Utah Division of Water Quality
Fact Sheet and Statement of Basis
ADDENDUM
Wasteload Analysis and Antidegradation Review

Date: **January 14, 2013**

Facility: **Tooele Wastewater Treatment Plant**
Tooele, UT
UPDES No. UT-0025445

Receiving water: **Unnamed Irrigation Ditch (2B, 3E, 4)**

This addendum summarizes the wasteload analysis that was performed to determine water quality based effluent limits (WQBEL) for this discharge. Wasteload analyses are performed to determine point source effluent limitations necessary to maintain designated beneficial uses by evaluating projected effects of discharge concentrations on in-stream water quality. The wasteload analysis also takes into account downstream designated uses (UAC R317-2-8). Projected concentrations are compared to numeric water quality standards to determine acceptability. The numeric criteria in this wasteload analysis may be modified by narrative criteria and other conditions determined by staff of the Division of Water Quality.

Discharge
Outfall 001: Unnamed Irrigation Ditch

The design capacity for the treatment facility is 2.25 MGD average flow, as estimated by the permittee. The facility does not have a permanent outfall to the receiving ditch, and only discharges during emergencies by pumping water from the reject water holding pond.

Receiving Water
The receiving water for outfall 001 is an unnamed irrigation ditch. Per UAC R317-2-13.9, The designated uses for irrigation canals and ditches are 2B, 3E, and 4.

- *Class 2B - Protected for infrequent primary contact recreation. Also protected for secondary contact recreation where there is a low likelihood of ingestion of water or a low degree of bodily contact with the water. Examples include, but are not limited to, wading, hunting, and fishing.*

- *Class 3E - Severely habitat-limited waters. Narrative standards will be applied to protect these waters for aquatic wildlife.*

- *Class 4 - Protected for agricultural uses including irrigation of crops and stock watering.*

The critical flow for the wasteload analysis is considered the lowest stream flow for seven consecutive days with a ten year return frequency (7Q10). The 7Q10 flow for the irrigation ditch is considered to be zero.

Downstream Analysis
The unnamed irrigation ditch drains to the north along 1200 West; the channel eventually disperses in a farm field north of Erda Way. Based on site reconnaissance and anecdotal evidence from the previous discharge from the facility (2005), a discharge of limited duration is not likely to reach the Great Salt Lake or other natural waterbody.

TMDL
The receiving waters do not have an approved TMDL for any parameters.

Mixing Zone
Since no flow is in the receiving water during critical conditions, no mixing zone is allowed and no dilution factor was applied.

Whole Effluent Toxicity (WET) Limits
The percent of effluent in the receiving water in a fully mixed condition, and acute and chronic dilution in a not fully mixed condition are calculated in the WLA in order to generate WET limits. The LC_{50} (lethal concentration, 50%) percent effluent for acute toxicity and the IC_{25} (inhibition concentration, 25%) percent effluent for chronic toxicity, as determined by the WET test, needs to be below the WET limits, as determined by the WLA. The WET limit for LC_{50} is typically 100% effluent and does not need to be determined by the WLA.

Table 1: WET Limits for IC_{25}

Season	Percent Effluent
Annual	100%

Effluent Limits
Effluent limits for this discharge are water quality standards for the receiving water. The applicable water quality standards are attached as an appendix to this wasteload.

For parameters without a WQBEL, permit limits should be set according to rules found in R317-1-3 and categorical UPDES discharge requirements.

Antidegradation Level I Review
The objective of the Level I ADR is to ensure the protection of existing uses, defined as the beneficial uses attained in the receiving water on or after November 28, 1975. No evidence is known that the existing uses deviate from the designated beneficial uses for the receiving water. Therefore, the beneficial uses will be protected if the discharge remains below the WQBELs presented in this wasteload.

A Level II Antidegradation Review (ADR) is not required for this discharge since the pollutant concentration and load to the receiving waters are not increasing under this permit renewal.

Utah Division of Water Quality
Wasteload Analysis
Tooele WWTP, Tooele, UT
UPDES No. UT0025445

WLA Document: *tooele_potw_wla_2013.docx*
Analysis: *none*

Prepared by:
Nicholas von Stackelberg, P.E.
Water Quality Management Section