been set.

Total Residual Chlorine:

The effluent is not required to be disinfected.

WET Testing:

Whole Effluent Toxicity testing is not required.

Special Conditions:

SA – Special Approvals / Conditions Table

Item #	Description
1	All lift stations shall be equipped with alarms indicating wet well high water and delivery line low pressure conditions.

Flow:

The applicant has requested a 30-day average flow of 0.036 MGD and a daily maximum flow of 0.082 MGD. During the previous 12-month reporting period, July 2012 through June 2013, the average daily flow received was 0.007 MGD. A maximum daily flow of 0.032 MGD was reported one time during this period.

Corrective Action Sites:

There are no NDEP Bureau of Corrective Actions remediation sites within a one-mile radius of this facility.

Wellhead Protection Program:

This facility is not located within a Drinking Water Protection Area or a Wellhead Protection Area established for any well sources.

Schedule of Compliance:

SOC – Schedule of Compliance Table

Item #	Description	Due Date
1	The Permittee shall submit two (2) copies of an updated Operation and Maintenance (O&M) Manual for review and approval by the Division. The O&M Manual shall be prepared by a Nevada Registered Professional Engineer or other Division-approved qualified person. If no updates or revisions are required, the Permittee shall submit a letter by the due date stating that there have been no changes to the previously approved O&M Manual. ^[1]	3/31/2014

Notes (Schedule of Compliance Table):

- O&M Manuals prepared by Nevada Registered Professional Engineers must be signed and stamped in accordance with NAC 625.610.

Deliverable Schedule:

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

Item #	Description	Interval	First Scheduled Due Date
0	Discharge Monitoring Reports	Quarterly	1/28/2014
2	Annual Reports	Annually	1/28/2014

Procedures for Public Comment:

The Notice of the Division's intent to reissue a permit authorizing the facility to discharge to groundwater of the State of Nevada 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 until 5:00 P.M. **12/6/2013**, 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.650.

Proposed Determination:

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

Prepared by: **Arthur B. Marr III**

Date: **10/31/2013**

Title: **P.E.**