

Appendix E

Action Plans

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Appendix E

Action Plans

Appendix E includes the implementation Action Plans for Carson City, the Cottonwood MHP, and the State Of Nevada Stewart Complex. The individual Action Plans are organized by management strategy. The projects listed in the following table are not in order of priority. Instead, the items are grouped by strategy type such as public education, coordination, or monitoring, etc.

The Action Plans were developed using the existing WHP plans and the outcomes of the Team meetings. Where applicable, the specific actions also have supporting agencies, the priorities, and projected completion timeframes. The Action Plans follow the management strategies to achieve the source water protection goals. Implementation is dependent upon resource availability and the actions will be implemented as funding and time allows by the respective PWSs.

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Carson City Source Water Protection Action Plan

Carson City Source Water Protection Action Plan		Applicable Area								
Management Strategy	Action Description	Priority ^{1/}	County Wide	2-Yr SWPA	5-yr SWPA	10-yr SWPA	25-yr SWPA	Watershed/ Recharge	Other	Key Implementing Department or Group
Coordination and Planning	Consider conducting a source water protection needs assessment in collaboration with landowners.	High						X		Public Works, State Hobart/Marlette System
Coordination and Planning	Consider designating the land use “public conservation” to protect water quality.	Medium						X		Planning
Coordination and Planning	Consider direct coordination with State Parks for protection of surface water quality in the Marlette-Hobart water system.	Medium						X		Public Works, State Hobart/Marlette System
Coordination and Planning	Consider an agreement between Carson City and the State of Nevada to clarify roles and responsibilities regarding the Marlette-Hobart water system.	Medium	X					X		Public Works State Hobart/Marlette System
Coordination and Planning	Consider an annual interdepartmental CSWP Plan status update including assigning roles and responsibilities in coordination with other meetings or trainings (Planning, Health and Human Services, Public Works (environmental control, water stormwater, Fire Department, Open Space).	High	X							Public Works Director or Designee
Coordination and Planning	Consider annual updates and maintenance of the CSWP FlexViewer digital files	High	X							Public Works
Domestic Septic Tank Program	Maintain the existing program and continue to work toward completing mandatory connections in the New Empire and Southeast Carson City areas.	High		X	X	X	X			Public Works

Carson City Source Water Protection Action Plan		Applicable Area								Key Implementing Department or Group
Management Strategy	Action Description	Priority ^{1/}	County Wide	2-Yr SWPA	5-yr SWPA	10-yr SWPA	25-yr SWPA	Watershed/ Recharge	Other	
Domestic Septic Tank Program	Consider prioritizing municipal sewage facility extension projects based on the location of septic systems in the 2, 5, 10, or 25 year SWPAs.	High	X							Public Works
Domestic Septic Tank Program	Consider revising code language to allow more control over new septic systems on single parcels.	Low		X			X	X		Planning
Fuel Storage Tank Program	Develop and maintain management strategies directed at the ASTs.	Medium	X							Public Works, Fire Department
Household Hazardous Waste Program	Request technical assistance to update the HHW outreach and education process (handouts, mailings, website information, etc.).	High	X							Public Works
Household Hazardous Waste Program	Request technical assistance to formalize operating procedures for the existing HHW program.	High	X							Public Works
Household Hazardous Waste Program	Consider HHW Program collaboration with other communities or counties.	High	X							Public Works
Household Hazardous Waste Program	Evaluate the need and feasibility for accepting waste paint.	High	X							Public Works
Household Hazardous Waste Program	Consider expanding the HHW program to address disposal of pharmaceuticals from residential sources.	Low	X							Public Works

Carson City Source Water Protection Action Plan		Applicable Area							Key Implementing Department or Group	
Management Strategy	Action Description	Priority ^{1/}	County Wide	2-Yr SWPA	5-yr SWPA	10-yr SWPA	25-yr SWPA	Watershed/ Recharge		Other
Household Hazardous Waste Program	Consider expanding the HHW program to address disposal of bio hazardous materials such as needles, sharps and lancets.	Medium	X							Public Works
Maintenance	Continue best management practices that reduce stormwater contamination and the potential for contaminant infiltration in areas near wellheads.	Medium					X			Public Works, Planning
Open Space Management	Consider conducting an open space needs assessment for source water protection coordinated among Public Works and Open Space Departments for surface waters.	High					X	X		Open Space, Public Works
Open Space Management	Identify facilities or best management practices to protect runoff and recharge water quality.	Medium					X	X		Open Space, Public Works, State Hobart/Marlette System
Pretreatment Program	Consider adding the Assessor Parcel Number (APN) to forms and applications for ease of program tracking using GIS databases.	High	X							Public Works
Pretreatment Program	Consider adding to the permit checklist whether or not the facility is located within an SWPA.	High		X	X	X	X	X		Public Works
Pretreatment Program	Develop educational tools for Public Works to use when inspecting and educating businesses.	High	X							Public Works
Public Outreach and Education	Initiate classroom presentations to middle school science classes. Coordinate with the school district about perpetuating a school curriculum as described in the Carson City CSWP Education Plan.	High	X							School District

Carson City Source Water Protection Action Plan		Applicable Area								Key Implementing Department or Group
Management Strategy	Action Description	Priority ^{1/}	County Wide	2-Yr SWPA	5-yr SWPA	10-yr SWPA	25-yr SWPA	Watershed/ Recharge	Other	
Public Outreach and Education	Consider presenting at appropriate school events, for example: annual Science, Technology, Math, and Engineering (STEM) night as described in the Carson City CSWP Education Plan.	High	X							Public Works
Public Outreach and Education	Consider coordination with schools to participate in "water week" or "public works week" activities.	High	X							School District, Public Works
Public Outreach and Education	Update communication materials: website, consumer confidence report, utility bills, etc. to be current with the CSWP Plan.	High	X							Public Works
Public Outreach and Education	Update the HHW program information available to the public on the city's web site.	High	X							Public Works
Public Outreach and Education	Update information for permit holders in Carson City's pretreatment program, which are located in SWPAs.	High		X		X				Public Works
Public Outreach and Education	Develop and distribute information regarding what to do in the event of a contaminant spill or leak. Target audience is pretreatment permit holders and other business storing with hazardous materials.	High	X							Public Works
Public Outreach and Education	Consider expanding CSWP educational materials available at the Children's Museum.	Low	X							Other
Public Outreach and Education	Consider coordination with Parks and Open Space for educational signage regarding source water protection for watershed/recharge SWPAs.	Medium						X		Open Space
Public Outreach and Education	As available, develop and distribute information on proper disposal of pharmaceuticals.	Medium	X							Public Works, Health

Carson City Source Water Protection Action Plan		Applicable Area								Key Implementing Department or Group
Management Strategy	Action Description	Priority ^{1/}	County Wide	2-Yr SWPA	5-yr SWPA	10-yr SWPA	25-yr SWPA	Watershed/ Recharge	Other	
Regulatory Measures	Consider including weather protection and covered bins in addition to secondary containment in Carson City Municipal Code (CCMC) Section 12.06.248- Sewerage Use- Secondary Containment.	Low	X							Public Works
Regulatory Measures	Request technical assistance to review code and to develop a strategy for revisions.	Low	X							Planning
Regulatory Measures	Consider code updates for septic system construction appropriate for watershed/recharge areas.	Low		X	X	X	X	X		Planning
Regulatory Measures	Collaborate with other local municipalities in developing appropriate Low Impact Design Standards for stormwater (consider for example appropriateness of infiltration measures near public supply wells).	Medium		X						Public Works
Shallow Groundwater Monitoring	Consider conducting an assessment of future groundwater monitoring needs and the triggers for developing and implementing new groundwater monitoring plans.	Low	X							Public Works, Planning
Solid Waste Management Program	Consider expanding the Solid Waste Management program to address the evolving concerns and regulations for proper disposal of wastes such as pharmaceuticals.	Low	X							Public Works
Spills and Complaints	Maintain best management practices that reduce spills and potential contaminant infiltration near wellheads.	High	X				X			Public Works

^{1/}**Schedule:** High Priority to be initiated within 5 years, Medium Priority to be initiated within 8 years, Low Priority to be initiated within 12 years

State of Nevada Stewart Complex Action Plan ¹

Carson City Source Water Protection Action Plan		Applicable Area								
Management Strategy	Action Description	Priority ^{1/}	County Wide	2-Yr SWPA	5-yr SWPA	10-yr SWPA	25-yr SWPA	Watershed/ Recharge	Other	Key Implementing Department or Group ²
Private Well Condition	Consider abandoning inactive wells located within SWPAs.	Medium		X	X	X		X		State Buildings and Grounds

¹**Schedule:** High Priority to be initiated within 5 years, Medium Priority to be initiated within 8 years, Low Priority to be initiated within 12 years

²**Implementation:** The lead responsibility for implementation of the action items for the Stewart Complex is State Buildings and Grounds.

Cottonwood Mobile Home Park Wellhead Protection Plan Action Summary^{\1}

Cottonwood Mobile Home Park Wellhead Protection Plan Action Summary		Source of Actions ^{\1 \2}			Key Implementing Department or Group ^{\2}
Management Strategy	Action Description	Cotton wood MHP Comments	WHP Plan -- Existing PCSs	WHP Plan - Future PCSs	
Coordination and Planning	Coordinate with Carson City to notify new businesses or activities (possible PCSs) when they plan to locate in a SWPA.			X	Cottonwood MHP
Coordination and Planning	Continue to review groundwater quality and compliance at Silver Oak Golf Club. Coordinate with NDEP and Carson City.		X		Cottonwood MHP
Domestic Septic Tank Program	Encourage Carson City to extend the sanitary sewer system and connect the neighborhood near to Cottonwood MHP that is currently served by septic systems.		X		Cottonwood MHP
Public Outreach and Education	Provide information about proper maintenance and abandonment of private wells to local homeowners.	X			Cottonwood MHP
Public Outreach and Education	Install "Wellhead Protection Area" signs along Arrowhead Drive.		X		Cottonwood MHP
Public Outreach and Education	Periodically host educational seminars for Cottonwood MHP residents and other interested persons on source water protection.		X		Cottonwood MHP
Public Outreach and Education	Distribute information to Cottonwood MHP residents on Carson City's Household Hazardous Waste collection program.		X		Cottonwood MHP
Public Outreach and Education	Periodically review, contact, assess and advise local PCSs that they are located in a SWPA.			X	Cottonwood MHP
Public Outreach and Education	Encourage public education about nitrate in groundwater and its detrimental health effects.			X	Cottonwood MHP

Cottonwood Mobile Home Park Wellhead Protection Plan Action Summary		Source of Actions ^{1\2}			Key Implementing Department or Group ¹²
		Cotton wood MHP Comments	WHP Plan -- Existing PCSs	WHP Plan - Future PCSs	
Management Strategy	Action Description				
Regulatory Measures	Encourage Carson City and the State of Nevada to prohibit the use of solvent septic cleaners (i.e. solvents such as 1, 1, 1 trichloroethane.)		X		Cottonwood MHP
Regulatory Measures	Work with Carson City Supervisors to prohibit the expanded use of septic systems within the Cottonwood MHP Wellhead protection areas (Aquifer Science Inc., 2001)			X	Cottonwood MHP
Shallow Groundwater Monitoring	Encourage expansion of shallow groundwater monitoring programs in Carson City to include sampling for pharmaceuticals/endocrine disruptors.	X			Cottonwood MHP
Shallow Groundwater Monitoring	Encourage a study be initiated to assess potential impacts of deicing chemicals on groundwater in Eagle Valley.	X			Cottonwood MHP
Spills and Complaints	Request immediate notification of spills from PCSs, State and local agencies to Cottonwood MHP.		X		Cottonwood MHP
Private Well Condition	Consider a study of domestic wells in the vicinity of Cottonwood MHP to assess any health hazards and to assure that wells are properly sealed or abandoned.		X		Cottonwood MHP
Private Well Condition	Consider collaboration with State and local officials to establish a Private Domestic Well Program to fund repairs or abandonment of residential wells.	X			Cottonwood MHP

¹**Sources:** This summary was developed from Section 5.0 of the “Wellhead Protection Program (WHPP) For Cottonwood Mobile Home Park Water System, Carson City, Nevada” (Aquifer Science Inc., April 2001) and comments provided by the Cottonwood MHP.

²**Implementation:** Actions suggested by the water system owner during development of this document (Column 3) have not been formally adopted by the Cottonwood MHP. WHP Plan actions for existing and future PCSs (Columns 4 and 5) have been previously adopted by the Cottonwood MHP for implementation. The lead responsibility for implementation of these action items is the Cottonwood MHP.