

# NEVADA DIVISION OF ENVIRONMENTAL PROTECTION FACTSHEET (Pursuant to NAC 445A.236)

**PERMITTEE NAME:** **SGC NEVADA, LLC**

**PERMIT NUMBER:** **NEV96008**

**LOCATION:** **SUNRIDGE GOLF CLUB NEVADA, LLC**  
1000 Long Drive  
Indian Hills, Douglas County, Nevada

Longitude: 119° 46' 30"W.; Latitude: 39° 05' 30"N.  
T. 14N., R.20E., Sections 7, 8, 17 and 18 MDB&M

**FLOW:** **30-Day Average: 0.350 Million Gallons per Day (MGD)**  
**Daily Maximum: 0.600 MGD**

**PUBLIC WATER SUPPLY:** There are a number of Public Supply Wells (PWS) within T. 14N., R.20E., Sections 7, 8, 17 and 18 MDB&M. Vulnerability assessment for three (3) wells located within this area are ranked as "Moderate to Low Vulnerability".

## **GENERAL:**

The **Sunridge Golf Club Golf Course** is an 18-hole course located in Indian Hills, Douglas County. The golf course and common areas are irrigated with reclaimed water supplied by the Indian Hills GID Wastewater Treatment Facility (**IHGID-WTF - Permit NEV80039**) and supplemented with groundwater from several sources. Sunridge golf course and common areas cover approximately 138 acres; its irrigation is via spray and drip. Annual reclaimed water usage for the property is estimated to be 563 acre-feet per year; reuse irrigation is seasonal. The golf course lakes are used for winter storage for Sunridge and disposal for the IHGID WTF. Reclaimed water must be applied within a NDEP approved effluent management plan (EMP); the applicant has generally remained in compliance with permit limitations.

## **DISCHARGE CHARACTERISTICS:**

Reclaimed water used to irrigate **Sunridge Golf Course** meets "Class B" quality standards per NAC 445A.276. Class B standards include effluent limitations of 2.2 CFU MPN/100ml for fecal coliform (30 day average) and 23 CFU MPN/100ml for fecal coliform (daily maximum). Other reclaimed water standards also include discharge limitations on total suspended solids (TSS), and pH and nitrogen. Nitrogen is limited to restrict and attenuate potential impacts to groundwater.

## **RECEIVING WATER CHARACTERISTICS:**

Groundwater in the area is approximately 10'- 20' below ground surface and is of poor quality. TDS ranges upwards to 6800 mg/l, chlorides upwards to 1400 mg/l. State drinking water standard exceedances for iron, sulfate, and sodium are generally observed due to geothermal warm spring waters along the fault zone on which the golf course is constructed. No adverse effects are expected to occur as a result of this effluent reuse. Groundwater monitoring is required to ensure that groundwater down-gradient and east of the fault zone is not degraded by this application.

## **CURRENT RECLAIM WATER LIMITS:**

During the period beginning on the effective date of this permit and lasting until the permit expires,

**Sunridge Golf Course** is authorized to apply reclaimed water for irrigation purposes. Reclaimed water application must be based on Nitrogen budgets proposed in the approved Effluent Management Plan (**EMP**). Effluent application limits are listed in **Table 1 below**.

**Table 1: Effluent Limitations.**

PARAMETER	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	30-Day Average	Monthly Maximum	Measurement Frequency	Sample Type
Irrigation Flow <sup>1</sup> (MGD)	0.35	0.60	Continuous	Flow Meter
Total Dissolved Solids (mg/L) <sup>3</sup>	30	45	Monthly	Discrete
BOD <sub>5</sub> (mg/L) <sup>3</sup>	30	45	Monthly	Discrete
Fecal Coliform (MPN/100ml) <sup>3</sup>	2.2	23	Monthly	Discrete
Total Nitrogen – as N (mg/L) <sup>3</sup>	10.0	10.0	Monthly	Discrete
pH (Standard pH Units) <sup>3</sup>	6.0 to 9.0		Monthly	Discrete
Irrigation Volume <sup>2</sup>	563 Acre Feet / Year		Continuous	Calculated
Annual Nitrogen Loading <sup>2</sup>	180 pounds/acre/year <sup>4</sup>		Annual	Calculated
Annual Nitrogen Use <sup>1</sup>	30,600 pounds per year		Annual	Calculated

**CFU:** Coliform forming Unit      **mg/L:** Milligrams per liter      **MGD:** Million gallons per day      **MPN:** Most Probable Number

**SU:** Standard pH Units      **BOD:** Biochemical oxygen demand

1. Monthly application rates in the EMP should be used as a guide.
2. Annual Application Volume is based upon 110% of the application volume determined in the EMP.
3. Monitoring may be done by the supplier of the effluent, results may be reported by the Permittee in accordance with Part I.E. The fecal coliform count must meet standards specified in NAC 445A.276.
4. The total nitrogen applied (lbs/acre) shall not be greater than the total nitrogen uptake (lbs/acre).

**RATIONALE FOR EFFLUENT DISCHARGE LIMITATIONS:**

Irrigation practices have been certified by an engineer licensed in the State of Nevada to effectively operate at this flow rate; this flow is also consistent with the absorption field capacity. The total nitrogen applied (lbs/year) shall not be greater than the maximum yearly nitrogen application defined in the **EMP**. If the Permittee determines that the calculated nitrogen application rate has been exceeded in any one year, the Permittee shall prepare a report which includes an evaluation of the application rates in the **EMP**, an explanation of conditions which led to the exceedance, and any planned changes the Permittee deems necessary. The evaluation shall be submitted with the fourth quarter **DMRs**.

**GROUNDWATER MONITORING:**

Monitoring wells shall be sampled for the presence of nitrogen compounds, total dissolved solids (TDS), pH and chloride as established in **Table 2** below. Wells shall be monitored in accordance with permit conditions and sampling and analysis protocol defined in the proposed permit and in the facility Operations and Maintenance (**O&M**) Manual.

**Table 2: Groundwater Monitoring Protocol.**

PARAMETERS	DISCHARGE LIMIT	MONITORING FREQUENCY	Sample Type
Depth to Groundwater (feet)	Monitor & Report	Annually <sup>1</sup>	Discrete
Groundwater Elevation (feet AMSL)	Monitor & Report	Annually <sup>1</sup>	Discrete
Total Dissolved Solids (mg/L)	Monitor & Report	August & March <sup>2</sup>	Discrete
pH (Standard Units)	6.0 to 9.0	August & March <sup>2</sup>	Discrete
Total Nitrogen as N (mg/L)	10	August & March <sup>2</sup>	Discrete
Chloride (mg/L)	Monitor & Report	August & March <sup>2</sup>	Discrete

1. Measuring results shall be reported in the last quarter as part of the annual report.
2. March test results shall be reported in the 2 quarter DMR and August test results shall be reported in the 3 quarter DMR.

#### **NITROGEN LEVEL ACTION PLANS:**

The detection of concentrations of total nitrogen (N) in groundwater samples invoke the following limitations and response requirements:

- a. If total nitrogen levels measured in these monitoring wells' groundwater increases to **7.0 mg/l**, as a result of reclaimed water irrigation, the Effluent Management Plan shall be revised, and stamped by a Licensed Professional Engineer. The revised **EMP** shall provide management practices decrease this nitrate uptrend.
- b. Monitoring wells which have total nitrogen levels higher than **7.0 mg/l** shall be monitored at least quarterly unless otherwise specified by the Division.
- c. If total nitrogen levels increase to **9.0 mg/l** as the result of reclaimed water irrigation, the Permittee shall submit a corrective plan of action which shall ensure that there is no further degradation of groundwater.
- d. If total nitrogen levels increase to **10.0 mg/l** as the result of reclaimed water usage, the reuse site will be in violation of the permit and formal enforcement actions may be initiated. Effluent reuse for irrigation shall cease immediately unless otherwise directed by the Division.
- e. Additional changes to the current operation and/or testing protocol may be required by the Division if the current nitrate levels in these monitoring wells continue with an uptrend.

#### **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 achieve and/or maintain compliance with the effluent limitations upon issuance of the permit;
- b. **By May 12<sup>th</sup>, 2010 (30 Days)**, the Permittee shall submit to NDEP an updated Effluent Management plan (EMP). This EMP must meet requirements listed in section 1.B.3 of the permit.
- c. **By May 12<sup>th</sup>, 2010 (30 Days)**, the Permittee shall submit to NDEP an updated Operations & Maintenance manual (O & M).
- d. **By May 12<sup>th</sup>, 2010 (30 Days)**, the Permittee shall submit to NDEP a cross-connection control documentation.
- e. Furthermore, cross-connection control documentation must be submitted annually during the fourth (4<sup>th</sup>) quarter of every permit cycle.

#### **OPERATION REQUIREMENTS:**

The Permittee shall operate the facility in compliance with permit provisions and requirements and in accordance with the approved Effluent Management Plan (**EMP**).

- a. The EMP shall contain the information required to comply with this permit. It is recommended that the Permittee utilize "**WTS-1B**": General Criteria for Preparing an Effluent Management Plan, as a guidance to prepare the EMP.
- b. The Permittee shall calculate the **Consumptive Use Balance** for each month based upon parameters listed in Appendix One of WTS-1B. The evaluation of the rates shall be included in the EMP.
- c. The annual application volume limit and monthly maximum limit shall be determined from this balance.
- d. If the actual annual application volume or monthly maximum volume exceeds the calculated

annual application limit or monthly maximum limit, the Permittee shall prepare a report which includes an evaluation of the application rates in the **EMP**, an explanation of conditions (overseeding, reseeding, extraordinary weather conditons, etc.) which lead to the exceedance, and any planned changes the Permittee deems necessary. This evaluation shall be submitted with the fourth quarter Discharge Monitoring Report (**DMR**).

- e. **All EMP Revisions** shall be signed and stamped by a Nevada Registered Professional Engineer; a signed and stamped copy must be submitted to NDEP, Bureau of Water Pollution Control (BWPC), at the address listed below within 60 days of permit issuance for review and approval, if any changes in the effluent delivery system or management system (pumps, valves, filters, effluent lines) have occurred.
- f. **Minor revisions/updates** may be submitted by the golf course Superintendent or the Engineer Agent for Sunridge to the Division.
- g. The Permittee shall not apply effluent prior to having an approved EMP per NAC 445A.275, unless authorized otherwise by the Division.

#### **PROPOSED DETERMINATION:**

The Division has made the tentative determination to issue the proposed permit, under the provisions prescribed, for a 5-year period. Under NAC 445A.232, this permit is classified as a Discharge of Treated Effluent for Irrigation - 500,000 gallons or more but less than 1,000,000 gallons daily.

#### **PROCEDURES FOR PUBLIC COMMENT:**

The Notice of the Division's intent to issue a groundwater discharge permit to the applicant, subject to the conditions contained within the permit is being sent to the **Reno Gazette Journal & The Record Courier** 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 **April 12<sup>th</sup>, 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.

The application and proposed permit on file and may be copied or copies may be obtained by writing or by calling **Alexi Lanza, P.E.**, Bureau of Water Pollution Control at **(775)687-9468**; fax: **(775)687-4684**; or email: [alanza@ndep.nv.gov](mailto:alanza@ndep.nv.gov). This notice and the fact sheet can be viewed online at the following web address: <http://ndep.nv.gov/admin/public.htm>

Prepared by:

**Alexi Lanza, P.E.**

Nevada Division of Environmental Protection  
Bureau of Water Pollution Control – Permits Branch