

NEVADA DIVISION OF ENVIRONMENTAL PROTECTION
FACT SHEET
(Pursuant to NAC 445A.236)

Permittee Name: Clark County Water Reclamation District
5857 E. Flamingo Rd.
Las Vegas, NV 89122

Permit Number: NEV50040

Location: Indian Springs Wastewater Treatment Plant
2630 E. U.S. Hwy 95 N., Indian Springs, Clark County, NV
Latitude: 36° 34' 45" N, Longitude: 115° 38' 52" W
Elevation: 3,124 ft. Above Sea Level
Township 16S, Range 56E, NE¼ NW¼ Section 10

Bureau of Corrective Actions Sites: There is no Bureau of Corrective Action (BCA) remediation site located within a one-mile radius of the Indian Springs Wastewater Treatment Plant (Indian Springs WWTP).

Wellhead Protection Area: The Indian Springs WWTP is located on the periphery of the 6,000 ft. Drinking Water Protection Area No. 4 from two community supply wells, which are operated by the Indian Springs Water Co. (the WWTP is located outside of the nearest 25-yr wellhead capture zone). Upon modification, this WWTP will discharge denitrified effluent, which will meet the State's groundwater standard for nitrogen.

General: The applicant, Clark County Water Reclamation District (CCWRD), has submitted an application for permit renewal and major modification. CCWRD has proposed to construct a new WWTP in Indian Springs (pop. 1,659), which will also service the Creech Air Force Base (Creech AFB). Upon connection to CCWRD, Creech AFB will decommission its package wastewater treatment plant (NEV60030).

Existing WWTP: The municipal WWTP was constructed in 1964 and deeded to the Indian Springs Sewage Co. CCWRD assumed ownership of the treatment ponds in 2005. The original Indian Springs ponds (A-D) are unlined and operated in facultative (non-aerated) mode. CCWRD later completed work on a fifth unlined pond (E) for additional capacity. At the present flow, facultative treatment occurs in the first three ponds with effluent being discharged into the fourth pond for disposal by percolation and evaporation. The fifth pond basin is dry and unused but there for capacity if needed. The AFB WWTP is an extended aeration package plant constructed in 1995 and expanded in 2007. The AFB discharges its effluent to twin percolation-evaporation trenches located away from the flight line to avoid aircraft impact with birds (waterfowl). Neither the municipal nor the AFB plant currently denitrifies its effluent.

Upgraded WWTP: Pursuant to the Division's Administrative Order on Consent (AOC) issued to CCWRD on February 3, 2010, CCWRD has agreed to upgrade its WWTP to include denitrification and provide service to the Creech AFB when the upgrade is completed by March 31, 2012. The AOC also grants a temporary flow increase to the five-cell pond system from 0.114 to 0.123 MGD during the WWTP construction period. NDEP approved the 100% design plans for the CCWRD upgrade

upgrade (denitrification) in November 2009. The upgraded WWTP will consist of separate lift stations at the town and AFB, and then a common treatment facility consisting of head works (screening and grit removal), two Biological Nutrient Removal (BNR) basins for denitrification (anoxic and aerobic zones), two secondary effluent clarifiers, two sludge holding basins, and for effluent disposal, six percolation basins. All treatment and holding basins will be concrete lined for groundwater protection. Since an effluent reuse customer (e.g., municipal park, golf course, cemetery, etc.) has not been identified in Indian Springs at this time, CCWRD will forego an effluent filter and chlorine contact basin for now and pursue groundwater discharge. Periodically, sludge from the holding basins will be pumped and hauled off to Apex (Clark County) where the biosolids are dried and disposed in the regional landfill. When the denitrification plant is complete, the ponds will be decommissioned, cleaned, and their footprint developed into the new plant's percolation basins.

Flow: The upgraded WWTP capacity is 0.5 Million Gallon per Day (MGD) and nearly double the combined capacity of the existing municipal (0.123 MGD) and AFB (0.145 MGD) treatment plants. Current flow in this service area is 0.19 MGD and comprised of municipal (0.08 MGD) and AFB (0.11 MGD) contribution. The AFB contribution is primarily sanitary (domestic), but an industrial pre-treatment program is maintained to account for the flow from the garages and shops.

Receiving Water Characteristics: The upgraded WWTP will monitor five groundwater wells: four down-gradient and one up-gradient. Two of these wells exist and were previously installed by the Indian Springs Sewage Co. Depth to groundwater is 56 ft. Reported groundwater flow gradient is to the northwest. One of these wells indicates an elevated Total Nitrogen (TN) level of 10.5 mg/l from existing pond seepage and effluent disposal (pond effluent TN level of 16.4 mg/l). The AFB plant is located 1¼ miles away (north-northwest) from the ponds, and the depth to groundwater at the Creech AFB is 42 ft. The nitrogen level down-gradient of the Creech AFB percolation-evaporation trenches averages 5.3 mg/l.

DMR Analysis: The municipal influent strength (CBOD/TSS) is considered weak (124 / 162 mg/l). The wastewater source is predominantly residential with limited commercial connections (casino/motel and convenience store). Pond effluent CBOD/TSS level averaged 46 / 239 mg/l, and overall, monthly excursions from the 45 / 90 mg/l standard were noted and due to reasons including facultative treatment mode (no supplemental aeration) and high suspended solids (algae growth). At the new plant, one-half or more of the flow will be contributed by the Creech AFB. The Creech AFB reports a stronger influent strength, and its CBOD/TSS level averaged 573 / 538 mg/l. The high strength of this wastewater is due in part to AFB water conservation practices including low-flow plumbing fixtures.

Rational for Permit Requirements: The proposed WWTP uses an activated sludge (mixed liquor) process to denitrify and is required to demonstrate monthly treatment to the CBOD/TSS/TN standard of 30/30/10 mg/l. Disinfection (e.g., fecal coliform) is not required until a reuse program is implemented. Monitoring of industrial input (e.g., TPH, VOC compounds and metals) from the Creech AFB is made with a quarterly TPH and annual Priority Pollutants (Attachment A) analysis. The operator certification requirement is Grade I (pond) and III (activated sludge), respectively.

Table 1: Pond Limitations

PARAMETER	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	30-Day Average	Daily Maximum	Measurement Frequency	Sample Type
Flow, MGD (Influent)	0.123		Continuous	Flow Meter
CBOD, mg/L (Influent)	Monitor & Report		Quarterly	Discrete
CBOD, mg/L (Effluent)	30	45	Quarterly	Discrete
TSS, mg/L (Influent)	Monitor & Report		Quarterly	Discrete
TSS, mg/L (Effluent)	90		Quarterly	Discrete
pH, Std. Units (Effluent)	Between 6.0 & 9.0		Quarterly	Discrete

Table 2: Denitrification WWTP Limitations

PARAMETER	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	30-Day Average	Daily Maximum	Measurement Frequency	Sample Type
Flow, MGD (Influent)	0.5	1.3	Continuous	Pumping Time or Flow Meter
Flow, MGD (Effluent)	M&R	M&R	Continuous	Pumping Time or Flow Meter
BOD ₅ , mg/L (Influent)	M&R	M&R	Monthly	Composite
BOD ₅ , mg/L (Effluent)	30	45	Monthly	Composite
TSS, mg/L (Influent)	M&R	M&R	Monthly	Composite
TSS, mg/L (Effluent)	30	45	Monthly	Composite
Total Nitrogen as N, mg/l (Effluent)	10	10	Monthly	Composite (Calculation)
pH, Std. Units (Effluent)	6.0 – 9.0	6.0 – 9.0	Monthly	Discrete
TPH, (mg/L) (Full-range Purge & Extract – 8015B) (Effluent)	1.0	1.0	Quarterly	Discrete
Priority Pollutants (Attachment A)	M&R	M&R	Annually (4 th Quarter)	Discrete

Table 3: Groundwater Monitoring (MW-1 through MW-5)

PARAMETER	GROUNDWATER LIMITATIONS	MONITORING REQUIREMENTS	
		Measurement Frequency	Sample Type
TDS, mg/L	Monitor & Report	Quarterly	Discrete
Chlorides, mg/L	Monitor & Report	Quarterly	Discrete
Nitrate as N, mg/L	Monitor & Report	Quarterly	Discrete
Total Nitrogen as N, mg/L	10.0	Quarterly	Discrete
Depth to Groundwater, ft	Monitor & Report	Quarterly	Field Measurement
Groundwater Elevation, ft	Monitor & Report	Quarterly	Field Measurement

Schedule of Compliance: (all compliance deliverables shall be addressed to the attention of the Compliance Coordinator, Bureau of Water Pollution Control):

- Within thirty (30) days of the permit's issuance date, the Permittee shall submit a sludge removal plan for the decommissioned wastewater ponds in accordance with NDEP Water Technical Sheet No. WTS-20: *Abandonment of Sewerage Facilities*.
- The Permittee shall notify the Division in writing not more than fourteen (14) calendar days after construction and startup of the new wastewater treatment facility.
- Within thirty (30) days of construction and startup of the new wastewater treatment facility, the Permittee shall submit a copy of the engineer's (Nevada P.E.) Construction Quality Assurance (CQA) letter indicating that the facility was constructed in accordance with the approved design plans.
- Within ninety (90) days of completion and startup of the new wastewater treatment facility, the Permittee shall submit a copy of an Operations & Maintenance (O&M) Manual that was prepared by a professional engineer (Nevada P.E.) in accordance with NDEP Water Technical Sheet No. WTS-2: *Minimum Information Required for an Operation and Maintenance Manual*.
- Within ninety (90) days of construction and startup of the new wastewater treatment facility, the Permittee shall submit a copy of a driller's well log for the new monitoring wells being installed as part of this upgrade project.

Procedures for Public Comment: The Notice of the Division's intent to renew and revise (major modification) discharge permit # NEV50040, subject to the conditions contained within the permit is

being sent to the **Las Vegas Review-Journal** newspaper for publication. The notice is also being electronically mailed to all interested persons requesting listing on our public notification mailing list.

Anyone wishing to comment on the proposed permit can do so in writing within a period of thirty (30) calendar days of 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 **Monday, August 9, 2010, by 5:00 P.M. PST.**

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.

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

Prepared by: Mark A. Kaminski, P.E., Staff Engineer III
Bureau of Water Pollution Control

Date: July 6, 2010