SEARCHLIGHT
Water Conservation Plan

OVERVIEW

On February 16, 1988, the Las Vegas Valley Water District (District) became responsible for the operation, maintenance, and administration of the Searchlight Water System through an Interlocal Agreement with Clark County. The District assumed full ownership of the system in 2002.

The Town of Searchlight has approximately 850 residents. There are 309 active water service accounts (270 residential, 39 commercial).

Physical Setting
Searchlight is located approximately 60 miles south of Las Vegas and approximately 40 miles north of Laughlin. The town is within the Piute Valley Hydrologic Basin.

Water Sources and Allotment:
The District has existing permitted water rights in the Piute Valley and the adjacent Eldorado Valley Basin. The system's water rights (permits 36329, 43454, 51980, 59897, and 58651) total 4,353.95 acre-feet per year.

Climate
Searchlight experiences a desert climate with hot summers, mild winters, and very little rainfall. Summer temperatures frequently surpass 100 degrees while winter temperatures remain around 60 degrees. Daily low temperatures seldom drop below freezing. The area receives an average of less than 8-inches of precipitation a year.

Water System
Currently, water is supplied to residents by two wells (S-1 and S-2). Well S-2 was drilled in 1990 and is the primary production well. The water table at Well S-2 has declined steadily over time. Should this trend continue, Well S-2 will be unable to meet projected future demands for Searchlight. Well S-1 was drilled in 1983 and serves as an emergency backup well, with limited resource and pumping capacity.

In addition to infrastructure needs, revisions to the EPA Safe Drinking Water Act Revised Arsenic Rule have also necessitated improvements to the system to meet increased water quality standards. Effective January 23, 2006, the new rule lowered the current Maximum Contamination Level (MCL) of arsenic from 0.05 mg/L (milligrams per Liter) to 0.010 mg/L. According to the EPA, a target arsenic concentration must be determined for facilities requiring treatment. The current average arsenic concentration is 0.012 mg/L in the Searchlight Water System. This will require the District to develop additional wells, storage facilities, and associated transmission for blending water to reduce the arsenic concentration and/or construct an arsenic treatment facility.

Historically, Searchlight's ability to pursue new system improvements has been constrained by limited or nonexistent cash reserves, insufficient revenues and higher operational costs that must be distributed among a very small customer base. Because of these constraints, system improvements have been typically limited to repair and maintenance. The Searchlight Water System Service Rules were revised in January 2006 to increase water rates, connection fees and other service fees to help pay for needed system improvements. The average monthly residential service bill is $17.62. The District is also exploring federal and state grant opportunities to help pay expected costs on behalf of the Searchlight Water System.

To ensure system reliability and maintain water quality, the District has developed the Searchlight Water System Improvements Project. The Project will promote conservative water use, ensure water quality complies with new drinking water standards, and will provide necessary distribution system improvements.

Conservation initiatives and water waste restrictions are discussed in detail below.

Conservation

Groundwater is the sole natural resource used to meet water demands in Searchlight, but there are other methods critical to managing and extending this physical resource – water conservation and sustainability principles in land development. Conservation initially involves no real infrastructure challenges or significant capital costs, yet it effectively provides an additional resource by freeing up water that was previously consumed inefficiently or wasted. In one sense, it is the cheapest source of water available to the community. It is also a resource over which the community has complete control, because future availability depends more on individual customer efforts and less on influences outside the community.

The condition of the Piute Basin is such that additional water resources may not be available or may be severely limited from time to time. The lack of reliable resources may affect development approval and the rate of growth of Searchlight. Given this natural resource environment, conservation and sustainable practices are essential to a stable water system.

To this end, the District may reject, rescind, reduce, or terminate current or proposed uses of water where such use:

a) Is contrary to the District's obligation to assure reasonable use including, but not limited to, compliance with rules for water efficiency, drought, conservation and the use of non-potable water for irrigation.
b) May encumber or impair the District's ability to maintain an adequate level of service to other customers.
c) Compromises public health, welfare, or safety due to circumstances that limit the available water supply to the Searchlight Water System.

Searchlight is located within the unincorporated areas of Clark County and is subject to the following ordinances:

Chapter 24.30—Waste of water from public water system
Chapter 24.34—Water use restrictions
Title 30—Comprehensive Development Code
Title 30—Turf Limitations

The following sections represent additional conservation measures the District will pursue outside of County ordinances in an effort to promote water conservation in Searchlight.

Conservation Effectiveness Measures

Upon implementation of the Conservation Plan, the District will evaluate the plan's effectiveness. The District maintains water pumpage and consumption records for the Searchlight Water System. The data is retrieved through the District's SCADA system. After the Conservation Plan is implemented, the District will continue to monitor pumpage and consumption for the system. Using baseline and post-implementation data, the District will calculate water conservation data, which will be communicated to the community. Historic water use data is attached.

Table 1. Searchlight Average Annual Metered Consumption (in 1,000 gal)

Year	Total	Accounts	Ave. Consumption/Account
2000	53,930	288	187.26
2001	54,601	286	190.91
2002	58,976	294	200.60
2003	54,860	289	189.83
2004	54,548	293	186.17
2005	53,535	289	185.24

Public Notice

As required by NRS 540.131, the Conservation Plan was presented to area residents and discussed at the June 13, 2006, Searchlight Town Advisory Board Meeting. Public comment was held from June 14 – June 23, 2006 and the Plan was made available to the public for inspection and comment at both the Searchlight Library and the Las Vegas Valley Water District main offices. During that time, no written comments were received**.**

Once finalized, the Conservation Plan will be available for public inspection during office hours at the Las Vegas Valley Water District's main offices at 1001 South Valley View Blvd., Las Vegas, NV 89107. The Plan will also be posted on the Las Vegas Valley Water District's website at www.lvvwd.com to be viewed at any time.

WATER CONSERVATION

At a minimum, the District will use the following measures to aid in water conservation for Searchlight:

1) Perform Indoor Water Audit Survey and Fixtures Retrofit.

A) The District will offer an indoor and outdoor water use audit to assist Searchlight residents in identifying leaks and high water use areas within the home. As part of the audit, the District will provide tools and reference materials that will aide in water conservation; these tools may include high efficiency water devices.

2) Encourage residents to participate in available conservation incentive rebate programs of the regional Southern Nevada Water Authority.

3) Educational Programs.

A) Youth Education – The Southern Nevada Water Authority has developed a program to provide *Water's Edge* to students in Searchlight. *Water's Edge* is an educational newspaper for school children (K-5) that provides information on water issues, including conservation.

B) Library Display – Displays and literature will be established at the Searchlight Library to address a variety of issues, including conservation.

C) *Water Watch* Newsletter – The District will continue to publish the *Water Watch* quarterly newsletter that educates Searchlight residents on conservation issues and techniques specific to the area.

4) Conservation Helpline – The Southern Nevada Water Authority will continue to operate the Conservation Helpline (258-SAVE). The Helpline is available to all Searchlight residents who need additional water conservation information.

5) Water Meters, FIREFLY Automatic Meter Reading and Leak Detection.

A) All Searchlight Water System customers have a water meter. All meters are functioning with minimal maintenance. Water meters help identify customer water use, volumes and patterns. This information will provide a valuable tool in helping to plan future infrastructure needs for the area as well in identifying system leaks and losses.

B) Subject to available grant funding, the District will install a FIREFLY Automatic Meter Reading System to all existing water meters. This system can assist in identifying water leaks or water loss at the water user's location, and can quantify overall water loss in the Searchlight Water System by comparing production quantities with end user quantities.

C) The District is seeking grant funds to create a leak detection program, consisting of MetroLog Digital Sound Logger system, to detect water leaks in the Searchlight water distribution system so that necessary repairs can occur under regular maintenance activities.

6) The Searchlight Service Rules were revised in January 2006. The revised rules added language relevant to meters and conservation.

- Section 2.7, Efficient Water Use
- Section 5.2, Water services may be terminated for waste of water.
- Section 8.1, Establishment of metered rates for residential and commercial services.

Copies of the cited sections are attached to this plan.

7) Water Shortage Contingency Plan

The District will work with area residents to develop a water shortage contingency plan in case of long-term or short-term water shortages in the Searchlight community.

Searchlight is located in unincorporated Clark County and is subject to Title 30 of the Unified Development Code. Section 30.64.070 outlines drought measures that can be applied during a drought or a water shortage. A copy of Section 30.64.070 is attached.

Implementation Steps

The District, as the owner and operator of the Searchlight Water System, is committed to conservation and sustainability as part of its strategic planning process. Due to limited outdoor water use in the Searchlight town area, indoor water conservation is the principal focus of the Searchlight Water Conservation Plan. Education of the customer base through speaker presentations, printed materials and the distribution of low-flow devices will be the first step towards increasing water efficiency in Searchlight.

If and when funding is made available for the FIREFLY Automatic Meter Reading System, the program will be used to measure individual water use and to provide a basis for proper water conservation education. Additionally, if the leak detection program is funded, the community will achieve conservation through reduced leakage in transmission and distribution infrastructure.

Timeline for Implementation

Conservation Measure	*Anticipated Completion*
Indoor Water Audit Survey	*3 Months – Winter 2006*
Indoor Fixtures Retrofit	*3 Months – Winter 2006*
Conservation Incentive Rebate Programs	*Continuous*
Educational Conservation Programs	*Continuous*
Conservation Helpline	*Continuous*
Infrastructure Improvements to identify and resolve leaks (conservation)	*2 years (pending funding availability)- Spring 2007*
Water management and monitoring improvements	*2 years (pending funding availability)- Spring 2007*