NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

F A C T S H E E T
(Pursuant to NAC 445A.236)

Permittee Name

Lyon County Utilities District
Rolling "A" Water Reclamation Facility
P. O. Box 1699
Dayton, Nevada 89403

Permit Number

NEV2000500

Location

The Rolling "A" Water Reclamation Facility is located on the Rolling "A" Ranch south of U.S. Highway 50 and Ft. Churchill Road, Dayton, Nevada. Section 34, Township 17N., Range 22E. Latitude: 39°17'34"N, Longitude: 119°30'13"W.

Wellhead Protection

The treatment plant is located at least 6000 feet away from any public drinking water supply well.

General

This permit renewal is the continued use of the 1.50 million gallon per day (MGD) treatment plant that serves the major populations of Dayton.

The Rolling "A" Water Reclamation Facility (RAWRF) is designed to utilize an extended aeration process with biological nutrient removal to treat domestic sewage originating from residential dwellings in the Dayton Valley service area. The treated effluent will be disinfected following treatment to achieve effluent standards, before disposal in rapid infiltration basins, stored, or used for reuse irrigation, or for other approved uses. Future reuse is planned at a nearby park site, a school, streetscape and common area irrigation and potentially for agricultural irrigation on the adjoining River Partner land; effluent reuse is also approved for dust control, and construction uses and may be approved at other sites on a case by case basis.

A clay lined 160' by 360', 1.32 acre pond is currently utilized for the storage of sludge generated by the Rolling "A" activated sludge process plant. In the future, sludge will be transported to the sludge handling facilities at the South Dayton Treatment Facility per an approved Sludge Management Plan for the two facilities. There are seven monitoring wells which have been installed downgradient of the facility plus a municipal well approximately 4,000 feet to the west of the facility which are used to monitor groundwater quality.

The plant is approved to treat and discharge an average of 1.50 million gallons per day (MGD) per 30-day average and 1.50 MGD Daily Maximum of treated wastewater.

Groundwater monitoring is conducted quarterly to monitor for any possible impacts. Potential environmental impacts resulting from the operation of this treatment plant include the discharge of elevated levels of chlorides and dissolved solids to groundwaters of the State. Since the plant is designed to denitrify and disinfect, there should be no impacts to groundwater from nitrates or pathogens.

To reduce the potential for impact, the Permittee conducts monthly sampling of effluent to ensure concentrations of the listed parameters meet the required effluent standards. The Permittee is also required to maintain records, document and report the following:

- Volume of sludge stored in the on-site lined pond;

These records will be available for inspection by the Division at any time.

Treatment Process

Influent sewage is measured by a magnetic meter in a vault immediately upstream of the headworks facility. Domestic sewage (raw wastewater) then enters the headworks channel where screenings are removed via a "Muffin Monster" comminutor and screw auger pump; the headworks also has a bypass channel with a bar screen installed to screen influent in case mechanical repairs are necessary on the equipment. There is also a diversion gate structure downstream of the screen that allows influent from the bypass channel to be directed to the sludge storage pond (bypassing the SBRs). Screened influent then flows by gravity to the two sequencing batch reactors (SBR's) where a valve controls which basin the influent is directed for treatment.

Wastewater flows by gravity into the basin's pre-reactor tanks where influent is uniformly fed into the reactor basins. Fine bubble diffusers provide aeration for the extended aeration in the SBR basins where the activated sludge process treats the wastewater to meet secondary standards and is denitrified using biological nutrient removal. After the aeration process is completed, the wastewater is settled and then discharged to a chlorine contact basin for disinfection. Sludge is pumped from a aerated holding basin to the sludge storage pond.

The fully treated and disinfected effluent is discharged into the rapid infiltration basins for disposal, to reuse irrigation at the Three J’s Golf Course, or to the dust control fill station. A draft line from the chlorine contact basin supplies a hydrant for fire fighting at the facility.

Flow

The permitted 30-Day average daily flow has been set at 1.50 MGD

Receiving Water Characteristics

Depth to groundwater near the plant site is approximately 9 - 10 feet below ground surface and is potable quality.

Groundwater samples are collected and analyzed quarterly from seven monitoring wells for the presence of nitrate as N, total nitrogen as N, chlorides and total dissolved solids.

Procedures for Public Comment

The Notice of the Division's intent to modify this permit authorizing the facility to discharge to groundwaters of the State of Nevada subject to the conditions contained within the permit, is being sent to the ***Dayton Courier*** and 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 for 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 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 the permit.

Proposed Effluent Limitations, Schedule of Compliance and Special Conditions

TABLE ONE: Plant Discharge Limitations

PARAMETER	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS		
	30 Day Average	Daily Maximum	Sample Location(s)	Measurement Frequency	Sample Type
Influent Flow (MGD)[1]	1.50	1.50	Influent Line to Headworks	Continuously	Flow Meter
Effluent Flow (MGD)[1]	001 - M & R[2] 002 - M & R[2] 004 - M & R[2]		At metering stations for each outfall	Continuously	Flow Meter
Influent BOD_5 (mg/l)	M & R[2]		Headworks	Monthly	Composite
Influent TSS (mg/l)	M & R[2]		Headworks	Monthly	Composite
Effluent BOD_5 (mg/l)	30	45	Effluent from chlorine contact basin	Monthly	Composite
Effluent TSS (mg/l)	30	45	Effluent from chlorine contact basin	Monthly	Composite
pH (S.U.)	Between 6.0 to 9.0		Effluent from chlorine contact basin	Monthly	Discrete
Effluent Total Nitrogen Flow (mg/l)	10		Effluent from chlorine contact basin	Monthly	Composite
Effluent Total Phosphorus as P (mg/l)	M & R[2]		Effluent from chlorine contact basin	Quarterly	Composite
Effluent Fecal Coliform (mpn[3]/100ml)	2.2	23	Effluent from chlorine contact basin	Monthly	Discrete

Footnotes: [1] MGD = Million Gallons per Day
[2] M & R =Monitor and Report
[3] mpn = most probable number

I.A.2 **GROUNDWATER MONITORING WELLS:** MW #: 1,2,3,4, 5, 7, & 12.

Each monitoring well shall be monitored as follows.

TABLE TWO: Groundwater Monitoring Limitations

PARAMETER	GROUNDWATER LIMITATIONS	MONITORING REQUIREMENTS	
		Frequency	Sample Type
Depth to Groundwater (ft)	Monitor and Report	Quarterly	Discrete
Groundwater Elevation (ft AMSL)	Monitor and Report	Quarterly	Calculate
Total Nitrogen as N (mg/l) (see Part I.A.3)	10.0	Quarterly	Discrete
Total Phosphorus as P (mg/l)	Monitor and Report	Quarterly	Discrete
Nitrate as N (mg/l)	Monitor and Report	Quarterly	Discrete
Chlorides (mg/l)	Monitor and Report	Quarterly	Discrete
TDS (mg/l)	Monitor and Report	Quarterly	Discrete

I.A.3 **Groundwater Monitoring Wells**

The Permittee shall sample the groundwater in the monitor wells on a quarterly basis with a discrete sample and analyze for TDS, total nitrogen, total phosphorus, depth to groundwater, and groundwater elevation, submitted in accordance with Part I.B.2, of this permit. If the nitrogen as N level in any well increases to 7.0 mg/L, an alternative method of effluent treatment and/or disposal, which reduces the nitrogen loading into the groundwater shall be selected and submitted to the Division review and approval. If the total nitrogen as N level in this well increases to 9.0 mg/L, the Permittee must begin construction of the alternative method of effluent treatment and/or disposal. If the total nitrogen as N level in this well increases to 10.0 mg/L, the Permittee shall immediately implement the Division approved alternative method of effluent treatment and disposal.

I.A.4. **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.

a. The permittee shall meet all permit limits upon issuance of this permit.
b. The permittee shall submit revisions to the O & M to cover the operation of the expanded sludge pond, the new monitoring wells, and any other recent changes. This shall be due to the Division by June 10, 2010.

Rationale for Permit Requirements

Effluent monitoring is required to assess the level of treatment being provided and to determine when design capacity is being approached.

Groundwater monitoring is required to ensure that operations of the facility do not degrade groundwaters or surface waters of the State.

Prepared by: Joseph L. Maez, P.E.
Bureau of Water Pollution Control
February 8, 2010