

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

**Permittee Name:** Alamo Sewer & Water G.I.D.  
P.O. Box 418  
Alamo, NV 89001

**Permit Number:** NEV30019

**Location:** Town of Alamo Wastewater Treatment Facility (WWTF), Lincoln County  
Located in the southwestern town limits of Alamo  
Latitude: 37° 21' 28"N, Longitude: 115° 10' 17"W  
Township 7S, Range 61E, SW¼ of NW¼ of Section 8

**Wellhead Protection Area:** The WWTF is located within the 3,000 feet, Drinking Water Protection Area 3, of four public supply wells for the Alamo Sewer & Water G.I.D. The WWTF is located down gradient of the wellhead capture zones for these supply wells.

**General:** The Alamo WWTF was constructed in 1975. This year, 2010, it is being completely reconstructed upon receiving funding from the American Resource and Recovery Act of 2009. The facility will consist of a lift station, four HDPE lined aerated treatment ponds, and one large HDPE lined effluent storage basin. The treated effluent will be transferred from the lined storage pond to two reuse fields for flood irrigation of various agricultural crops during the months of April thru October. The method of effluent disposal replaces the past method of using percolation basins that have impacted the shallow groundwater at the site.

**Flow:** Permitted flow capacity is 0.071 MGD. Present flow averages 0.045 MGD or 62% of available capacity.

**Receiving Water Characteristics:** Monitoring well MW-1 is installed 260 ft southeast and down gradient of the storage pond. The current State nitrate limit of 10 mg/l in MW-1 is exceeded by the five-year average nitrate level of 10.3. mg/l. The impact to groundwater is likely due to a combination of treatment pond leakage, sludge buildup (i.e., nutrient source) and effluent disposal. The depth to groundwater down gradient of these basins is 19 ft below ground surface. This issue is being addressed by the lined treatment and storage ponds.

**Five-Year DMR Analysis:**

- ***CBOD:*** The five-year average CBOD (Inhibited BOD) level in the effluent is around 70 mg/l. The CBOD limit of 45 mg/l was exceeded in 11 of the past 20 monitoring quarters. The WWTF is unable to consistently reduce wastewater organic contaminant levels to the required secondary treatment standard for pond systems. This issue is being addressed with new partial mix pond system design.
- ***TSS:*** The five-year average TSS (Total Suspended Solids) level in the effluent is around 85 mg/l. The TSS limit of 90 mg/l was exceeded in 7 of the past 20 monitoring quarters. The DMR data does not provide an explanation for permit limit excursions, but NDEP likely attributes

these exceedances to excess algae growth and/or insufficient settling of wastewater solids in the treatment pond. This issue is being addressed with new partial mix pond system design and a lower limit of 45 mg/l is being placed to meet the reuse guidelines.

- *TN*: Total Nitrogen (TN) groundwater standard of 10 mg/l will be in place for all of the monitoring wells. The current TN level in MW-1 exceeds these standards, so a new well (MW-2) is being installed to gather a more representative sample of the groundwater down gradient of the pond system. Nitrate contamination is likely due to a combination of treatment pond leakage, sludge buildup and effluent disposal. This issue is being addressed with new partial mix pond system design.

**Proposed Effluent Limitations and Special Conditions:**

Table 1: Plant Discharge Limitations<sup>1,2</sup>

PARAMETER	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	30-Day Average	Daily Maximum	Measurement Frequency	Sample Type
Flow, MGD (Influent)	0.071		Continuous	Flow Meter
CBOD, mg/L (Influent)	Monitor & Report		Quarterly	Discrete
CBOD, mg/L (Effluent)	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
Fecal Coliform, mpn/100ml (Effluent)	200		Monthly*	Discrete
Total Nitrogen	M & R		Quarterly	Discrete

\* From April thru October

1. Influent samples shall be collected prior to discharge into the aerated treatment pond.
2. Effluent samples shall be collected after overflow from the aerated treatment ponds but prior to discharge into the storage pond.

Fecal Coliform is added this modification to insure that Class D effluent is achieved for flood irrigation at the reuse fields.

**Table 2: Groundwater Monitoring (MW-1, MW-2, MW-3, R-1, R-2)**

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

1. Groundwater samples shall be taken only after purging at least three (3) well volumes of groundwater from the monitoring well.

MW-2 will be a new down gradient monitoring well located below the storage pond. MW-3 will be a new up-gradient monitoring well from the treatment ponds to collect background data. R-1 and R-2 will be new monitoring wells upgradient and downgradient of the reuse fields and will be covered in the reuse permits for those fields.

**Schedule of Compliance:** The Permittee shall submit the following item to the Division for review and approval (**all compliance deliverables shall be addressed to the attention of the Compliance Coordinator, Bureau of Water Pollution Control**):

**I.A.18. 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 (**all compliance deliverables shall be sent to the attention of the Compliance Coordinator, Bureau of Water Pollution Control**).

- a. Within forty-five (45) days of the treatment ponds completion, the Permittee shall submit a revised operation and maintenance manual by a Nevada Registered Professional engineer (Nevada P.E.).

**Procedures for Public Comment:** The Notice of the Division's intent to modify this discharge permit for the Alamo WWTF, subject to the conditions contained within the permit is being sent to the **Lincoln County Record** and **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 **March 1, 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.

**Proposed Determination:** The Division has made the tentative determination to modify the proposed groundwater discharge permit for a period of five (5) years.

Prepared by: Joseph L. Maez, P.E., Technical Services Branch  
Staff Engineer III  
Bureau of Water Pollution Control

Date: January 11, 2010