Examples of Funded Projects through the Source Water Protection Program and the 319 Grant Program

Manage Open Space Access for Recreation and Water Quality Protection

Kings Canyon Trailhead Improvements

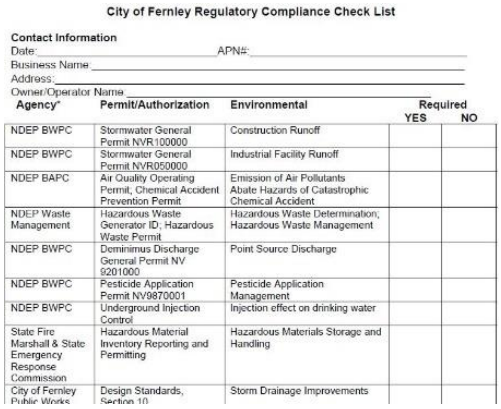
The North Kings Canyon Creek is an important source of drinking water for Carson City. The water was being polluted by sediment eroded from social trails and off-trail hiking, graffiti, trash and other **human** disturbance of the riparian corridor. The Source Water Protection Program and Resource Concepts, Inc. assisted in bringing local agencies and community organizations together to develop solutions such as **fencing, trail stabilization, trail signage,** a reconstructed trailhead with a "drinking water protection" kiosk.

This collaborative project brought together partnerships to protect drinking water and raised the community's awareness regarding where their drinking water comes from.

- Carson City Public Works
- Carson City Parks, Recreation, and Open Space
- Nevada Division of Forestry
- Nevada Division of Environmental Protection
- US Forest Service
- Washoe Zephyr Consulting
- Great Basin Inc.
- Boy scouts of America
- Basalite
- Tangerine Design

Informational Kiosk and stabilized trail.

Add Wellhead Protection Areas to Municipal Code



City of Fernley Regulatory Compliance Check List

Contact Information
Date: APN#:
Business Name
Address:
Owner/Operator Name

Agency*	Permit/Authorization	Environmental	Required YES	NO
NDEP BWPC	Stormwater General Permit NVR100000	Construction Runoff		
NDEP BWPC	Stormwater General Permit NVR050000	Industrial Facility Runoff		
NDEP BAPC	Air Quality Operating Permit, Chemical Accident Prevention Permit	Emission of Air Pollutants Abate Hazards of Catastrophic Chemical Accident		
NDEP Waste Management	Hazardous Waste Generator ID; Hazardous Waste Permit	Hazardous Waste Determination; Hazardous Waste Management		
NDEP BWPC	Deminimus Discharge General Permit NV 9201000	Point Source Discharge		
NDEP BWPC	Pesticide Application Permit NV9870001	Pesticide Application Management		
NDEP BWPC	Underground Injection Control	Injection effect on drinking water		
State Fire Marshall & State Emergency Response Commission	Hazardous Material Inventory Reporting and Permitting	Hazardous Materials Storage and Handling		
City of Fernley Public Works	Design Standards, Section 10	Storm Drainage Improvements		

Snapshot of the checklist.

City of Fernley Municipal Code Update

In June 2013, The City of Fernley requested technical assistance from the Source Water Protection Program to include source water protection areas and sustain groundwater quality in Chapter 19 of their municipal code. The code included a **checklist tool for businesses in "5-year Source Water Protection Areas"** to certify to the City that they comply with existing local, State and Federal permits that control pollutant sources (hazardous materials use and storage, storm water runoff, spill prevention, etc.).

This project raised awareness about where drinking water comes from, and how to prevent pollution through daily business activities, as well as improved local agency communication with property owners and State regulators.

Identify and Plug Unused Wells

Unused Well Surveys & Plugging

Old wells be conduits for pollution to contaminate drinking water and the Source Water Protection Program has funded projects to **inventory and plug unused wells** in several communities. In Churchill County, a screening questionnaire was sent to over 200 property owners to locate unused wells in source water protection areas. In the Dayton area, Lyon County Utilities surveyed property owners, then collaborated with NDEP, a local driller, and homeowners to access and properly plug more than 15 old private wells near their public wells. Small public water systems in Douglas County (Indian Hills GID) and Carson City (Stewart Complex Water System) have also received technical assistance and funding to abandon unused wells located in wellhead protection areas.

Small public water system wellhead.

Examples of Funded Projects through the Source Water Protection Program and the 319 Grant Program

Improve De-icing Methods and Reduce Sediment to Waterways

Washoe County de-icing operations improvement.

Washoe County BAT Material Spreaders Purchase and Operation

Washoe County received 319 grant funds in 2014 to purchase two brine and abrasive material spreaders. The ability to apply brine is new and these spreaders can apply sand, salt and brine for de-icing and anti-icing more accurately and consistently than their older equipment. The updated equipment and operations strategy will **lower annual material applications by 25%.** The pulverization of sand spread on icy or snow-covered roads is major source of fine sediment to waterways.

This 319-funded project helps to reduce runoff from de-icing and anti-icing activities to waterways.

Install "Source Control" Stormwater BMPs

Clark County Dog Waste Collection Program

Dog Waste Pick-Up Stations across the Las Vegas Valley in communities with Homeowner's Associations that commit to maintain the stations. Each station includes a sign that informs the public about the problems with dog waste that is left on the ground. As of March 31, 2016, **46 stations were installed and thousands of pickup bags dispensed**. It is estimated that these stations have resulted in the removal of 34,050 pounds of dog waste from the watershed thus far, and further removal is expected to occur in future years. This initial removal translates to approximately 238 pounds of nitrogen, and 8.5 pounds of phosphorus that has been prevented from being delivered by runoff to the Las Vegas Wash and ultimately, Lake Mead, Las Vegas Valley's drinking water source.

Repair Eroding River Banks and Restore Hydrologic Functions

River bank erosion and stabilization.

Bank Stabilization Projects, Dayton Valley Conservation Projects

Many sections of the Carson River banks are unstable due to historic channel straightening and mining, urbanization and agricultural activities. The Dayton Valley Conservation District has used 319 grants to **stabilized eroded stream banks and protect riparian vegetation** by regrading slopes, planting willow bundles, installing rock rip rap and placing juniper revetment along bank toe. These projects have helped to reduce the amount of sediment in the Carson River.

Prioritize Multi Year Watershed Based Erosion Reduction Projects

Ash Canyon Erosion and Sediment Control

Ash Canyon Creek is an important source of drinking water for Carson City. Since 2012, Carson City has implemented erosion control projects with the assistance of 319 grants. Efforts have included completion of the Ash Canyon Erosion Control Plan, and **priority BMP implementation and public education** and outreach aimed at reducing erosion and subsequent sedimentation into Ash Canyon Creek and ultimately the Carson River. These projects have reduced the amount of sediment reaching Ash Canyon Creek during large storm events or during wet years, thus protecting drinking water and the water quality of the Carson River.

Eroded duplicate OHV road closed in the Ash Canyon watershed.