

STATEMENT OF BASIS & FACT SHEET

HOLLIDAY WATER COMPANY CULINARY WATER TREATMENT PLANT UTAH POLLUTANT DISCHARGE ELIMINATION SYSTEM (UPDES) MINOR INDUSTRIAL FACILITY PERMIT RENEWAL UPDES PERMIT NUMBER: UT0025429

FACILITY CONTACT INFORMATION

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DESCRIPTION OF FACILITY

The Holliday Water Company is a culinary water treatment plant located at 2889 E. Live Oak Circle (approximately 4590 South) in Salt Lake County. The plant has a gross capacity of 2.5 million gallons per day (MGD) and processes spring water through microfiltration. The plant receives its water from nearby surface springs that comprise both the north and south forks of Spring Creek. The flow unutilized by the plant is used downstream for irrigation and aesthetic purposes.

DESCRIPTION OF DISCHARGE

The Holliday Water Company intercepts 100% of the water from the main spring (north fork) of Spring Creek. The spring water meets drinking water standards almost year round, except during periods of spring runoff. For this reason, Holliday Water Company has constructed a micro-filtration plant and obtained a UPDES permit for any intermittent discharges. The filters of this plant are backwashed (reverse filtration) approximately every 45 minutes during spring runoff and approximately every 75 minutes during the rest of the year. Backwash water is then discharged into a 10,000 gallon settling tank and used for irrigation during the summer months, then discharged to Spring Creek during the winter months. During discharge to the environment water is discharged from a drain in the bottom of the settlement tank to a ditch which has a number of small dams over which the water cascades. This reduces the chlorine to lower levels. Compliance samples are taken in this ditch at the property line.

The filtration system is cleaned using caustic soda and citric acid. When this system undergoes cleaning the discharge from the cleaning is routed to the sanitary sewer system. None of this cleaning solution is sent to the 10,000 gallon backwash settling tank.

Dilute sodium hypochlorite is constantly applied to the filtration system and is therefore included in the backwash to the settling tank where it undergoes a small amount of aeration. The aeration in the settlement tank and the small dams in the discharge ditch provide sufficient dechlorination to meet the permit limits in each of the monthly monitoring periods. All monthly monitoring parameters were within their respective permit limits for the past five years except for one sample for total residual chlorine reported on the December 31, 2007 discharge monitoring report (DMR). Effluent data as obtained from ICIS and a wasteload analysis is appended to this Statement of Basis.

RECEIVING WATERS AND STREAM CLASSIFICATION

The discharge flows directly into Spring Creek, which discharges into a storm drain on Holladay Boulevard. A very small portion of this flow ends up in the Salt lake Jordan Irrigation Canal which discharges to the Jordan River. The receiving waters of Spring Creek are designated according to *Utah Administrative Code (UAC) R317-2-13* as 2B, 3A, and 4 (please see wasteload analysis attached).

- Class 2B -protected for secondary contact recreation such as boating, wading or similar uses.
- Class 3A -protected for cold water species of game fish and other cold water aquatic life, including the necessary aquatic organisms in their food chain.
- Class 4 -protected for agricultural uses including irrigation of crops and stock watering.

BASIS FOR EFFLUENT LIMITATIONS

In accordance with regulations promulgated in *40 Code of Federal Regulations (CFR) Part 122.44* and in *Utah Administrative Code (UAC) R317-8-4.2*, effluent limitations are derived from technology-based effluent limitations guidelines, Utah Secondary Treatment Standards (*UAC R317-1-3.2*) or Utah Water Quality Standards (*UAC R317-2*). In cases where multiple limits have been developed, those that are more stringent apply. In cases where no limits have been developed, Best Professional Judgment (BPJ) may be used where applicable.

For the monthly and weekly averages, limitations on total suspended solids (TSS) are based on current Utah Secondary Treatment Standards (*UAC R317-1-3.2*).

Limitations on pH are based on current Utah Secondary Treatment Standards (*UAC R317-1-3.2*).

Effluent limitations are also derived using a waste load analysis (WLA), which is attached to this statement of basis as Addendum. The WLA incorporates Secondary Treatment Standards, Water Quality Standards, and designated uses into a water quality model that projects the effects of discharge concentrations on receiving water quality. Effluent limitations are those that the model demonstrates are sufficient to meet State water quality standards in the receiving waters.

The total residual chlorine and turbidity limits are based on the Waste Load Analysis.

The design flow for this facility is taken from the Statement of Basis & Fact Sheet. The design flow is 2.5 million gallons per day (MGD).

The following effluent limitations will be included in the UPDES permit renewal:

Effluent Limitations

<u>Parameter</u>	<u>Monthly Average</u>	<u>Weekly Average</u>	<u>Daily Min</u>	<u>Daily Max</u>
Flow, MGD	N.A.	N.A.	N.A.	2.5
TSS, mg/L	25	35	N.A.	70
pH, standard units	N.A.	N.A.	6.5	9.0
Residual Chlorine, mg/L	0.011	N.A.	N.A.	0.019

N.A. - Not Applicable

Turbidity increase (NTU) shall not be greater than 10 NTU between the source water and the receiving water after mixing.

There shall be no visible sheen or floating solids or visible foam in other than trace amounts.

There shall be no discharge of sanitary wastes.

SELF-MONITORING AND REPORTING REQUIREMENTS

When discharging, samples are taken at the outfall pipe where it daylights to Spring Creek, with coordinates of 40° 40' 14" north latitude and 111° 48' 34" west longitude.

The following effluent self-monitoring requirements are based on the *Utah Monitoring, Recording and Reporting Frequency Guidelines* as effective December 1, 1991. Reports shall be made on Discharge Monitoring Report (DMR) forms, and are due 28 days after the end of the monitoring period month.

Self-Monitoring and Reporting Requirements

<u>Parameter</u>	<u>Frequency</u>	<u>Sample Type</u>	<u>Units</u>
Total Flow	Monthly	Recorder	MGD
TSS	Monthly	Grab	mg/L
pH	Monthly	Grab	standard units
Total Residual Chlorine	Weekly	Grab	mg/L
Turbidity	Daily	Grab	NTU

SUMMARY OF CHANGES FROM PREVIOUS PERMIT

There are no changes from the previous permit.

STORM WATER

There are no storm water requirements as the facility does not currently meet the criteria to obtain separate permitting provisions.

PRETREATMENT

There are no pretreatment requirements as the facility does not discharge to a public sanitary sewer.

BIOMONITORING REQUIREMENTS

Since Holliday Water Company essentially discharges drinking quality water, which is not an existing or potential concern, no whole effluent toxicity testing (biomonitoring) is required. However, the permit will contain a toxicity limitation-reopener provision if toxicity is believed to be present during the life of the permit.

PERMIT DURATION

It is recommended that this renewal permit be effective for a duration of five (5) years.

Drafted by Mike Herkimer
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