

# Washoe Lake State Recreation Area

Nevada Division of State Parks

## Water Conservation Plan

2023

Public Water System ID #

NV000318

NV000793

Compiled by

Kevin Snodgrass

Water System Operator II

Department of Conservation and Natural Resources

Nevada Division of State Parks

16799 Lahontan Dam Road

Fallon, NV 89406

# Washoe Lake North Boat Ramp State Park

PWS ID Number: NV0000318

Service Connections - 1

Population Served - 25

Washoe Lake North Boat Ramp State Park Public Water System (PWS) is located in Washoe Valley Nevada off of East Lake Blvd. at 3870 Lakeshore Dr. The system consists of an artesian well, a chlorine disinfection system, an Iron and Manganese removal filtration system, bladder style pressure tanks and a small distribution system.

The purpose of the water system is to provide drinking water for one Park residence and one restroom.

Washoe Lake North Boat Ramp State Park is classified as a Transient, Non-Community Public Water System.

This operation manual addresses the disinfection process, filtration system, operation, and maintenance of the water system. It also addresses sampling and analysis requirements. - The Washoe Lake North Boat Ramp State Park well is drilled to an approximate depth of 206'. It supplies water on a permanent basis. The well is metered to monitor water production. Individual residences are not metered.

The distribution system consists of submersible pump which supplies water to the filtration and disinfection systems. The treated water then travels through a distribution piping network including valves and assorted sizes of HDPE and PVC service lines.

A 12.5 % solution of Sodium Hypochlorite and water is injected into the system prior to filtration. The chlorine residual is monitored manually using a pocket chlorometer and the chlorine feed rate is manually adjusted as necessary. The desired operating CL<sub>2</sub> residual should be maintained between 0.5 and 2.0 mg/L throughout the distribution system. Maintaining a measurable residual of at least 0.2 mg/L free chlorine is the minimum allowable concentration at the furthestmost point in the distribution system. The maximum residual disinfectant limit is 4.0 mg/L under non-emergency conditions.

The water supply is groundwater, and the system is subject to all Groundwater Rule Regulations.

Whenever a loss of pressure in the distribution system occurs, falling below 20 psi, a boil water advisory action is triggered and BSDW must be notified. Boil water notices must be posted in conspicuous locations throughout the PWS until the system is proven safe. Two Coliform samples, taken at least 24-hours apart, must be submitted to a certified laboratory and the results must be absent before the Bureau of Safe Drinking Water can be requested to rescind the boil water notice.

# Washoe Lake State Park PWS

PWS ID Number: NV0000793

Number of connections: 10

Population served: 497

## System Description

The **Washoe Lake State Park** - Public Water System (PWS) is located 5 miles north of Carson City, Nevada on Eastlake Blvd. The system consists of one pressure zone served by one well. The purpose of the water system is to provide drinking water for residents, employees, and patrons of **Washoe Lake State Park**. The system is classified as a Non-Community Transient Water System.

**Washoe Lake State Park** -Total Connections = 10 Commercial

Approximate Population Served (BSDW database) = 497

The **Washoe Lake State Park** - Well is located within a cinder block building approximately 600 feet to the west of the Eastlake Blvd within the Washoe Valley Hydrographic Basin (#092). Water is pumped from the Well through the treatment module 15 feet away where it is treated for Iron and Manganese and disinfected by chlorine injection. The water is then pumped approximately 4100 feet to the water storage tank on the south side of the Eastlake Blvd on the hillside above the park office. The well pump is controlled by preset depths in the water storage tank. These settings are established manually from the park office, run automatically and change seasonally. Water is chlorinated using a sodium hypochlorite mixture of 12%. Chlorinated water enters the distribution system and is stored uphill in one 80,000 gallon above ground storage tank.

## **Methods of Public Education**

### **Increase Public Awareness of Limited Water in Nevada**

All education/awareness is accomplished through appropriate park signage where applicable. Examples might include:

- Outside of Fee booth building – Notice of water conservation in place and what measures are taking place at this time.
- In shower stalls – “In order to conserve both propane and water, please do not allow showers to run unless needed for bathing.”
- At dump stations – “In order to conserve water, please do not allow hoses to run and shut off water when finished.

### **Encourage reduction of lawns and incorporate the use of arid climate plants.**

Public access to water is only for sanitation and consumption. Park staff maintain lawns and landscaping in order to ensure the best use of available water.

## **Conservation Measures/Management of Water**

Public water use at Washoe Lake Recreation Area is not significant and does not approach the capabilities of the water system in place. Many visitors commonly fill RVs with potable water prior to coming to Washoe, and only utilize water for hygienic purposes at public shower/restroom facilities or for sewage dumping at RV dump stations.

As existing facilities are updated or new facilities constructed, water conserving fixtures are utilized, such as low gpf toilets.

Current water facilities are being retrofitted with monitoring equipment that provides data to indicate irregular or abnormally high-water use. All operations and maintenance staff are alert for leakage, and water system operators are alert to pressure and meter fluctuations. Appropriate measures will be immediately undertaken to correct any situations that might result in system water loss.

Parks does not charge for water use. Only permanent customers are Park staff. Minimal out door irrigated landscaping at residences. Very little irrigated landscape elsewhere in the park.

### **Daily**

- All park staff to remain observant for water leaks in facilities or in soil surrounding water system components.

### **Weekly**

- Monitor pressure gauges and metering devices to ensure normal function of systems.
- Note unusually high-water use and identify and repair causal factors.

### **Monthly**

- Record water use.

### **Fall/Spring**

- Winterize/dewinterize dump stations, flush toilets, and shower facilities to prevent frost damage and subsequent waste of water.

### **Increase the use of effluent: N/A**

All waste water is treated via septic systems and leach fields.

## **Drought Contingency**

Periods of drought inadvertently generate water conservation measures at Washoe State Recreation Area. During these periods, park visitation diminishes, directly reducing the amount of water utilized in park facilities. During periods of extreme drought, other necessary measures include:

- Suspension of irrigation of trees, shrubs, and turf areas.
- Closure of shower facilities.

System storage tanks are sufficient to provide water for extended periods. In the event of an extended power outage, facilities using water are closed until systems are restored and operating levels of storage are reached.

### **Schedule to carry out plan**

This plan is to be implemented immediately upon approval. The plan will be reviewed and updated at five years intervals to adjust to changing need and confirm compliance with NRS 540.141.

### **Evaluation of Plan Effectiveness**

Plan effectiveness is best determined by comparison of water use totals from similar periods. Quarterly comparison of water consumed to previous similar periods, adjusted to changes in park visitation, will indicate plan effectiveness.

During periods of extreme drought:

- Signs Will be posted that state "NO WATER".
- Elimination of irrigation could result in the conservation of up to 30,000 gallons during the summer months.
- Closser of shower facilities could result in a savings of up to 700 gallons per day (12.5 gal/person @ 56 persons/day, and 126,000 total gallons April – September).

This Water Conservation Plan will be available to all interested park visitors.