May 23, 2024 – Admin Draft

Community Source Water Protection Plan

– for –

Public Water Systems in Storey County, Nevada

Prepared by:

The Storey County Source Water Protection Local Planning Team:

Canyon General Improvement District
EP Minerals LLC Clark
Mars Petcare US Inc.
Storey County Emergency Management
Storey County Planning Department
Storey County Water District
Tahoe Reno Industrial General Improvement District
Resource Concepts, Inc., ISWPP Contractor

Executive Summary

This Community Source Water Protection Plan for the Public Water Systems in Storey County is a community-led effort which aims to identify and manage potential risks to source water (groundwater, lakes, rivers, streams, or springs). The local planning team, comprised of representatives from public water systems, local stakeholders, and local government, established non-regulatory source water protection areas (Appendix A) which aim to protect and preserve the quality of drinking water in Storey County. Within source water protection area boundaries, education, monitoring, and collaboration play vital roles in local water quality management to achieve one collective vision:

Ensure safe and sustainable drinking water for all residents and businesses.

The Nevada Division of Environmental Protection (NDEP), Bureau of Safe Drinking Water administers the Integrated Source Water Protection Program (ISWPP), a voluntary program aimed at preventing the contamination of public drinking water supplies. In 2023, the Storey County Board of Commissioners and the General Improvement District Boards within Storey County authorized participation in the program (Appendix B) and public water systems within the county collaborated to complete this community driven plan in 2024.

In Storey County, two public water systems supply drinking water to the communities of Virginia City and Lockwood, where drinking water is supplied from surface and groundwater, respectively. One public water system provides drinking water to residents in the Tahoe-Reno Industrial Center (TRI-Center), and three privately owned public water systems provide drinking water for their facilities adjacent to the TRI-Center.

Individual source water protection plans were developed for each community to address their specific objectives. The jurisdictional and county-wide approach is reflected in the Action Plans (Appendix B) and the Education Plan (Appendix C) to achieve the vision set forth by the communities of Storey County. These voluntary plans can be implemented as technical and financial resources are available and as opportunities present themselves.

Individual community source water protection plans, organized by water system, are provided as Appendix E through Appendix G. County-wide strategies for accomplishing source water protection throughout Storey County include:

- Interagency Collaboration,
- Planning and Coordination,
- Spill Response and Cleanup,
- Physical Improvements,
- Water Quality Best Management Practices,
- Education and Outreach, and
- Emerging Contaminants.

To ensure its effectiveness, it is recommended this Plan be reviewed approximately every two years or more frequently to address changing conditions. This document serves as a valuable tool to foster collaboration between water purveyors, local and regional partners, and community members, all contributing to the protection of water quality for sources of public drinking water throughout Storey County.

Table of Contents

Tables

Figures

Appendices *(Provided as Separate PDF Files)*

Appendix A	Source Water Protection Area Maps
Appendix B	Action Plan
Appendix C	Education Plan
Appendix D	Meeting Notes
Appendix E	Storey County Water District Source Water Protection Plan
Appendix F	Canyon General Improvement District Source Water Protection Plan
Appendix G	TRI General Improvement District Source Water Protection Plan

Contact the local public water system or the
Storey County Planning Department for review.

Acronyms

Acronym	Definition
GID	General Improvement District
GIS	Geographic Information System
ISWPP	Integrated Source Water Protection Program
Team	Storey County Local Planning Team
NDEP	Nevada Division of Environmental Protection
NRS	Nevada Revised Statutes
TRI	Tahoe Reno Industrial Center
U.S.	United States

Revision History

Revision Date	Description

1.0 Introduction

1.1 Source Water Protection Vision

This County-Wide Community Source Water Protection Plan (County-Wide Plan) unites Storey County's water purveyors, stakeholders, and the public in protecting and preserving the County's public drinking water supplies. It serves as a planning tool to mitigate impacts from potential sources of contamination, ensuring the sustainability of public drinking water supplies. This County-Wide Plan was created for the public water systems and residents of Storey County to ensure safe and sustainable drinking water for all residents and businesses.

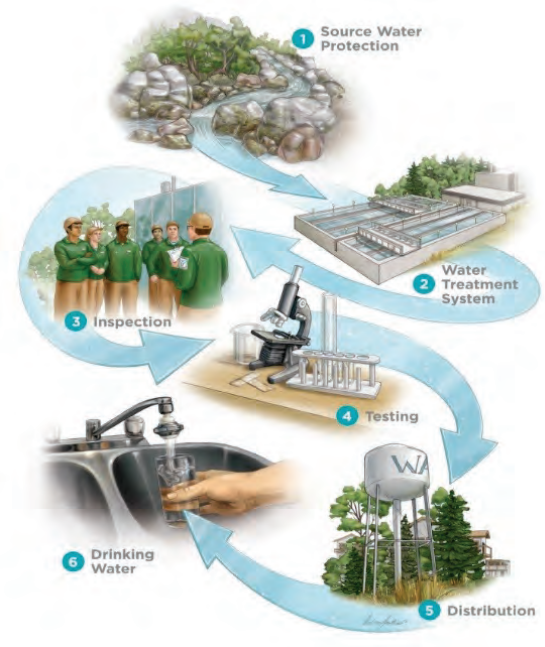
What is source water protection??

Source water protection can be considered Storey County's first line of defense to protect and preserve drinking water sources, with the goal of preventing potential contaminants from reaching water resources. Non-regulatory County-wide goals and community-driven strategies were created by the Storey County Local Planning Team (Team) to help implement source water protection throughout the County.

The Team delineated Source Water Protection Areas to establish precautionary boundaries around Storey County's drinking water sources. Source water protection areas are distinct management areas which help the County's water purveyors, stakeholders, and residents minimize the risk of potential contamination near drinking water sources. The source water protection areas in Storey County are discussed in Section 3.1 and are presented as maps in Appendix A.

1.2 Nevada's Integrated Source Water Protection Program

Source water protection in Nevada is a voluntary program aimed at building local partnerships to safeguard community drinking water sources. The Nevada Integrated Source Water Protection Program (ISWPP), established by the Nevada Division of Environmental Protection (NDEP), provides the framework for local plan development and outlines criteria for state endorsement. By obtaining state endorsement, Storey County and its public water systems may receive additional technical assistance to implement actions and county-wide education and outreach, detailed in Appendices B and C of this County-Wide Plan, respectively. This Community Source Water Protection Plan for the Public Water Systems in Storey County was developed to meet NDEP endorsement criteria.



1.3 Community Source Water Protection Plan Goals

This County-Wide Plan fosters collaboration among the water purveyors, agencies, industries, community leaders, and citizens in Storey County and represents a coordinated effort to guard source water protection areas and key local watersheds from undue degradation. The Team has established four goals to guide the development and implementation of this community-specific Plan. The goals are:

Goal 1. Protect the quality of present and future drinking water sources.

Goal 2. Preserve the quality and quantity of water resources for existing and proposed development.

Goal 3. Consider risks to drinking water sources in emergency planning.

Goal 4. Engage water users, stakeholders, and businesses about source water protection and participation.

1.4 Structure of the County-Wide Plan

The structure of this County-Wide Plan highlights the unique characteristics and diverse water system jurisdictions within Storey County. Individual source water protection plans were developed for each water system to address their specific water source and management objectives within the broader planning framework. Subsequently, a county-wide approach was used to compile an Action Plan (Appendix B) and an Education Plan (Appendix C) to achieve the goals set forth by the Team ensure coherence in county-wide planning efforts to protect and preserve water quality.

Individual community source water protection plans, organized by water system, are provided as Appendix E through Appendix G of this County-Wide Plan (Figure 1).

Appendix A
Source Water Protection Area Maps

Appendix B
Action Plans

Appendix C
Education Plan

Appendix D
Meeting Notes

Appendix E
Storey County Water District
Source Water Protection Plan

Appendix F
Canyon General Improvement District
Source Water Protection Plan

Appendix G
TRI General Improvement District
Source Water Protection Plan

Figure 1. Storey County Community Source Water Protection Plan Outline

1.5 Local Planning Team Formation

Forming a collaborative Team knowledgeable about community needs and priorities ensures community support and adoption of source water protection and this County-Wide Plan. Organized Team meetings were held to develop a plan that supports county-wide source water protection, while respecting the autonomy of each water system's jurisdiction. Regular meetings were held both virtually and in person, and agendas and materials were generally distributed at least one week ahead of time. Documentation from these meetings can be found in Appendix D of this County-Wide Plan.

The Storey County Team (Table 1) was comprised of a committed group of local representatives who worked diligently to develop a locally-driven, achievable County-Wide Plan that protects the quality of present and future drinking water sources.

Table 1. Storey County Local Planning Team

Team Member	Jurisdiction/Title	Roles
Mitch Andreini	General Manager, Canyon GID	Canyon GID operations and administration.
Kathy Canfield	Planning Manager, Storey County	Source water protection planning, land use planning, and development review.
Ozwald Henke	Technical Services Manager, TRI-GID	TRI-GID operations and administration.
Ethan Mason	ISWPP Coordinator, NDEP, Bureau of Safe Drinking Water	Plan development guidance.
Scott Peterson	Health, Safety, and Environmental Manager, Mars Pet Nutrition	Source water protection development and implementation for private water systems.
Connor Welsh	Regional Environmental Manager, US Silica	Source water protection development and implementation for private water systems.
Shari Whalen	General Manager, TRI-GID	TRI-GID water system design, operations, and source water protection implementation.
Jason Wierzbicki	Public Works Director, Storey County	Public works, wastewater treatment, stormwater, and development.
Adam Wilson	Emergency Management Director, Storey County	Emergency spill response and hazardous waste contingency plan.
Resource Concepts, Inc.	Integrated Source Water Protection Technical Assistance Contractor	Plan coordination and technical assistance.

2.0 Description of Plan Area and Source Water

2.1 Location

Storey County was founded in 1861, following the 1859 discovery of the most significant silver deposit ever found, which propelled Storey County to become a leader in technology and economic development (Storey County, 2023). Today, Storey County encompasses approximately 624 square miles of land and is bordered by Lyon County to the east, Carson City to the south, and Washoe County to the west and north (Figure 2). Storey County has a population of approximately 4,104 (U.S. Census, 2022), and Virginia City, one of two economic centers, serves as the County seat with a population of 1,000 residents (U.S. Census, 2022).

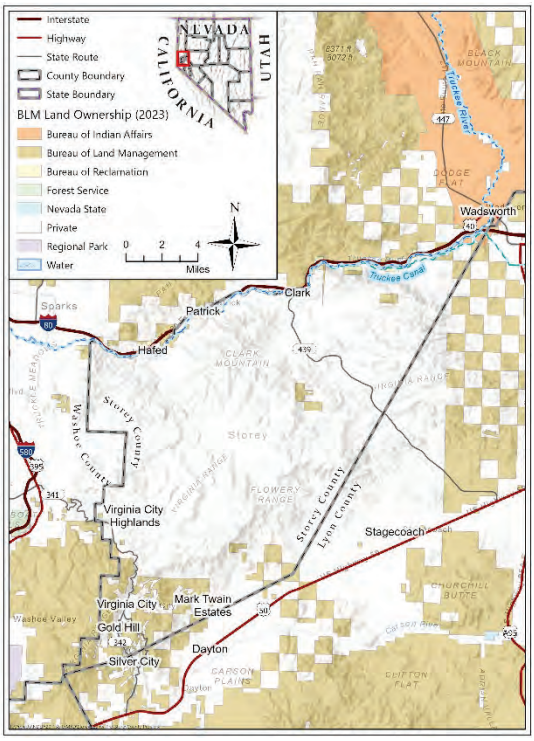


Figure 2. Storey County, Nevada

2.2 Hydrographic Setting

In Nevada, source water is untreated water originating from rivers, lakes, streams, springs, or underground aquifers, serving both public drinking water systems and private wells. Public drinking water sources in Storey County come from both surface and ground water. Public water systems that rely on groundwater in Storey County draw water from the fractured rock aquifer located in the Tracy Segment within Nevada Division of Water Resources Hydrographic Basin 6-083 (Figure 3). The Storey County Water District (serving Virginia City, Gold Hill, and Silver City in Lyon County) utilizes surface water that has been transmitted from west to east – from Marlette Lake to Hobart Dam in the Sierra Nevada mountains, then to Lakeview Summit in Carson City, continuing through Five-Mile reservoir in Washoe County before reaching the water treatment plant in Virginia City (Figure 4).

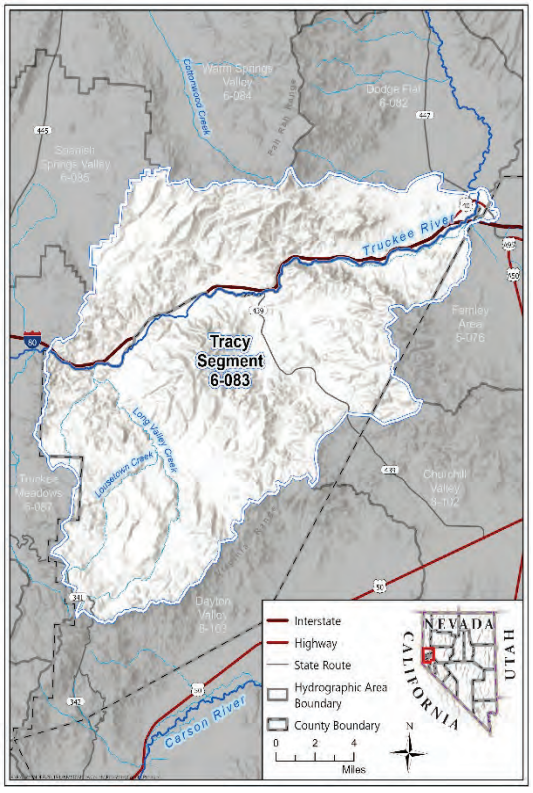
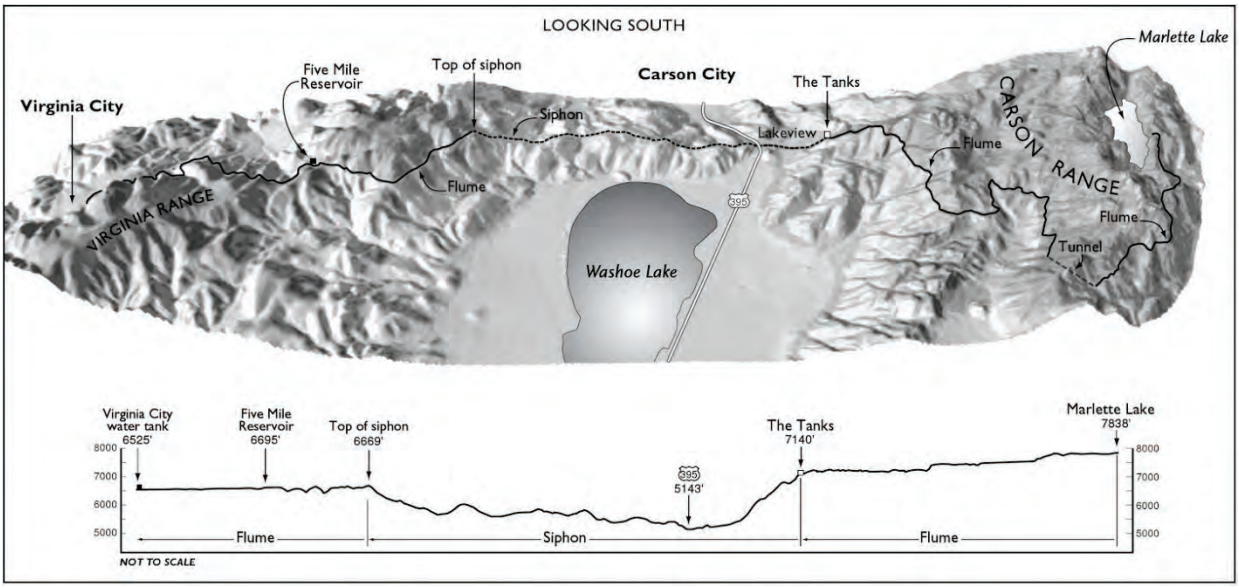


Figure 3. Tracy Segment

The residential and other private well owners in Storey County utilize groundwater from the Tracy Segment and the neighboring Dayton Valley within the Nevada Division of Water Resources Hydrographic Basin 8-103. This County-Wide Plan was developed for the public water systems in Storey County and does not include residential well owners. Nevertheless, the Team advocates for county-wide source water protection education and outreach for all residents, which can be found in Appendix C of this County-Wide Plan. Should new public water systems be formed, this County-Wide Plan will be revisited and could be updated to incorporate all new public water systems.

Figure 4. Marlette Lake Water System



Geologic and Natural History Tours in the Reno Area,
by Joseph V. Tingley, Nevada Bureau of Mines & Geology, 2005, Page 73

2.3 Public Water Systems

Nevada defines a public water system as, "a system, regardless of ownership, that provides the public with water for human consumption through pipes or other constructed conveyances…" (NRS 445A.235). During the development of this County-Wide Plan, Storey County had:

- Two (2) Community Water Systems: Has at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents… (NRS 445A.808).
  - Story County Water District and Canyon General Improvement District (Canyon GID).
- Four (4) Non-Transient Water Systems: A non-community water system that regularly serves at least 25 of the same persons for more than six months per year (NRS 445A.829).
  - TRI General Improvement District (TRI-GID), EP Minerals LLC. Clark, Mars Petcare US Inc., and Asia Union Electronic Chemicals Reno.

2.4 Public Water Source Inventory

The public water source inventory for this County-Wide Plan encompasses both active and potential future water sources. Descriptions of the public water suppliers include:

- Storey County Water District supplies potable water from Marlette Lake and wastewater treatment services to Virginia City, Gold Hill, and Silver City in Lyon County.
- Canyon GID supplies potable water and wastewater treatment services to the Lockwood community, which sits along the Truckee River and the Interstate 80 corridor.
- The Tahoe-Reno Industrial Center (TRI-Center) is a pre-zoned industrial park encompassing approximately 70,000 acres of existing development and land use designation with a total land

ownership of 107,000 acres (Storey County, 2023). TRI-GID provides potable water, reclaimed water, and wastewater services exclusively to its commercial and industrial customers in the TRI-Center (TRI GID, 2023).

- One of the Non-Transient Non-Community water systems is located in the TRI-GID service area and the other two border the TRI-GID service area.

Details regarding the well networks and water source jurisdictions are outlined in Table 2. Further well network and water system specifics are available in the individual public water system community source water protection plans provided as Appendix E through Appendix G of this County-Wide Plan.

Table 2. Storey County Public Water Systems

Water System Name and Number	Water Source	Type	Population Served	Communities Served
Storey County Water District: NV0000240	Five-Mile Reservoir via Marlette Lake	Community	1,420	Virginia City, Gold Hill, and Silver City
Canyon GID: NV0005056	2 Wells	Community	1,310	Lockwood
Tri-GID: NV0000913	9 Wells 2 Drill Pads	Non-Transient Non-Community	13,361	Tahoe Reno Industrial Center
Asia Union Electronic Chemicals Reno: NV0000879	1 Well	Non-Transient Non-Community	25	Asia Union Electronic Chemicals Reno
EP Minerals LLC Clark: NV0003075	1 Well	Non-Transient Non-Community	50	EP Minerals, Clark Plant
Mars Petcare US Inc.: NV0000878	1 Well	Non-Transient Non-Community	140	Mars Petcare, Waltham Way

2.5 Existing Plans and Studies

In arid Nevada, strategic water planning is vital, and numerous studies and planning initiatives already support source water protection in Storey County. The Team was thoughtful to make certain that the Community Source Water Protection Plan Goals directly align with county-wide goals, objectives, and policies to ensure safe and sustainable drinking water for all residents and businesses. The Storey County plans that support source water protection are highlighted below:

Storey County Hazard Mitigation Plan (2015)

Goal 4: Reduce the possibility of damage and losses due to flood and flash flood.

Goal 6: Reduce the threat to life, new and existing property and infrastructure, and natural resources due to catastrophic wildfires.

Water Resource Plan Storey County (2023)

Resource Management Strategies

Conveyance – Regional/Local: Improvement and maintenance of water conveyance system reliability, protect water quality, increase available water supplies, and provide operational flexibility.

Storey County Master Plan (2016)

Chapter 3, Goal 2: Create and maintain livable and sustainable communities.

Objective 5: To ensure safe and sustainable water resources for each community and natural ecosystem in the county.

Chapter 4, Policy 15-3: Support a coordinated effort to protect wellhead protection areas and municipal watersheds from undue degradation through proactive zoning and development controls, pursuant to Storey County ordinances.

Chapter 4, Policy 18-3: Encourage and support the development of policy and regulation that will: *Prevent the environmental degradation of public lands, air, water, wildlife, and vegetation.*

Chapter 9, Goal 1: Protect public health by complying with all state and federal water regulations.

Policy 2: By requiring new planned unit developments and land subdivisions to connect into municipal water systems or have densities which cause no adverse impact on area underground water resources.

Water Resource Plan Storey County (2023)

Section 3.3 Contamination: "focuses on protection of source water quality, which is also of importance to private well owners, and ensuring that negative impacts to water quality from anthropogenic and natural sources are minimized to the greatest extent possible."

Storey County Master Plan (2016)

Chapter 10, Goal 5: Ensure that present and future county residents have an adequate water supply meeting safe drinking water standards.

Chapter 10, Goal 6: Protect the quality of present and future water resources.

Objective 1: Refuse special use permitting of industries which cannot guarantee the quality of effluent produced by their activity. Require users of toxic or hazardous materials to provide monitoring capabilities to assure protection from surface and groundwater contamination.

3.0 Plan Development

The development of this County-Wide Plan was a collaborative and iterative process. Plan development focused on potential risks to water sources and the creation of actionable strategies within source water protection areas to craft a meaningful and implementable plan tailored for Storey County and its residents. The County-Wide Plan differentiates its approach based on varying demographics, jurisdictions, and source water types—groundwater vs. surface water—and tailors plan implementation accordingly (Appendix B and Appendix C of this County-Wide Plan, respectively).

Individual Plans are provided as Appendix E through Appendix H of this County-Wide Plan, and the following sections provide a general outline of Plan components.

3.1 Source Water Protection Areas

Source water protection involves managing human activities to prevent contaminants from entering drinking water sources. Source water protection areas are designated boundaries established by communities to safeguard the quality of their drinking water sources. Within source water protection areas, education, monitoring, and land use planning play vital roles in comprehensive water resource management.

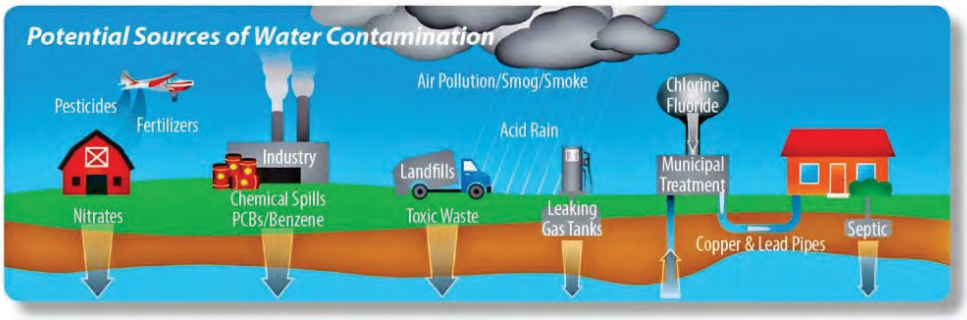
The delineation of source water protection areas in this County-Wide Plan was informed by hydrogeological information, time-of-travel capture zones, watershed boundaries, potential contaminant source inventories, and Team input. Through mapping exercises, the Team identified suitable source water protection areas that align with the goals established in Section 1.3.

The final source water protection area maps for each water system are provided as Appendix A of this County-Wide Plan. They serve as a planning tool to help protect the quality of present and future drinking water sources. Delineation methods are detailed in the jurisdictional Source Water Protection Plans as Appendices E through G of this County-Wide Plan.

3.2 Potential Contaminant Source Inventory

Human activities that lead to the contamination of drinking water sources typically originate from urban, industrial, and agricultural endeavors (see Figure 5). Potential sources of contaminants encompass both current and prospective activities with the capacity to discharge pollutants into the environment. Should these activities release contaminants that seep into ground or surface water, they could jeopardize a community's drinking water source.

Figure 5. Potential Sources of Contamination



Each water system identified potential sources of drinking water pollution in their jurisdiction by cataloging activities near drinking water sources. Methods for collecting data included publicly available digital databases and mapping, field verified windshield surveys, and interviews with water system operators. Using a Geographic Information System (GIS) based inventory, activities within each community that potentially pose a risk to source water quality were organized, analyzed, and presented to the Team for review. Potential contaminant source inventories and evaluations specific to each water system are included in Appendices E through G of this County-Wide Plan.

3.3 Source Water Protection Management Strategies

The source water protection management strategies detailed within this County-Wide Plan consider the source water protection area delineations, the inventory and evaluation of potential sources of contamination, and the adaptation to community change and future growth. Crafted for straightforward implementation, the management strategies, described in Table 3, were prioritized by the Team to mitigate the risk of contamination to drinking water sources in Storey County. The management strategies are comprehensive in scope and will be enacted through Action Plan implementation (Appendix B of this County-Wide Plan).

3.4 Contingency Planning

A contingency plan is essential for equipping a community to handle potential long-term contamination events or disruptions in the quality or quantity of its source water. The primary aim of such a plan is to safeguard the community's public water supply system both immediately and over time. This involves the pre-identification of critical personnel, testing apparatus, procedures, and materials essential for addressing or mitigating environmental incidents that pose an emergency to the water supply. Within Storey County, there are numerous existing plans providing protocols for rapid response, notification processes, and containment strategies for incidents with the potential to affect the source water supply directly.

Existing Plans

- Emergency Response Plans
- Capital Improvement Plans
- Water Resource Plans
- Cross Connection Control Plans

Moreover, the Nevada Administrative Code mandates the formulation of both short- and long-term contingency plans to manage impacts on water quality and quantity effectively. The strategies outlined in these plans are intended to offer interim relief to public water systems facing emergencies, bridging the gap until long-term solutions are put in place. Details of local and regional contingency plans are specific to each water system and are included in Appendices E through G of this County-Wide Plan.

Table 3. Management Strategies

Interagency Collaboration	The cornerstone of effective source water protection and supports comprehensive management of source water. Can lead to the development of a unified approach to water resource management throughout the region that will work to protect the quality of present and future drinking water supplies.
Planning and Coordination	Supports consistency in county-wide policies that consider future growth and potential new threats to water quality to preserve the quality and quantity of water sources for existing and proposed development.
Spill Response and Cleanup	Essential for maintaining protection measures and works to ensure that emergency actions are well-coordinated and that resources are mobilized promptly to protect water quality and public health.
Physical Improvements	Directly enhances the safety and quality of water resources through infrastructure improvements that can work to improve stormwater runoff, erosion and sediment control, and aquifer recharge.
Water Quality Best Management Practices	Proactive protection of source water, which includes practical and effective methods to prevent ground and surface water contamination.
Education and Outreach	Source water protection can only thrive when the community embraces the mission. Empowerment through knowledge gives the residents of Storey County the tools they need to advocate for and implement the innovative local solutions and community-driven actions that protect their most important resource, their drinking water.
Emerging Contaminants	Emerging contaminants represent a significant concern for source water due to the potential impacts on human health and the environment. Storey County is ready to support its water systems as they implement solutions to address emerging contaminants and protect public health to ensure safe and sustainable drinking water for all residents and businesses.

4.0 Action Plan

4.1 Source Water Protection Plan Implementation

The formulation and implementation of an Action Plan is a critical component to outline the steps needed to achieve the goals. As outlined in Appendix B, the actions were identified by each public water system and categorized according to management strategy. These projects were selected through careful evaluation of various factors, including potential contaminant sources, regional cooperation, education and outreach considerations, and hazard mitigation efforts. Each project has a description, prioritization, designated lead, type of required support, and projected timeline for execution.

Coordinate with the Storey County Planning and Building Departments about future development projects' compatibility with Canyon GID's identified source water protection areas.

Canyon GID, 2024 Action Plan

Consider adding source water protection signage around Five Mile Reservoir and the Store County Water Treatment Plant. For example, post source water protection signage on fences surrounding the water sources.

Storey County Water District, 2024 Action Plan

The realization of each Action Plan is contingent upon the availability of resources, prioritization of projects, and access to necessary funding. Projects will progress as financial and temporal resources permit. To achieve these ends, the Team anticipates leveraging technical and financial support through diverse grant opportunities and partnerships. This strategic approach not only facilitates the successful implementation of each Action Plan but also enhances community engagement and resource optimization in source water protection efforts. Information regarding potential funding avenues to support these initiatives is listed in Appendix B of this County-Wide Plan.

Continue to support Storey County Emergency Management by attending the Local Emergency Planning Committee meetings. Consider discussing source water protection education as it pertains to the TRI-Center.

TRI-GID, 2024 Action Plan

4.2 Community Source Water Protection Plan Updates

This County-Wide Plan was crafted with flexibility and community engagement at its core, inviting stakeholders to actively participate in safeguarding their water sources. The inspiration behind creating the Community Source Water Protection Plan for Public Water Systems in Storey County stems from a deep-seated desire to unite the community around a vision to *ensure safe and sustainable drinking water for all residents and businesses*. This County-Wide Plan establishes achievable goals and strategies that seamlessly blend source water protection into local and county-wide planning efforts. Regular updates to the County-Wide Plan are vital to keep the Team's vision relevant and actionable for decision-makers, and will be tracked in the Revision History Table on Page iv. These updates are a testament to Storey County's commitment to a sustainable water future.

5.0 Public Participation

In keeping with the intention that source water protection is a community effort, this County-Wide Plan was developed to engage water users, stakeholders, and businesses about source water protection. In August, November, and December 2023, and April 2024, an overview of Nevada's Integrated Source Water Protection Program was introduced to the TRI-GID Board, the Canyon GID Board, Storey County Board of County Commissioners, and the Storey County Planning Commission. Each Board submitted a letter to NDEP requesting participation in the program and committed to providing a liaison to facilitate coordination and active involvement.

The Team, made up of dedicated individuals who care deeply about the welfare of Storey County's communities, has been instrumental in outlining how they might bring the Vision to life. The spirit of cooperation and mutual learning was especially evident as the Team developed their Education Plan (Appendix C of this County-Wide Plan).

The Education Plan contains the steps to achieve a broad public education strategy. Its goal is not only to foster widespread support for source water protection but also to empower every community member with the knowledge and tools to contribute to safeguarding their most valuable resource: their drinking water. County-wide source water protection outreach efforts ensure that everyone, from water providers to stakeholders, to water users and businesses, understands the vital role they play in protecting the quality of present and future drinking water sources.

Why is it important for us to protect drinking water at the source?

Both surface and groundwater can be polluted by various human activities and natural occurrences. Once the source of drinking water becomes polluted, it becomes extremely costly and difficult to clean. You have the power to support your water system operators as they implement strategic safeguards to avoid or control contamination threats and incidents that may pollute your drinking water.

How can industrial businesses participate in Source Water Protection?

By actively participating in source water protection efforts, industrial businesses can demonstrate environmental stewardship, enhance corporate social responsibility, and contribute to the long-term sustainability of water resources for present and future generations.

What can I do to protect my drinking water?

Protecting your drinking water from contamination is a huge challenge. Safeguarding your drinking water sources begins with awareness and education. We can take everything we've learned home with us, educate our friends and families, and change our behaviors to minimize our impact on our water resources.

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Appendices

(Provided as Separate PDF Files)

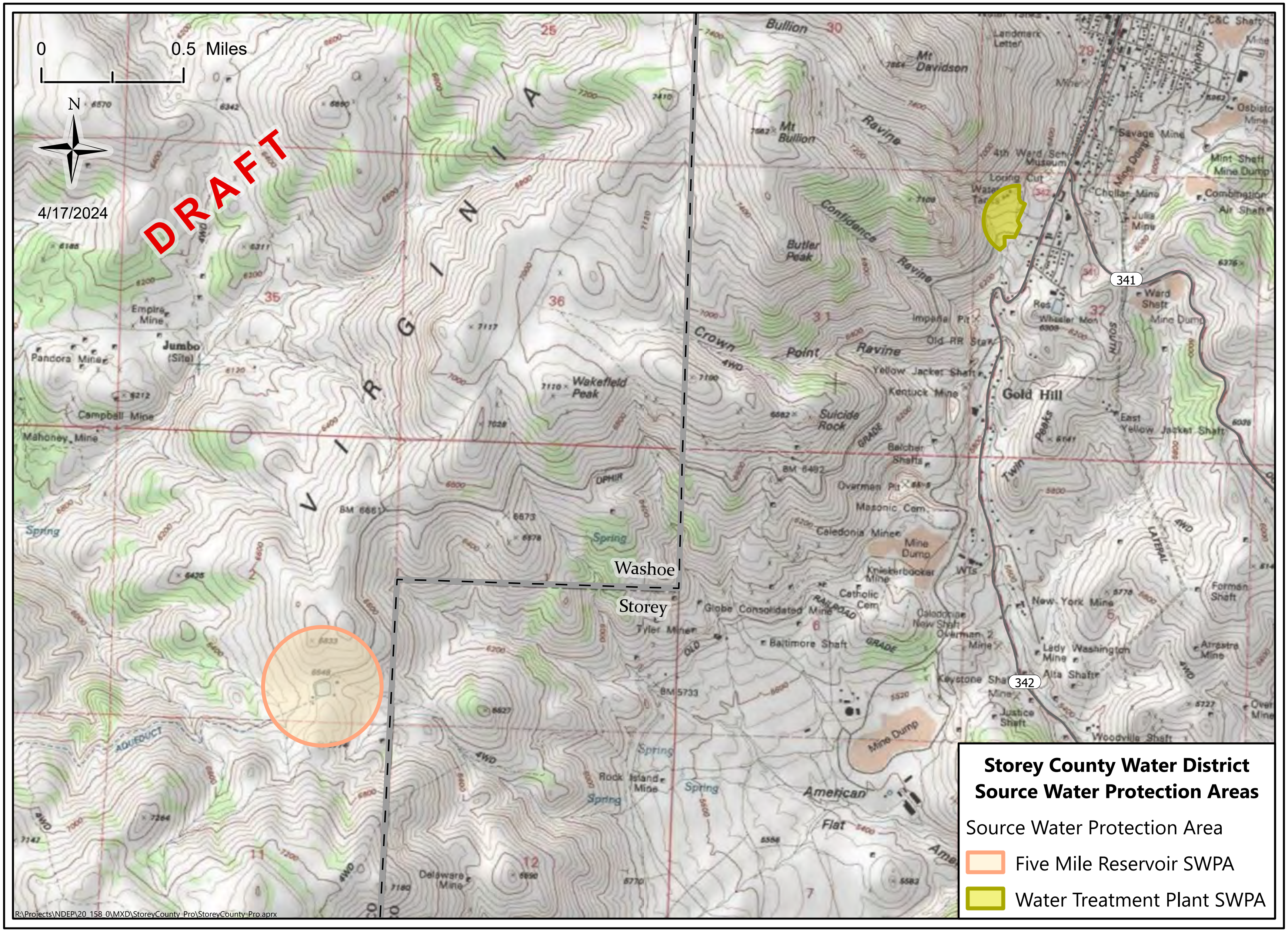
Appendix A. Source Water Protection Area Maps
Appendix B. Action Plan
Appendix C. Education Plan
Appendix D. Meeting Materials
Appendix E. Storey County Water District Source Water Protection Plan
Appendix F. Canyon General Improvement District Source Water Protection Plan
Appendix G. TRI-General Improvement District Source Water Protection Plan

Appendix A

Source Water Protection Area Maps

Appendix A
SWPA Maps

Storey County Water District
Source Water Protection Areas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Storey County Water District
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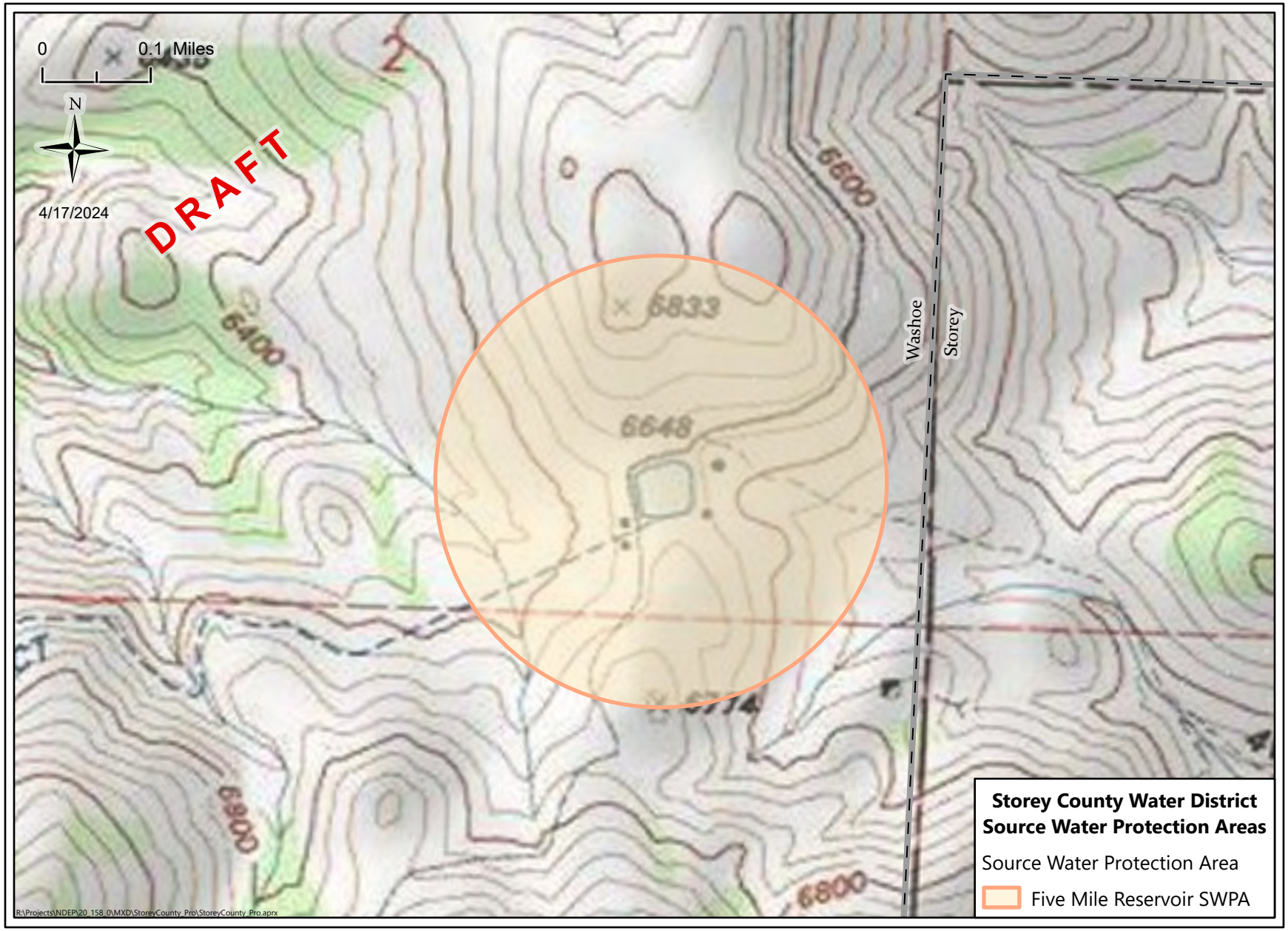
Water Treatment Plant SWPA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Source Water Protection Areas
Source Water Protection Area
Five Mile Reservoir SWPA
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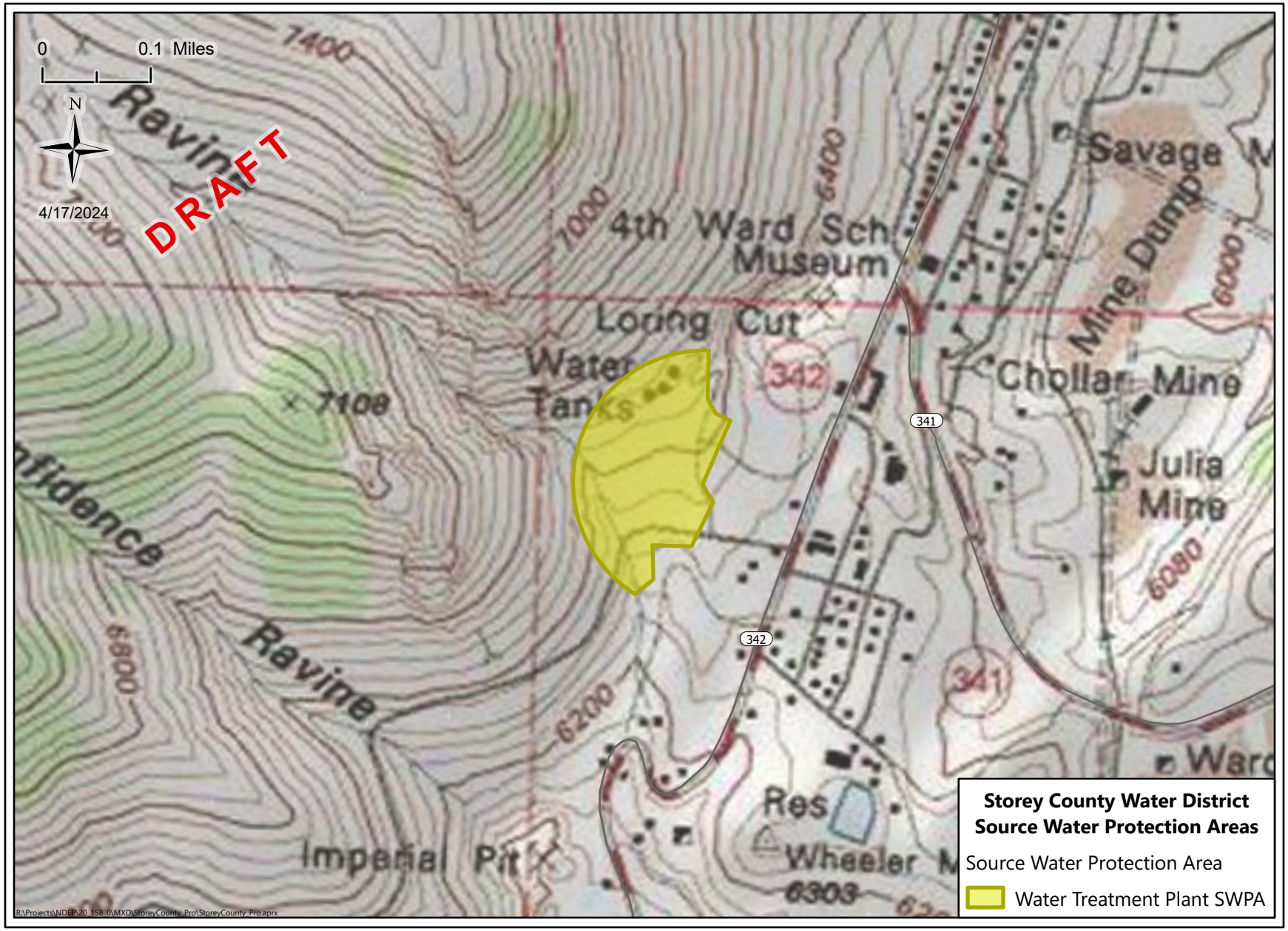
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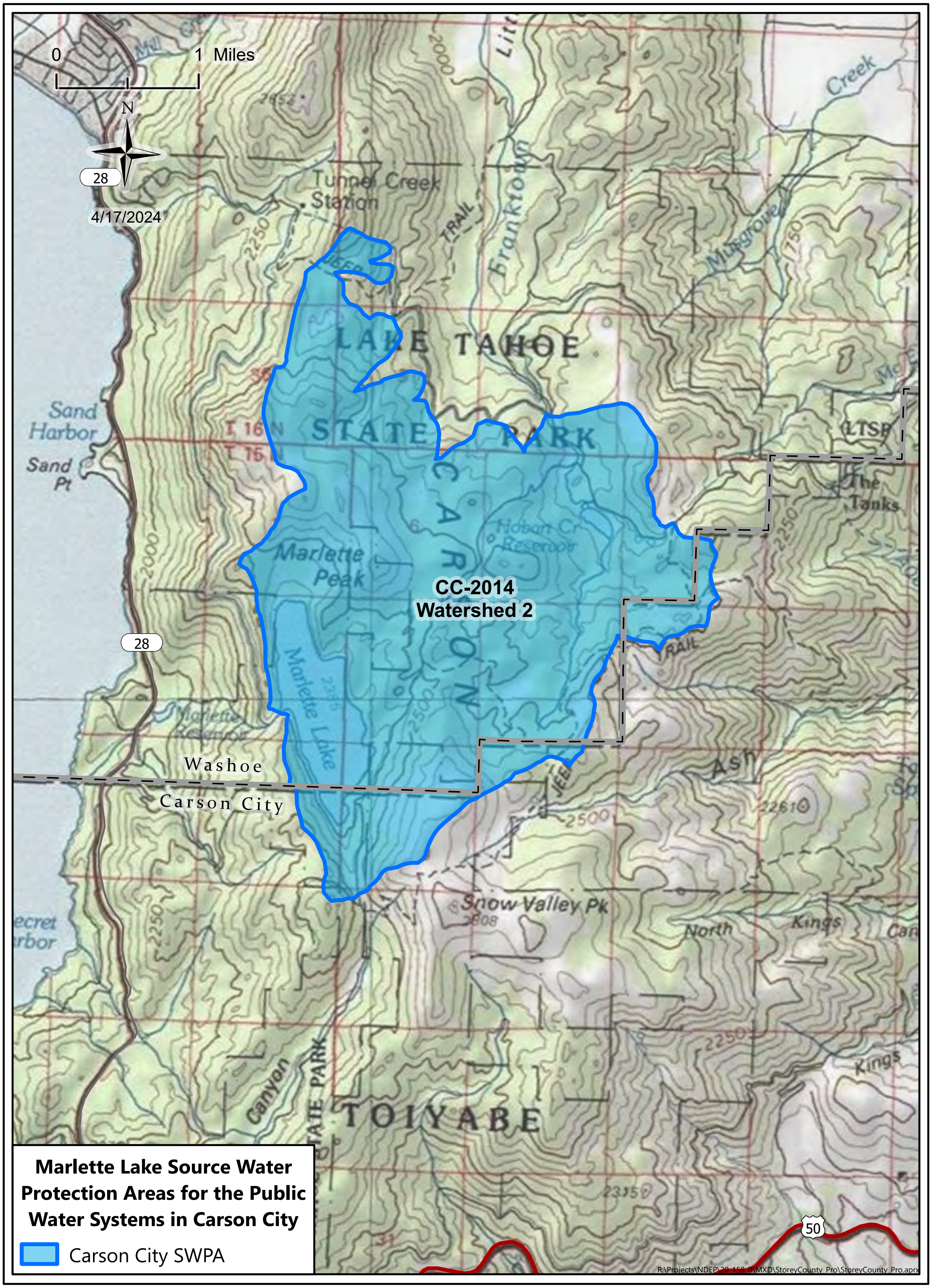
Museum
Loring Cut
Water Tanks
342
341
Savage
Mine Dump
Chollar Mine
Julia Mine
Ravine
Ravine
Imperial Pit
Res
Wheeler
6303
Storey County Water District
Source Water Protection Areas
Source Water Protection Area
Water Treatment Plant SWPA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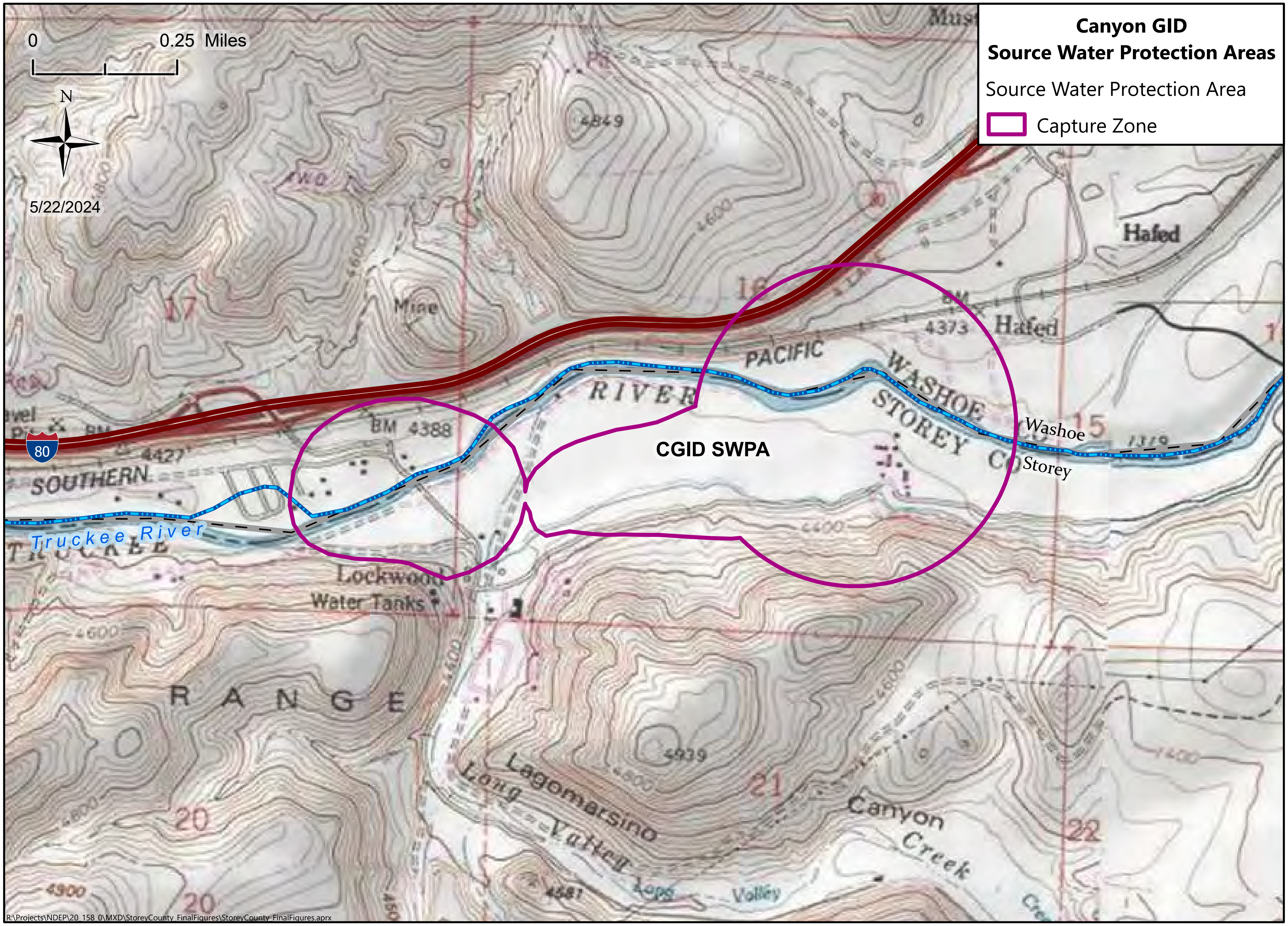
Watershed 2
Washoe
Carson City
Marlette Lake Source Water Protection Areas for the Public Water Systems in Carson City
Carson City SWPA
LAKE TAHOE
STATE PARK
TOIYABE
Marlette Peak
Marlette Lake
Snow Valley Pk
Sand Harbor
Tunnel Creek Station
The Tanks

Appendix A
SWPA Maps

Canyon General Improvement District
Source Water Protection Areas


Canyon GID
Source Water Protection Areas
Source Water Protection Area
Capture Zone
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5/22/2024
CGID SWPA
Truckee River
RIVER
PACIFIC
SOUTHERN
WASHOE
STOREY CO
Washoe
Storey
Hafed
Mine
BM 4388
4373
Lockwood
Water Tanks
RANGE
Lagomarsino
Long Valley
Canyon Creek
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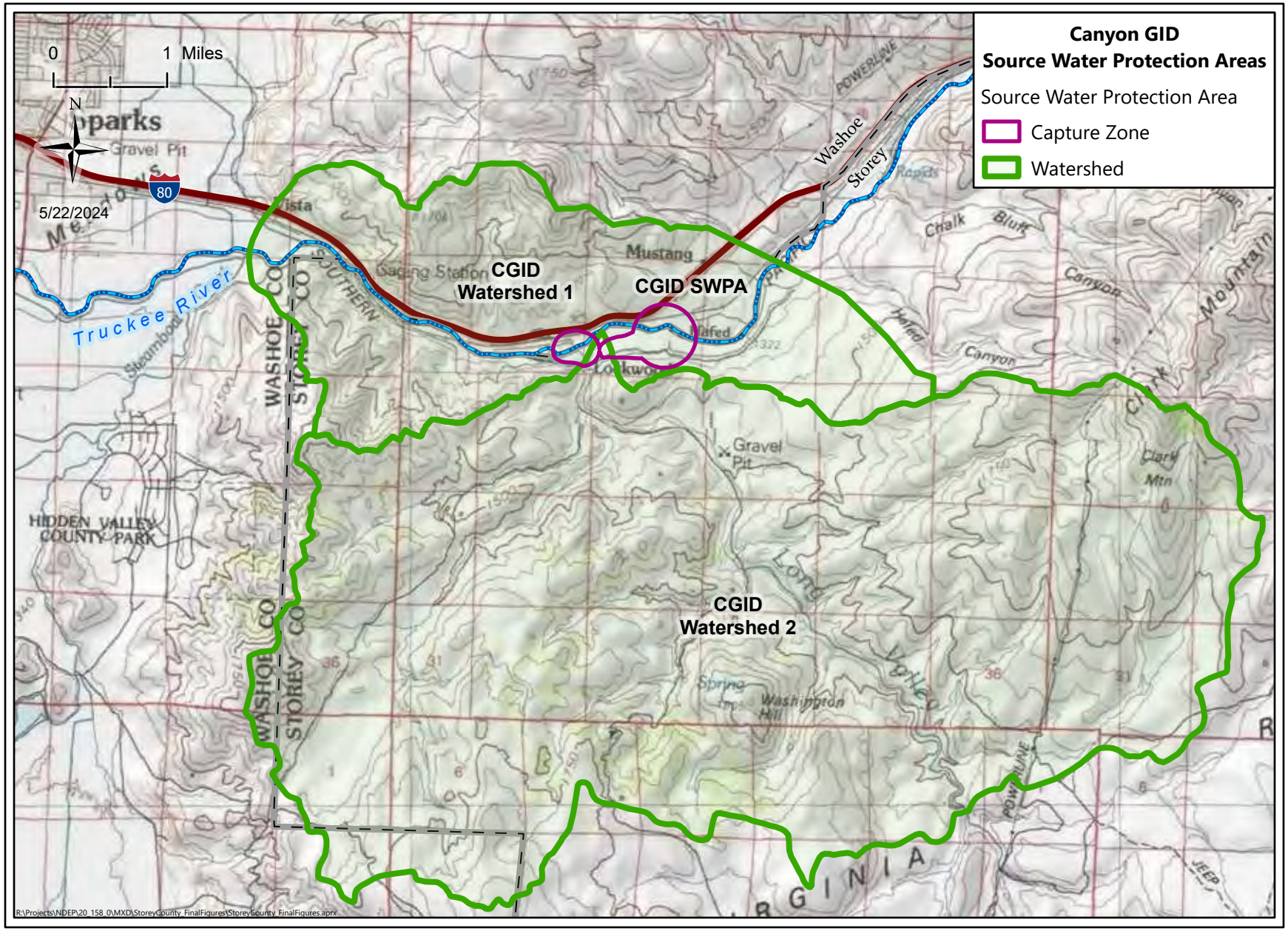
Canyon GID
Source Water Protection Areas
Source Water Protection Area
Capture Zone
Watershed
0
1 Miles
N
5/22/2024
CGID
Watershed 1
CGID SWPA
CGID
Watershed 2
Truckee River
Steamboat
Mustang
Gravel Pit
HIDDEN VALLEY
COUNTY PARK
WASHOE CO
STOREY CO
Washoe
Storey
Chalk Bluff
Canyon
Clark Mtn
Mountain
Long Valley
Washington Hill
POWERLINE
JEEP
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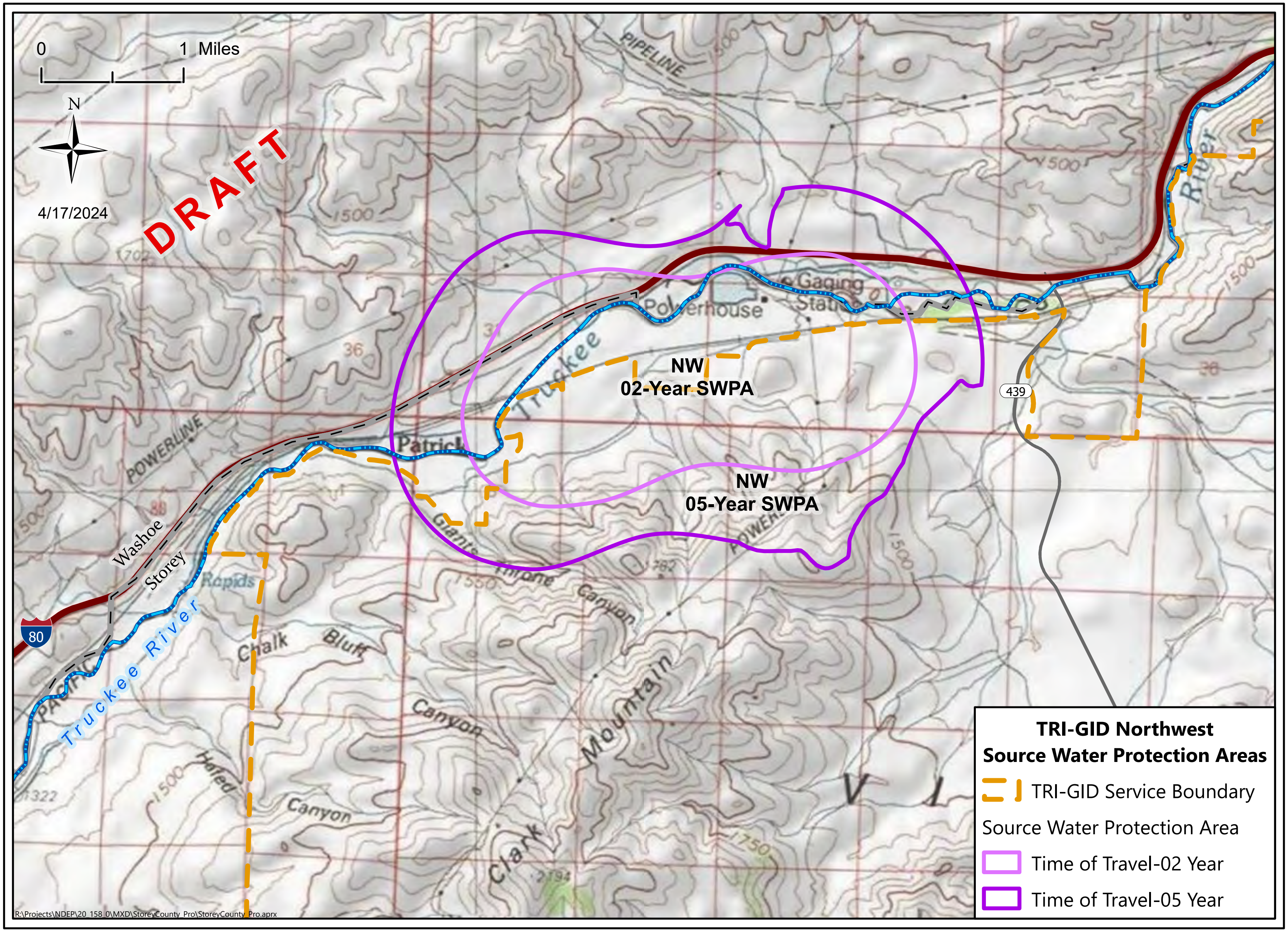
Appendix A
SWPA Maps

TRI General Improvement District
Source Water Protection Areas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1 Miles
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DRAFT
NW
02-Year SWPA
NW
05-Year SWPA
Truckee River
Truckee
River
Powerhouse
Gaging Station
Patrick
Washoe
Storey
Rapids
Chalk Bluff
Canyon
Clark Mountain
Giants Throne Canyon
PIPELINE
POWERLINE
80
439
TRI-GID Northwest
Source Water Protection Areas
TRI-GID Service Boundary
Source Water Protection Area
Time of Travel-02 Year
Time of Travel-05 Year
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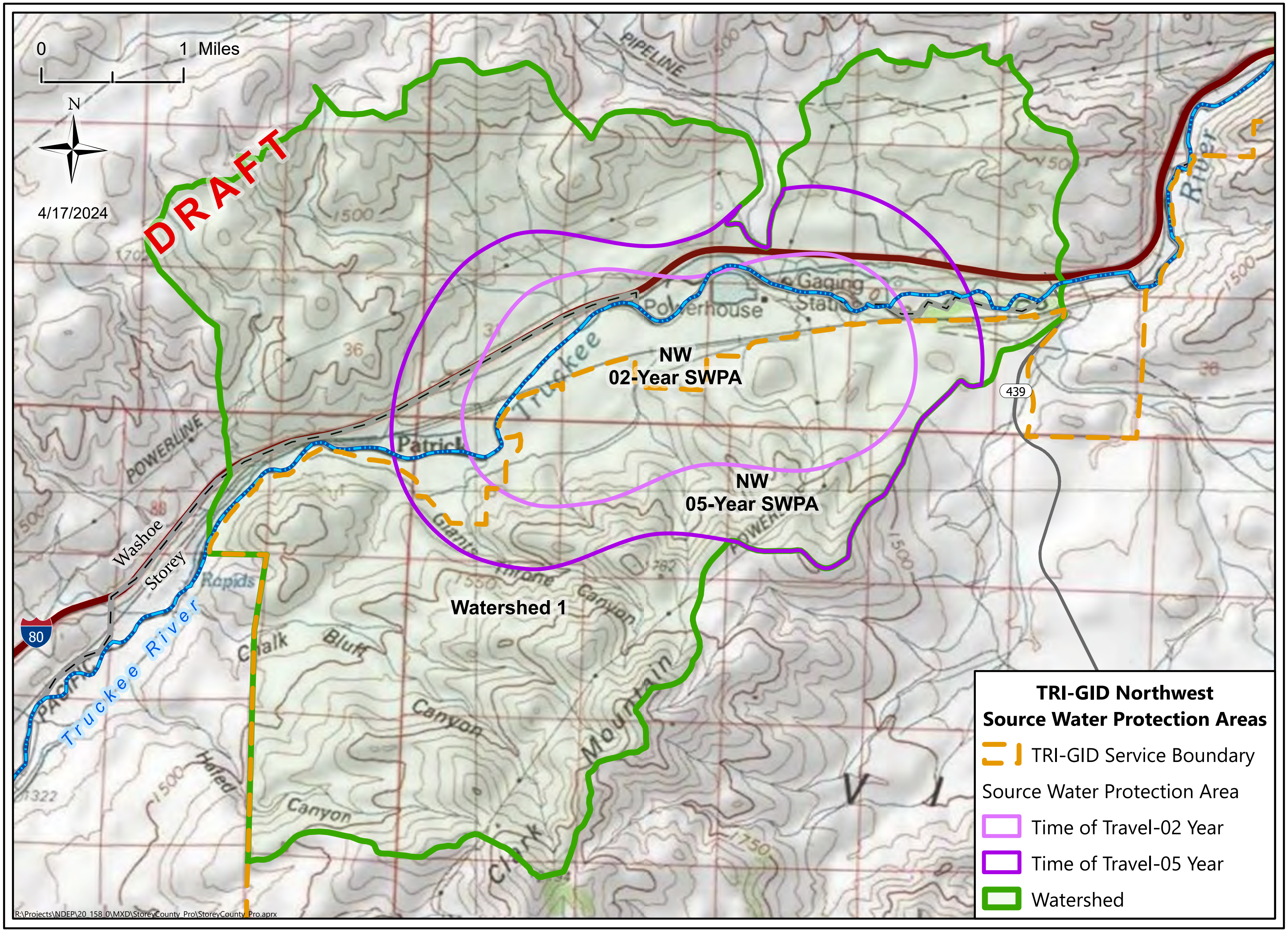
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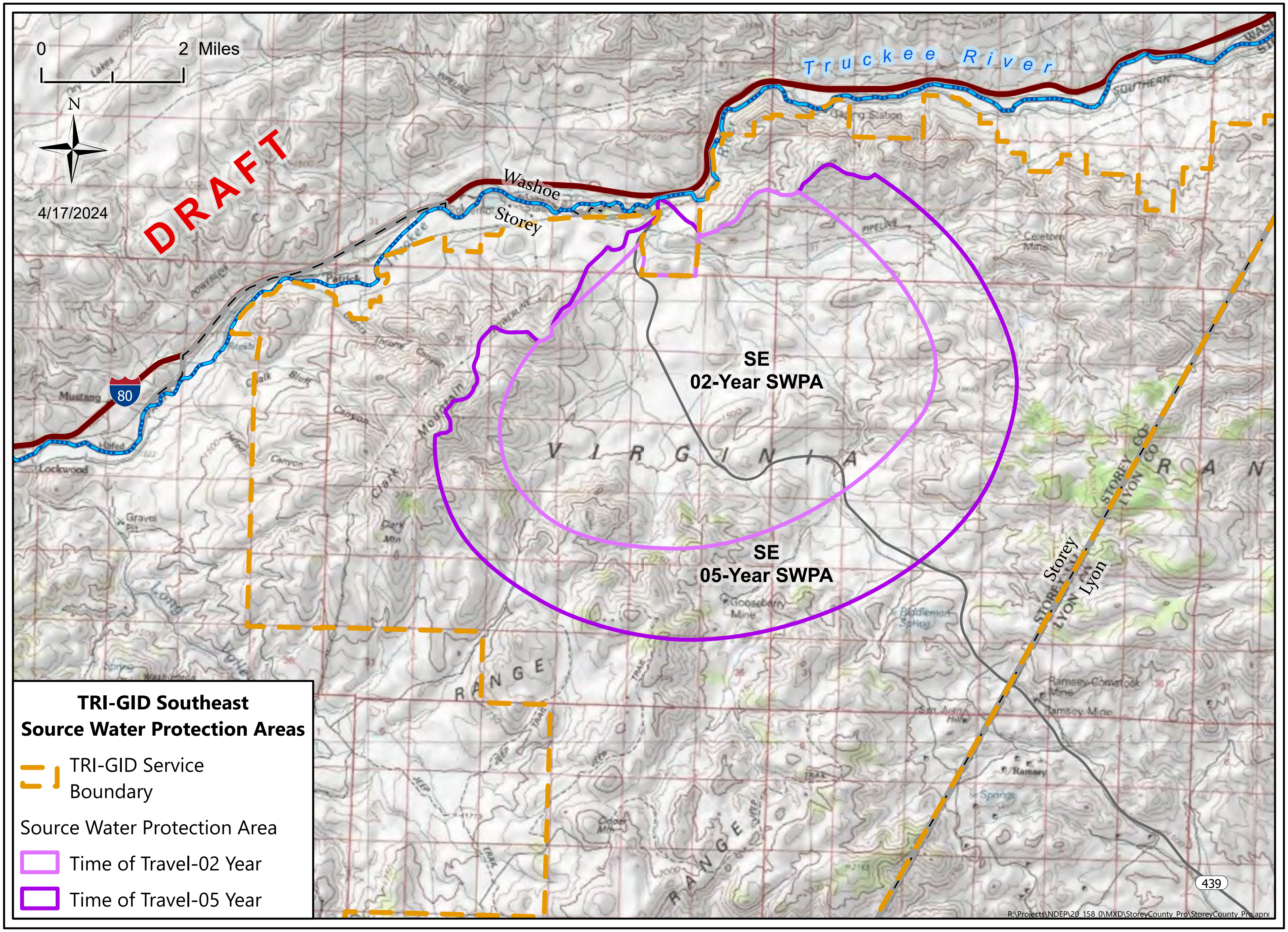
4/17/2024
DRAFT
NW
02-Year SWPA
NW
05-Year SWPA
Watershed 1
Truckee River
Washoe
Storey
439
80
TRI-GID Northwest
Source Water Protection Areas
TRI-GID Service Boundary
Source Water Protection Area
Time of Travel-02 Year
Time of Travel-05 Year
Watershed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2 Miles
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4/17/2024
DRAFT
Truckee River
Washoe
Storey
80
Mustang
Lockwood
SE
02-Year SWPA
SE
05-Year SWPA
V I R G I N I A
R A N
RANGE
RANGE
Storey
Lyon
STOREY CO
LYON CO
439
TRI-GID Southeast
Source Water Protection Areas
TRI-GID Service Boundary
Source Water Protection Area
Time of Travel-02 Year
Time of Travel-05 Year
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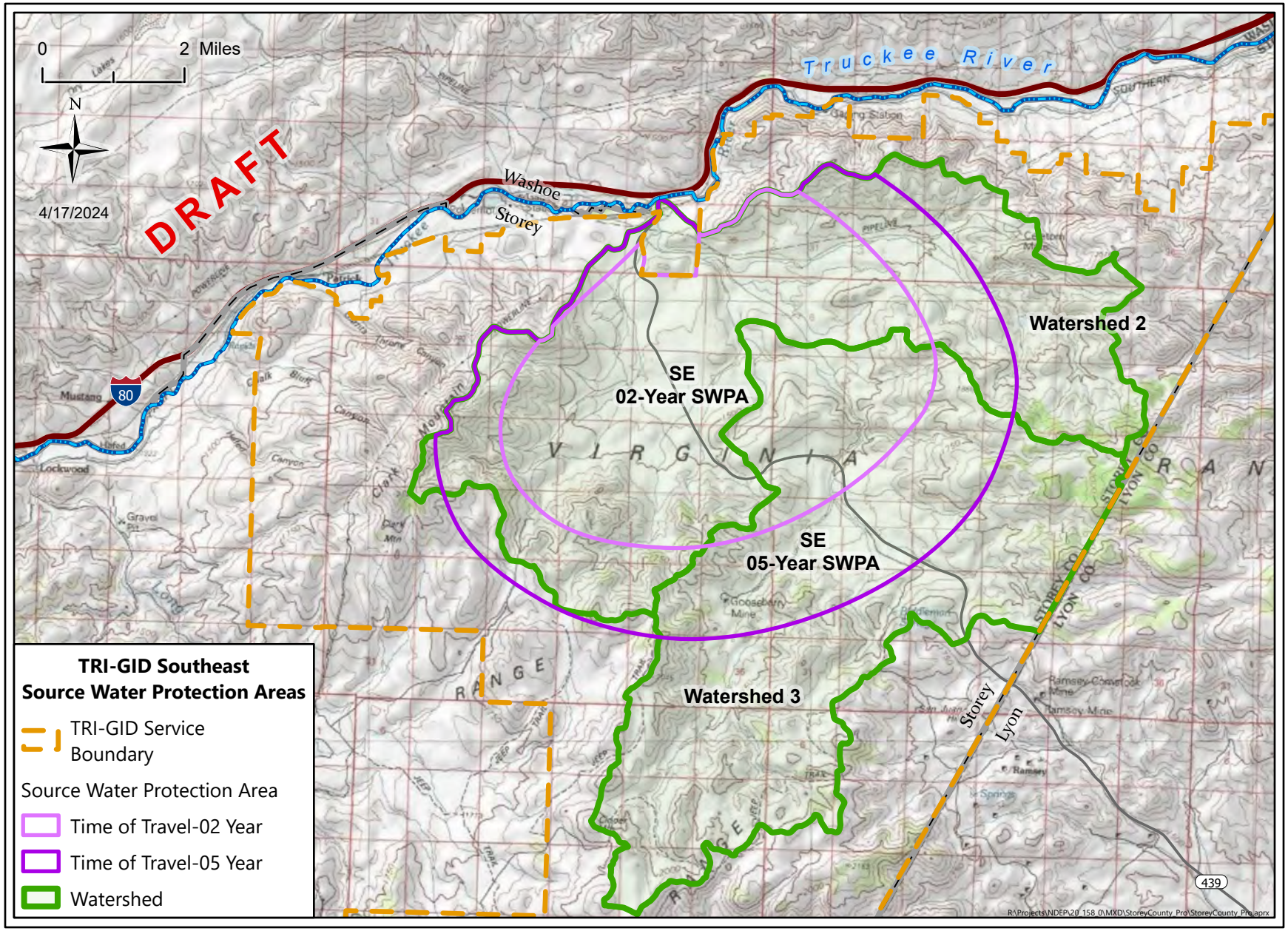
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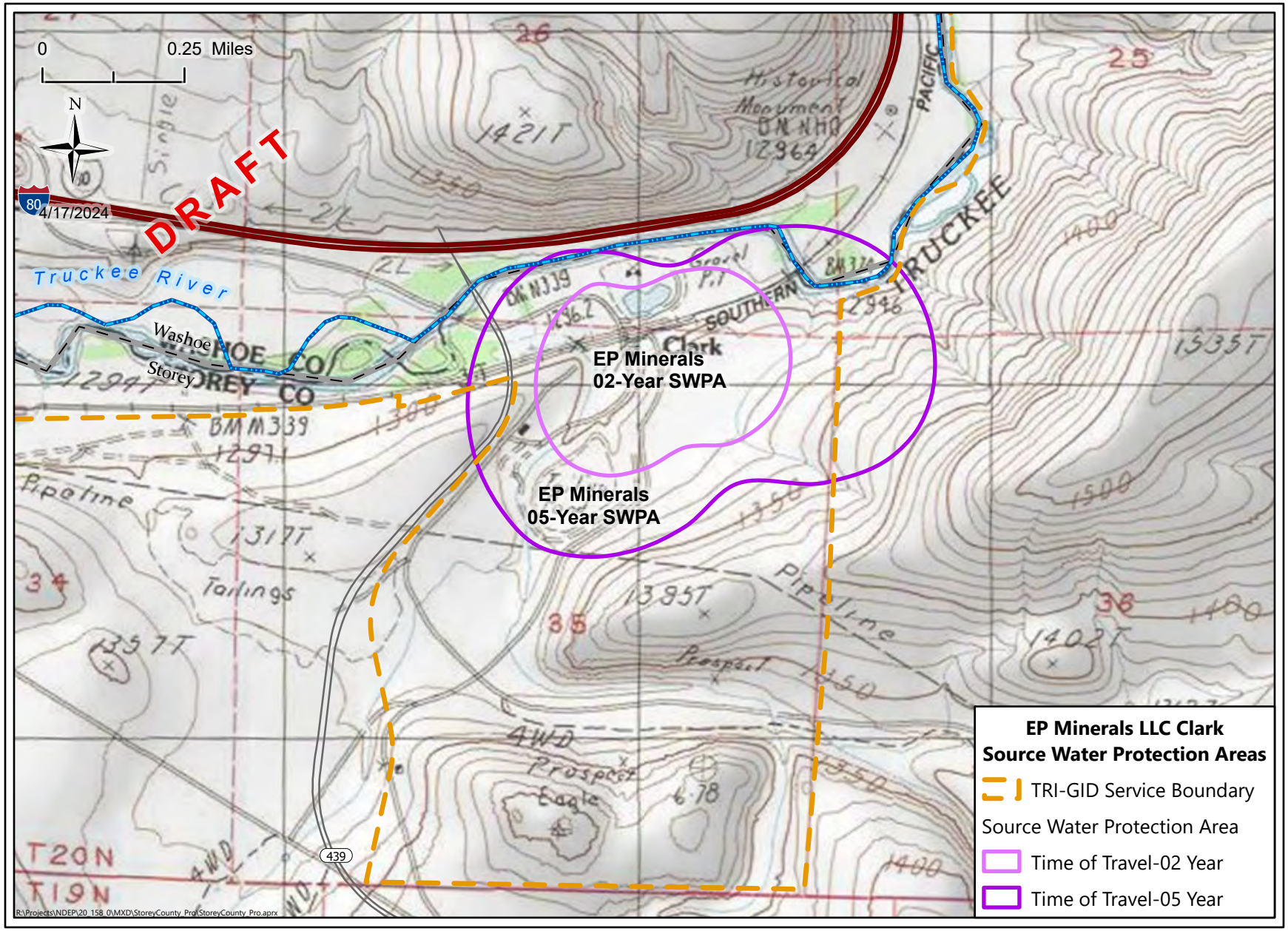
DRAFT
Truckee River
Washoe
Storey
Watershed 2
SE
02-Year SWPA
SE
05-Year SWPA
Watershed 3
V I R G I N I A
R A N
RANGE
Mustang
Lockwood
80
Storey
Lyon
439
TRI-GID Southeast
Source Water Protection Areas
TRI-GID Service Boundary
Source Water Protection Area
Time of Travel-02 Year
Time of Travel-05 Year
Watershed

Appendix A
SWPA Maps

EP Minerals LLC Clark
Source Water Protection Areas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DRAFT
4/17/2024
Truckee River
Washoe CO
Storey CO
EP Minerals
02-Year SWPA
EP Minerals
05-Year SWPA
Historical Movement
Pipeline
Tailings
Prospect
4WD
Eagle
SOUTHERN PACIFIC
TRUCKEE
T20N
T19N
439
EP Minerals LLC Clark
Source Water Protection Areas
TRI-GID Service Boundary
Source Water Protection Area
Time of Travel-02 Year
Time of Travel-05 Year

Appendix B

Action Plan

Acronyms

Acronym	Definition
BLM	Bureau of Land Management
BMPs	Best Management Practices
CGID	Canyon General Improvement District
CSWP Plan	Community Source Water Protection Plan
ESRI	Environmental Systems Research Institute
FEMA	Federal Emergency Management Agency
ISWPP	Integrated Source Water Protection Program
IT	information technology
LID	low impact development
NDEP	Nevada Division of Environmental Protection
NRWA	National Rural Water Association
PCSs	potential contaminant sources
PUD	Public Utilities District
PWS	public water system
SCWD	Storey County Water District
STEM	science, technology, engineering and math
SWPAs	source water protection areas
Team	Storey County Local Planning Team
TRI-GID	TRI General Improvement District
USGS	United States Geological Survey

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The formulation and implementation of an Action Plan is a critical component to outline the steps needed to achieve the goals of a community source water protection plan. Nevada's Integrated Source Water Protection Program is a voluntary, non-regulatory program administered through the Division of Environmental Protection's Bureau of Safe Drinking Water. The Program provides the framework for local plan development, and once endorsed, will support implementation of actions that were designed by the community to protect and preserve their most valuable resource; their drinking water.

These voluntary, non-regulatory Action Plans were developed by each community to help achieve the goals of the Community Source Water Protection Plan for Public Water Systems in Storey County (County-Wide Plan). The management strategies (Section 3.3 of this County-Wide Plan) were designed by the Storey County Local Planning Team (Team) to support the source water protection goals. The actions represent how the goals and management strategies could be implemented by each community. Storey County has shown tremendous support for source water and wellhead protection, as evidenced by their existing plans (Section 2.5 of this County-Wide Plan) which outline several goals, policies, and objectives aimed at protecting and preserving water quality for all of Storey County's residents and businesses. Several actions were designed by the Team to work within Storey County's existing planning framework to protect the quality of present and future drinking water sources.

Each community thoughtfully created manageable actions with real world applications that are reasonable to implement. The Action Plans are separated by water system jurisdiction, and actions are organized by management strategy. Actions are not listed in the order of priority. Instead, the actions are grouped by strategy type, such as Education and Outreach.

The Action Plans evolved throughout the development of the County-Wide Plan. Each action includes a description, priority and cost, project lead, type of assistance needed, and expected implementation year. Implementation is dependent upon resource availability and the actions will be implemented as funding and time allows. Potential funding sources can be used to assist in Action Plan implementation. The Team benefits from building relationships and leveraging resources with various entities, including each other. A list of potential funding sources is outlined below.

Funding Agency	Program Name
Bureau of Reclamation	• WaterSMART Program • Water Conservation Field Services Program • Small Storage Program • Water Operations
Environmental Protection Agency (EPA)	• Advancing Public Health Protection through Water Infrastructure Sustainability • Water Infrastructure Financing Innovation Act • Pollution Prevention Grant Program • Water Infrastructure Improvements for the Nation • Funding Integration Tool for Source Water - FITS
United States Department of Agriculture (USDA)	• Water and Waste Disposal Loan & Grant Program • Circuit Rider Program • SEARCH – Special Evaluation Assistance for Rural Communities and Households • Community Facilities Loan and Grant Program • Emergency Water Assistance Grants
Federal Emergency Management Agency (FEMA)	• Flood Mitigation Assistance
State of Nevada	• AB 198 Grants • Clean Water State Revolving Fund • Drinking Water State Revolving Fund • Drinking Water State Revolving Fund for Emerging Contaminants • State Water Infrastructure Financing and Innovation Act • CWA 319 NPS Grants • ISWPP Implementation Grants • Bipartisan Infrastructure Law assistance for Small and Disadvantaged Communities • Emerging Contaminants/Small or Disadvantaged Communities Grant
United States Geological Survey (USGS)	• CFDA 15.981 Water Use and Data Research • CFDA 15.980 National Groundwater Monitoring Network

	Community Source Water Protection – County-Wide Action Plan					
Action Item	**Management Strategy**	**Action Description**	**Priority**	**Project Lead**	**Type of Assistance Needed**	**Expected Implementation Year**
2.1.CO	*Planning and Coordination*	Develop and continue participation in a source water protection team.	High Staff Time	Storey County Emergency Management	Technical Assistance	Ongoing
2.2.CO	*Planning and Coordination*	Consider working on the exchange and maintenance of map layer updates between Storey County, TRI General Improvement District (TRI-GID), and Canyon GID (CGID). For example, a shared Environmental Systems Research Institute viewer could include the most current Source Water Protection Areas, well locations, prospective developments, and potential contaminant sources.	High Staff Time	Storey County, CGID and TRI-GID	Technical Assistance	2024 and Ongoing
2.3.CO	*Planning and Coordination*	Ensure that source water protection is incorporated into County-Wide planning documents. For example, include the Community Source Water Protection Plan for Public Water Systems in Storey County by reference in updates to the Hazard Mitigation Plan, the Storey County Master Plan, and the Water Resources Plan.	High Staff Time	Storey County Emergency Management and Planning Department	Technical Assistance	Ongoing
2.4.CO	**Planning and Coordination*	Continue to support measures which promote practices that prevent the degradation of groundwater quality, such as those outlined in Chapter 9, Goal 7 of the Storey County Master Plan.	Low Staff Time	Storey County Planning Department	Technical Assistance	Ongoing
2.5.CO	**Planning and Coordination*	Continue to encourage source water protection by implementing Chapter 3, Goal 2, Objective 5 of the Storey County Master Plan. Support coordinated efforts to ensure safe and sustainable water resources for each community and natural ecosystem in Storey County.	High Staff Time	Storey County Planning Department	Technical Assistance	Ongoing
2.6.CO	**Planning and Coordination*	Promote the coordinated effort to protect wellhead protection areas and municipal watersheds from undue degradation through proactive zoning and development controls, pursuant to Storey County ordinances (Chapter 4, Policy 15-3, Storey County Master Plan). For example, expand wellhead protection area language to include source water protection areas in updates to the Storey County Master Plan.	High Staff Time	Storey County Community Development Department	Technical Assistance	Ongoing
3.1.CO	*Spill Response and Cleanup*	Consider incorporating source water protection education as a bi-annual topic at Local Emergency Planning Committee meetings and consider discussing emerging contaminants.	Medium Staff Time	Storey County Emergency Management	Technical Assistance	2024 and Ongoing
3.2.CO	*Spill Response and Cleanup*	Continue to improve coordination with Storey County Emergency Management, NDEP, the TRI-Center industrial facilities, and the public water systems on spill response and cleanup. For example, develop a working group to establish spill response and notification protocols within source water protection areas.	High Staff Time	Storey County and TRI-GID	Technical Assistance	2025 and Ongoing

	Community Source Water Protection – County-Wide Action Plan					
Action Item	**Management Strategy**	**Action Description**	**Priority**	**Project Lead**	**Type of Assistance Needed**	**Expected Implementation Year**
5.1.CO	*Water Quality Best Management Practices*	Encourage residents to employ water quality best management practices to protect ground and surface water. For example, consider including a link to Nevada's Best Management Practices Handbook – Online Toolbox on the Storey County website. https://ndep.nv.gov/water/rivers-streams-lakes/bmp-nv-bmp-handbook#BEST%20MANAGEMENT%20PRACTICES%20TOOL%20BOX	Medium Staff Time	Storey County Planning Department	Technical Assistance	2025
6.1.CO	*Education and Outreach*	Consider working with property owners to promote proper septic tank and residential well maintenance as it relates to source water protection. For example, host an informational booth/presentation at community events, such as National Night Out, or homeowner's association meetings.	High Staff Time	Storey County Community Development Department	Technical Assistance	2024 and Ongoing
6.2.CO	*Education and Outreach*	Expand information and support public education and outreach about proper disposal of chemicals, pharmaceuticals, and household hazardous materials. For example, develop and distribute informational flyers for disposal of household hazardous materials in Storey County.	Medium Staff Time	Storey County Emergency Management	Technical Assistance	2024 and Ongoing
6.3.CO	*Education and Outreach*	Broaden community public education and outreach by producing and distributing source water protection and conservation pamphlets and outreach materials. For example, include topics such as septic system and residential well care and maintenance.	High Staff Time	Storey County Community Development Department	Technical Assistance	2024 and Ongoing
6.4.CO	*Education and Outreach*	Promote source water protection on the Storey County website. For example, provide a link to the Community Source Water Protection Plan for Public Water Systems in Storey County.	Low Staff Time	Storey County Planning Department	Technical Assistance	2025 and Ongoing
7.1.CO	*Emerging Contaminants*	Coordinate with NDEP on the availability of, and eligibility for, funding to address emerging contaminants.	Medium Staff Time	Storey County Water District and Storey County Emergency Management	Technical Assistance	Ongoing
7.2.CO	*Emerging Contaminants*	Promote community-wide education about emerging contaminants. For example, develop door hangers to distribute to residential communities.	High Staff Time	Storey County Water District and Storey County Emergency Management	Technical Assistance	2024-2026
7.3.CO	*Emerging Contaminants*	Consider attending a State-wide working group focused on emerging contaminant education for public water systems and their operators.	High Staff Time	Storey County Water District and Storey County Emergency Management	Technical Assistance	2024-2026

	Community Source Water Protection – Storey County Water District Action Plan					
Action Item	**Management Strategy**	**Action Description**	**Priority**	**Project Lead**	**Type of Assistance Needed**	**Expected Implementation Year**
1.1.SCWD	*Interagency Collaboration*	Continue to improve communication and collaboration with State Buildings and Grounds to protect and preserve the quality of water delivered from the Watershed 2 Carson City Source Water Protection Area.	High Staff Time	Storey County Water District	Technical Assistance	2024-2026
2.1.SCWD	*Planning and Coordination*	Develop a GIS-based potential contaminant source inventory near Storey County Water District facilities and interests.	High Staff Time	Storey County Water District	Technical Assistance	2024-2026
2.2.SCWD	*Planning and Coordination*	Continue participation in a source water protection team.	High Staff Time	Storey County Water District	Technical Assistance	Ongoing
3.1.SCWD	*Spill Response and Cleanup*	Continue to support Storey County Emergency Management by attending the Local Emergency Planning Committee meetings. Consider participating in source water protection education as a bi-annual topic and consider discussing emerging contaminants.	Medium Staff Time	Storey County Water District	Technical Assistance	2024 and Ongoing
4.1.SCWD	*Physical Improvements*	Explore funding for physical improvements related to source water security. For example, consider installing a camera system similar to the Water Treatment Plant cameras at Five Mile Reservoir and at water storage tanks to deter vandalism or terrorism.	High	Storey County Water District	Technical Assistance	2023-2025
5.1.SCWD	*Education and Outreach*	Consider adding source water protection signage around Five Mile Reservoir and the Storey County Water Treatment Plant. For example, post Source Water Protection Area signage on all sides of the fences surrounding the water sources.	High	Storey County Water District	Technical Assistance	2024-2026
5.2.SCWD	*Education and Outreach*	Consider adding source water protection signage on the fencing around the water storage tanks throughout Virgina City and the surrounding communities (Gold Hill and Silver City).	High	Storey County Water District	Technical Assistance	2024-2026
6.1.SCWD	*Emerging Contaminants*	Coordinate with NDEP on the availability of, and eligibility for, funding to address emerging contaminants.	High Staff Time	Storey County Water District	Technical Assistance	Ongoing
6.2.SCWD	*Emerging Contaminants*	Promote community-wide education about emerging contaminants. For example, develop pamphlets to insert in water bills and door hangers to distribute to residential communities.	Medium Staff Time	Storey County Water District	Technical Assistance	2024-2026
6.3.SCWD	*Emerging Contaminants*	Consider attending a State-wide working group focused on emerging contaminant education for public water systems and their operators.	High Staff Time	Storey County Water District	Technical Assistance	2024-2026
6.4.SCWD	*Emerging Contaminants*	Secure funding and distribute water quality testing kits for residents.	High Staff Time	Storey County Water District	Technical Assistance	2024-2026

	Community Source Water Protection – Canyon General Improvement District Action Plan					
Action Item	**Management Strategy**	**Action Description**	**Priority**	**Project Partners**	**Type of Assistance Needed**	**Expected Implementation Year**
1.1.CGID	*Planning and Coordination*	Coordinate with the Storey County Planning and Building Departments about future development projects' compatibility with CGID's identified Source Water Protection Areas. ***Identified in the CGID 2004 WHPP***	Low	CGID, Storey County Planning Dept. and Community Development/Building Dept.	Technical Assistance	On-going
1.2.CGID	*Planning and Coordination*	Work with the County Planning Department to acknowledge CGID's Community Source Water Protection Plan in the Storey County Master Plan and encourage county-wide ordinances that support source water protection goals. ***Identified in the CGID 2004 WHPP***	High	CGID, Storey County Planning Dept.	Technical Assistance	On-going
1.3.CGID	*Planning and Coordination*	Coordinate with Storey County and other regional partners to address recommendations provided by the 2011 Comprehensive Flood Control Plan and other relevant local plans to mitigate flood risk in the Lockwood community. ***Identified in the CGID 2004 WHPP***	High	CGID, Storey County Emergency Management Dept., ISWPP	Technical Assistance, Coordination Assistance	Completed: Storey County includes the community of Lockwood in their overall flood zone planning.
2.1.CGID	*Spill Response and Cleanup*	Coordinate with Storey County and other agencies to assist with updates to and implementation of the Storey County Hazard Mitigation Plan. ***Identified in the CGID 2004 WHPP***	Moderate	CGID, Storey County Emergency Management Dept.	Technical Assistance	On-going
2.2.CGID	*Spill Response and Cleanup*	Communicate with the railroad, pipeline, NDOT, regional upstream entities, and county emergency managers to participate in a spill response and cleanup coordinated effort. ***Identified in the CGID 2004 WHPP***	Moderate	CGID, Local Planning Team, Storey County Emergency Management Dept., ISWPP	Technical Assistance, Coordination Assistance	On-going
3.1.CGID	*Physical Improvements*	Add fencing or guard posts and signage around wellheads to improve security. ***Identified in the CGID 2004 WHPP***	Moderate	CGID	Technical Assistance, Funding Assistance	Completed
3.2.CGID	*Physical Improvements*	Explore funding options for wastewater treatment and disposal infrastructure improvements.	Moderate	CGID	Technical Assistance	On-going
4.1.CGID	*Education and Outreach*	Provide private well owners with information about well maintenance and steps for proper plugging and abandonment procedures. ***Identified in the CGID 2004 WHPP***	Low	CGID	Technical Assistance for Informational Pamphlets	As Needed

	Community Source Water Protection – Canyon General Improvement District Action Plan					
Action Item	**Management Strategy**	**Action Description**	**Priority**	**Project Partners**	**Type of Assistance Needed**	**Expected Implementation Year**
4.2.CGID	*Education and Outreach*	Provide the public with flyers and website materials that discuss source water protection information, such as household hazardous waste and other drinking water concerns. ***Identified in the CGID 2004 WHPP***	High	CGID	Technical Assistance for Education Materials	Completed: Included with all new customers applications plus CGID Newsletter.
4.3.CGID	*Education and Outreach*	Educate homeowners located in potential flood zones about flood risk and hazardous household waste contamination. ***Identified in the CGID 2004 WHPP***	Low	CGID	Technical Assistance for Educational Materials	Completed: Storey County has been successful in potential flood zone planning for Lockwood.
4.4.CGID	*Education and Outreach*	Provide information to local businesses about Source Water Protection Areas and the proper disposal of hazardous waste. ***Identified in the CGID 2004 WHPP***	Low	CGID	Technical Assistance for Informational Pamphlets	Completed: Included with all new commercial customers as well as CGID Newsletter.
4.5.CGID	*Emerging Contaminants*	Engage the public about source water protection efforts made by CGID and how they can participate in protecting their drinking water resources.	Moderate	CGID	Technical Assistance for Education Materials	On-going with CGID Board meetings and CGID Newsletter.
5.1.CGID	*Emerging Contaminants*	Provide the public with flyers and website materials that discuss source water protection information, such as emerging contaminants.	High	CGID	Technical Assistance for Educational Materials	SWPP to be added to CGID websites.
5.2.CGID	*Emerging Contaminants*	Continue water quality sampling to test for emerging contaminants.	High	CGID	Technical Assistance, Funding Assistance	On-going and notifications from NDEP.
5.3.CGID	*Emerging Contaminants*	Coordinate with NDEP on the availability of, and eligibility for, funding to address emerging contaminants.	High	CGID, ISWPP	Technical Assistance	On-going
5.4.CGID	*Emerging Contaminants*	Consider coordinating with Washoe County on developing an inventory of facilities that use, manufacture, or distribute products with emerging contaminants upstream of the Tracy Segment of the Truckee River. As more water districts test for emerging contaminates, CGID is interested in sharing best practices.	Low	CGID, Local Planning Team, ISWPP	Technical Assistance, Coordination Assistance	On-going

	Community Source Water Protection – Canyon General Improvement District Action Plan					
Action Item	**Management Strategy**	**Action Description**	**Priority**	**Project Partners**	**Type of Assistance Needed**	**Expected Implementation Year**
Implemented	*Emerging Contaminants*	Consider applying for state programs that fund testing for emerging contaminants.	High	CGID, ISWPP	Technical Assistance	Ongoing
Implemented	*Water Quality Best Management Practices*	Update CGID's Community Source Water Protection Plan on a regular basis including an inventory of potential contaminant sources. ***Identified in the CGID 2004 WHPP***	High	CGID, ISWPP	Technical Assistance	Ongoing
Implemented	*Physical Improvements*	Keep an updated maintenance log of activities and improvements that impact source water protection. ***Identified in the CGID 2004 WHPP***	High	CGID		Ongoing
Implemented	*Interagency Collaboration*	Develop and continue participation in a source water protection team. ***Identified in the CGID 2004 WHPP***	High	CGID, Local Planning Team	Coordination Assistance	Ongoing
Implemented	*Spill Response and Cleanup*	Visually inspect Source Water Protection Areas for surface spills at least every six months. ***Identified in the CGID 2004 WHPP***	High	CGID		Ongoing
Implemented	*Education and Outreach*	Provide the public with up-to-date information about CGID's drinking water quality. ***Identified in the CGID 2004 WHPP***	High	CGID		Ongoing: CGID Newsletter, Consumer Confidence Reports. Results reported to CGID Board.
Implemented	*Physical Improvements*	Modification of existing flood infrastructure (i.e. culverts, storm drains, channels, etc.) ***Identified in the CGID 2004 WHPP***	Moderate	CGID, Storey County Community Development/Building Dept. and Planning Dept.	Technical Assistance, Financial Assistance	Ongoing

	Community Source Water Protection – Canyon General Improvement District Action Plan					
Action Item	**Management Strategy**	**Action Description**	**Priority**	**Project Partners**	**Type of Assistance Needed**	**Expected Implementation Year**
Implemented	*Physical Improvements*	Reinforcement or development of floodwater catchment and transport areas. ***Identified in the CGID 2004 WHPP***	High	CGID, Storey County Planning Dept. and Emergency Management Dept.	Technical Assistance	Ongoing: Long Valley Creek (Cerese St.) has a new bridge that replaced a dual culvert-type bridge that has proven to reduce high water flooding events in the Lockwood Community. JUB Engineering is currently evaluating this issue with Storey County.

	Community Source Water Protection – TRI-GID Action Plan					
Action Item	**Management Strategy**	**Action Description**	**Priority**	**Project Lead**	**Type of Assistance Needed**	**Expected Implementation Year**
1.1.TRI	*Interagency Collaboration*	Explore and participate in regional programs dedicated to increasing the care of the Truckee River corridor through focused education, outreach, and development of partnerships.	Low	TRI-GID	Technical Assistance	2025 and Ongoing
2.1.TRI	*Planning and Coordination*	Consider a notification process with Storey County Planning to help TRI-GID highlight any concerns about new potential contaminants near drinking water sources without creating delay in the development review process. For example, new stormwater infiltration basins, or exterior chemical storage within a specific source water protection area or certain radius of a well.	High	TRI-GID	Technical Assistance	2025 and Ongoing
2.2.TRI	*Planning and Coordination*	Review and update the TRI-GID Source Water Protection Plan as needed to include new information regarding source water locations, potential contaminant sources, future hydrogeologic studies, and recycled water as source water.	High	Tri-GID	Technical Assistance	Ongoing
2.3.TRI	*Planning and Coordination*	Refine the GIS-based potential contaminant source and TRI-Center facility inventory as needed.	High	TRI-GID	Technical Assistance	2024 and Ongoing
2.4.TRI	*Planning and Coordination*	Work with Storey County to reduce non-point source water pollution in the TRI-Center. For example, participate in the development of solutions to address illegal dumping in 2-year or Watershed Source Water Protection Areas.	High	TRI-GID	Technical Assistance	2025-2026
2.5.TRI	*Planning and Coordination*	Include source water protection and water quality considerations during TRI-GID routine review of civil engineering plans in the TRI-Center. For example, review stormwater infiltration/detention near drinking water sources, and from parking lots, loading areas, and exterior chemical storage and handling areas, etc.	High	TRI-GID	Technical Assistance	2025-2026
2.6.TRI	*Planning and Coordination*	Continue participation in a source water protection team.	High	TRI-GID	Technical Assistance	2025-2026
3.1.TRI	*Spill Response and Cleanup*	Work with Storey County Emergency Management to develop an inventory of facilities with chemicals stored on site in the TRI-Center.	High	TRI-GID	Technical Assistance	2025-2026

	Community Source Water Protection – TRI-GID Action Plan					
Action Item	**Management Strategy**	**Action Description**	**Priority**	**Project Lead**	**Type of Assistance Needed**	**Expected Implementation Year**
3.2.TRI	*Spill Response and Cleanup*	Continue to support Storey County Emergency Management by attending the Local Emergency Planning Committee meetings. Consider discussing source water protection education as it pertains to the TRI-Center.	Low	TRI-GID	Technical Assistance	Ongoing
5.1.TRI	*Water Quality Best Management Practices*	Consider tools, such as the EPA's Industrial Stormwater Fact Sheet Series, to help inform the TRI-GID staff about proper secondary containment, waste containment, and/or fuel and chemical containment BMPs as it relates to source water protection.	Medium	TRI-GID	Technical Assistance	2025 and Ongoing
5.3.TRI	*Water Quality Best Management Practices*	Explore tools, such as the EPA's Fact Sheet series or the Small Business Guide Worksheets, as BMP or waste containment procedure checklists when conducting customer site visits. For example, TRI-GID staff could use the checklist on site or ask the customer to fill it out and return to TRI-GID.	High	TRI-GID	Technical Assistance	2024 and Ongoing
5.2.TRI	*Water Quality Best Management Practices*	Promote source water protection understanding with customers in close proximity of well locations and within source water protection areas. For example, coordinate a TRI-Center annual meeting to understand BMP implementation and maintenance at facilities as it relates to Article 10 of the TRI General Improvement District Sewer Rules, Regulations, and Rates.	Medium	TRI-GID	Technical Assistance	2024 and Ongoing
5.2.TRI	*Education and Outreach*	Increase knowledge of watershed importance to drinking water quality through local outreach efforts. For example, display source water protection program information in public locations with maps of local Watershed Source Water Protection Areas.	Low	TRI-GID	Technical Assistance	2025
5.3.TRI	*Education and Outreach*	Participate with Storey County Planning and Emergency Management to promote water quality best management practices at public events. For example, attend a school or community educational event with BMP information, and or invite TRI-GID customers who implement these practices to present.	Low	TRI-GID	Technical Assistance	2025-2026
5.5.TRI	*Education and Outreach*	Promote source water protection on the TRI-GID website. For example, a link to the Community Source Water Protection Plan for Public Water Systems in Storey County.	High	TRI-GID	Technical Assistance	2025 and Ongoing

	Community Source Water Protection – TRI-GID Action Plan					
Action Item	**Management Strategy**	**Action Description**	**Priority**	**Project Lead**	**Type of Assistance Needed**	**Expected Implementation Year**
5.5.TRI	*Education and Outreach*	Make information/flyers available at TRI-GID about what customers can do to protect drinking water sources. For example, secondary containment for exterior material storage, prompt spill response and cleanup, and/or fix leaking vehicles or equipment.	High	TRI-GID	Technical Assistance	2025 and Ongoing
6.1.TRI	*Emerging Contaminants*	Coordinate with NDEP on the availability of, and eligibility for, funding to address emerging contaminants.	Low	TRI-GID	Technical Assistance	Ongoing
6.2.TRI	*Emerging Contaminants*	Consider attending a State-wide working group focused on emerging contaminant education for public water systems and their operators.	High	TRI-GID	Technical Assistance	Ongoing
6.3.TRI	*Emerging Contaminants*	Continue discussions about emerging contaminant concerns and treatment technologies with the community. For example, attend and discuss at Local Emergency Planning Committee meetings, Storey County Planning Commission, etc..	Low	TRI-GID	Technical Assistance	Ongoing
6.5.TRI	*Emerging Contaminants*	Expand TRI-GID's source water protection GIS database to include facilities that use, manufacture, or distribute products with emerging contaminants in the TRI-Center.	High	TRI-GID	Technical Assistance	Ongoing
6.6.TRI	*Emerging Contaminants*	Consider coordinating with Washoe County on developing an inventory of facilities that use, manufacture, or distribute products with emerging contaminants upstream of the Tracy Segment.	High	TRI-GID	Technical Assistance	Ongoing

	Community Source Water Protection – Privately Owned Public Water System Action Plan					
Action Item	**Management Strategy**	**Action Description**	**Priority and Cost**	**Project Lead**	**Type of Assistance Needed**	**Expected Implementation Year**
1.1.PPWS	*Interagency Collaboration*	Support source water protection communication with TRI-GID regarding prospective facility expansions.	High Staff Time	Regional Environmental Manager U.S. Silica, Health, Safety and Environmental Manager Mars Pet Nutrition	As Needed	Ongoing
1.2.PPWS	*Interagency Collaboration*	Develop and continue participation in a source water protection team.	High Staff Time	Regional Environmental Manager U.S. Silica, Health, Safety and Environmental Manager Mars Pet Nutrition	As Needed	Ongoing
1.3.PPWS	*Interagency Collaboration*	Explore and participate in programs dedicated to increasing the care of the urban Truckee River corridor through focused education, outreach, and development.	Low Staff Time	Regional Environmental Manager U.S. Silica, Health, Safety and Environmental Manager Mars Pet Nutrition	As Needed	Ongoing
1.4.PPWS	***Interagency Collaboration*	Continue to support Storey County Emergency management in reducing the possibility of damage and losses due to floods and flash floods as it relates to water quality in the Truckee River (Appendix F, Goal 4, Storey County Hazard mitigation Plan).	High Staff Time	Regional Environmental Manager U.S. Silica, Health, Safety and Environmental Manager Mars Pet Nutrition	As Needed	Ongoing
2.1.PPWS	*Planning and Coordination*	Consider that source water protection is incorporated into Emergency Operating Plans and Procedures.	Medium Staff Time	Regional Environmental Manager U.S. Silica, Health, Safety and Environmental Manager Mars Pet Nutrition	As Needed	Ongoing
2.2.PPWS	*Planning and Coordination*	Work with Storey County to reduce non-point source water pollution in the Truckee River. For example, participate in the development of solutions to address illegal dumping along the Truckee River corridor.	High Staff Time	Regional Environmental Manager U.S. Silica, Health, Safety and Environmental Manager Mars Pet Nutrition	As Needed	Ongoing
3.1.PPWS	*Spill Response and Cleanup*	Continue to support Storey County Emergency Management by attending the Local Emergency Planning Committee meetings. Consider participating in source water protection education as a bi-annual meeting topic.	Medium Staff Time	Regional Environmental Manager U.S. Silica, Health, Safety and Environmental Manager Mars Pet Nutrition	As Needed	Ongoing

	Community Source Water Protection – Privately Owned Public Water System Action Plan					
Action Item	**Management Strategy**	**Action Description**	**Priority and Cost**	**Project Lead**	**Type of Assistance Needed**	**Expected Implementation Year**
3.2.PPWS	*Spill Response and Cleanup*	Consider coordinating with Storey County Emergency Management, NDEP, and TRI-GID on Spill Response and Cleanup. For example, attend a working group to establish spill response and notification protocols within source water protection areas.	High Staff Time	Regional Environmental Manager U.S. Silica, Health, Safety and Environmental Manager Mars Pet Nutrition	As Needed	Ongoing
4.1.PPWS	*Education and Outreach*	Consider hosting a source water protection presentation with staff.	Medium Staff Time	Regional Environmental Manager U.S. Silica, Health, Safety and Environmental Manager Mars Pet Nutrition	As Needed	Ongoing
4.2.PPWS	*Education and Outreach*	Consider promoting participation in Nevada's ISWPP on the company website. For example, host the Community Source Water Protection Plan for Public Water Systems in Storey County and include a link to NDEP's source water protection webpage. https://ndep.nv.gov/water/source-water-protection/integrated-source-water-protection	Medium Staff Time	Regional Environmental Manager U.S. Silica, Health, Safety and Environmental Manager Mars Pet Nutrition	As Needed	2025
4.3.PPWS	*Education and Outreach*	Partner with TRI-GID to increase knowledge of pollution in stormwater runoff through local outreach efforts. For example, assist in displaying source water protection program information in public locations along the Truckee River corridor in the Tracy Segment.	High Staff Time	Regional Environmental Manager U.S. Silica, Health, Safety and Environmental Manager Mars Pet Nutrition	As Needed	2025
5.1.PPWS	*Emerging Contaminants*	Consider attending a State-wide working group focused on emerging contaminant education for public water systems and their operators.	High Staff Time	Regional Environmental Manager U.S. Silica, Health, Safety and Environmental Manager Mars Pet Nutrition	As Needed	Ongoing
5.2.PPWS	*Emerging Contaminants*	Continue to support Storey County Emergency Management by attending the LEPC meetings. Consider discussing facility-specific emerging contaminant concerns and treatment technologies, if applicable.	High Staff Time	Regional Environmental Manager U.S. Silica, Health, Safety and Environmental Manager Mars Pet Nutrition	As Needed	Ongoing
5.3.PPWS	*Emerging Contaminants*	Consider participating in State-wide water quality testing for emerging contaminants.	High Staff Time	Regional Environmental Manager U.S. Silica, Health, Safety and Environmental Manager Mars Pet Nutrition	As Needed	Ongoing

Appendix C

Education Plan

Table of Contents

Tables

Attachments

Acronyms

Acronym	Definition
AWWA	American Water Works Association
BSDW	Bureau of Safe Drinking Water
GIS	Geographic Information System
ISWPP	Integrated Source Water Protection Program
NDEP	Nevada Division of Environmental Protection
NRWA	National Rural Water Association
PWS	public water system
PWSSP	Public Water System Supervision Program
QR	quick response
SWPA	source water protection area
TBD	to be determined
Team	Storey County Local Planning Team

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1.0 Introduction

The Storey County Local Planning Team (Team) recognizes that the success of the Community Source Water Protection Plan for Public Water Systems in Storey County (County-Wide Plan) relies on the community's willingness to support source water protection. Education and outreach are necessary for increasing public awareness and support for State, regional, and community efforts taking place to safeguard the sources of public drinking water. Increasing the public's understanding can help residents make more informed choices about what they can do to protect their drinking water sources. This Education Plan was developed to support Goal 4 of the County-Wide Plan.

> ***Goal 4:*** *Engage water users, stakeholders, and businesses about source water protection and participation.*

Public education is not only an explicit goal of the County-Wide Plan, but also an independent management strategy listed in the Action Plan (Appendix B, County-Wide Plan). The Action Plan outlines various education and outreach actions that work to accomplish Goal 4. These Actions were developed by the Team to specifically benefit the residents of Storey County.

This Public Education and Outreach Plan (Education Plan) presents an array of resources for implementing community-wide education and outreach. Effective leadership in public education and outreach is crucial for organizing engaging events that will inspire and motivate the community toward the shared goal of protecting drinking water sources, now and for future generations. Table 1 provides contact information for education leaders committed to fostering community support for source water protection, and were part of the development of this Education Plan.

Table 1. Storey County Education and Outreach Contacts

Organizations	Phone Number	Email Address
Educational Resources		
Washoe-Storey Conservation District	(775) 722-6302	washoestoreycd@gmail.com
National Rural Water Association	(725) 296-2870	christopher.berkey@nrwa.org
Nevada ISWPP Technical Resources		
Nevada Division of Environmental Protection – Bureau of Safe Drinking Water	(775) 687-9311	e.mason@ndep.nv.gov
Integrated Source Water Protection Program Technical Assistance	(775) 883-1600	jill@rci-nv.com alison@rci-nv.com erin@rci-nv.com

2.0 Target Audience and Educational Focus

Through the development process of the County-Wide Plan, the Team identified several key target audiences for specific public education and outreach messaging. This Education Plan has been prepared as a resource to help the target audiences gain an understanding of public drinking water sources and the importance of keeping them safe from contamination. Target audiences and their participation and roles in source water protection are identified in Table 2.

Table 2. Target Audiences and Roles in Source Water Protection

Community Goals for Source Water Protection Education	
Target Audience	**Importance to Source Water Protection in Storey County**
K-12 Students	Promoting education related to source water protection complements existing science and technology curriculums. Hands-on training in the classroom facilitates source water protection discussions and reinforces education at home.
Homeowners Not Connected to a Public Water System	Local community members who are not connected to a municipal system would benefit from information about septic system operation and maintenance, and understanding how individual wells can become a conduit for contaminating groundwater.
Residents / Small Business Owners Connected to Public Water System	Local residents and small business owners are integral to developing community support and participation around source water protection issues. This target audience is most likely to benefit from increased knowledge of topics like public water system operations, emerging contaminants, and proper disposal methods for household hazardous waste and prescription drugs.
Tahoe-Reno Industrial Center	Collaborating with facilities and emergency managers is important for comprehensive source water protection efforts, as these facilities can focus on managing their risks to drinking water sources. This target audience is most likely to benefit from increased knowledge of water quality best management practices, hazardous waste and chemical containment, secondary containment for material storage, and prompt spill response and cleanup.
Community Leaders	Community leaders such as public water system boards, the County Board of Commissioners, and the County Planning Commission, make decisions and recommendations that have the potential to impact source water quality. Increasing fundamental knowledge about Source Water Protection Areas helps to inform the decision-making process and cultivate ongoing support.

3.0 Educational Tools for Presentations

Educational tools offer a fun learning experience that promotes learner engagement, increases participation, and fosters communication. Table 3 provides a variety of educational tools to enhance community understanding of drinking water sources and promote support for source water protection. These resources can be effectively utilized alongside local educational programs, community events, and at public meetings. These and other tools are often accessible through the technical assistance contacts shown in Table 1.

Table 3. Educational Tools and Descriptions

Educational Tools (*Target Audience*)	Description
Physical Watershed Model *Best suited for K-12 students or family-friendly events.*	The watershed model is a hands-on activity showing how contaminants from industrial and residential activities can be washed into drainages. • Tool to discuss types of contaminants and means for managing these, such as best management practices, permitting, or other management strategies (i.e. source water protection areas).
Physical Groundwater Model *Suited for kids or adults.* **Awesome Aquifer Kits** *Best for K-12 students.*	Groundwater models demonstrate how contaminants can infiltrate into the ground, eventually polluting groundwater resources. • Opens discussions about groundwater terminology, physical makeup of an aquifer, role of groundwater in the hydrologic cycle, and groundwater contamination.
Source Water Protection Area Maps *Useful for homeowners, small business owners, and community leaders.*	Source Water Protection Area maps represent important management boundaries around public drinking water sources. Maps can clearly show an "impact area," which are based on groundwater properties or follow topography. • These maps can be used at public events, or virtually (online), to discuss source water protection topics. **Source Water Protection Area maps are provided in Appendix A of this County-Wide Plan.**
Website / Online Resources *Resources available for community leaders or resource managers.*	American Water Works Association: • https://www.awwa.org/Resources-Tools/Resource-Topics/Source-Water-Protection Groundwater Protection Counsel: • https://www.gwpc.org/topics/source-water-protection/ USDA Natural Resources Conservation Service: • https://www.nrcs.usda.gov/programs-initiatives/source-water-protection
Informational Pamphlets *Best for homeowners or small business owners.*	Informational pamphlets discussing a variety of source water protection topics (e.g. emerging contaminants, household hazardous waste, proper septic maintenance, private well ownership, etc.), are a great way to provide information to the community. • Pamphlets at county offices, or other public offices or events, or by public water systems for relevant topics. **Informational pamphlets are provided in Attachment D of this Education Plan.**

4.0 Education Outreach Tactics and Tips

Source water protection Team members serve as ambassadors for the County-Wide Plan within their respective communities or organizations. Outreach is fundamental for engaging the interest of a target audience in Storey County. Specific tactics, discussed in Table 4, can help enhance community understanding of drinking water sources and guide them on how they can assist their water purveyors in protecting those resources.

Having a sense of the target audience's personal perspective (i.e. are they a business owner, resident, or community leader) can be helpful when trying to kick-start open communication. When implementing various tactics, consider incorporating the following steps:

1) **Plan** the desired message, be consistent, and include a call to action.
    a. *"To learn more about septic system maintenance, visit…"*
    b. *"To learn more about how to dispose of household hazardous waste check out…"*
2) **Know** how an audience should utilize the information.
    c. *Keep it simple and to the point.*
    d. *Use words and terms the audience will know and provide context for technical/scientific concepts.*
3) **Recognize** channels through which the information will be disseminated.
    e. *What does the audience need to know?*
    f. *What are your resources and budget?*
    g. *How much time do you have?*
4) **Identify** how each tactic will be evaluated for effectiveness.
    h. *How will you follow up to determine effectiveness?*

Table 4. Outreach Tactics and Content

Tactics	Application Methods and Content
Fact Sheets, Brochures, Handouts, Flyers, Water Bill Inserts	Paper materials can be distributed in the mail, at libraries, community centers, builder associations, rotary club meetings, economic development authorities, etc.
Presentations and On-Site Education	Presentations about various source water protection topics, formal or informal, can be given at public meetings, to local water boards, at industrial development meetings, etc.
Employee Trainings	Training sessions can cover a wide range of topics that promote source water protection efforts such as, safe materials handling, emergency spill response, and source water protection awareness.
Source Water Site Signage	Signage can be helpful in circumstances where regular day-to-day activities have the potential to impact a drinking water source. Signage can raise awareness and encourage appropriate behavior.
Public Water System Annual Consumer Confidence Report	Incorporate source water protection information into the annual consumer confidence report.

5.0 Source Water Protection Messages

An engaged audience is more likely to understand educational material and retain information. In many circumstances, it is best to begin your conversation about source water protection at a basic level and build up from there. People develop an understanding and connection to a topic when they are provided with appropriate context. The following messages were selected by the Team to include in this Education Plan, as they may be more relevant to the communities in Storey County:

Where does our drinking water in Storey County come from?

Many residential properties in Storey County rely on groundwater as their source of drinking water. Groundwater is extracted from wells drilled into aquifers, comprised of rock, sand, and gravel, located deep under the Earth's surface.

Another important source of Storey County's municipal system is from surface water reservoirs in the Sierra Nevada mountains. These reservoirs collect water from the surrounding mountains, primarily from snowmelt, before it's transported through pipelines to the county's storage reservoir and treatment facility.

Why is it important for us to protect drinking water at the source?

Both surface and groundwater can be polluted by various human activities and natural occurrences. Once a source of drinking water becomes polluted, it becomes extremely costly and difficult to clean. You have the power to support your water system operators as they implement strategic safeguards to avoid or control contamination threats and incidents that may pollute your drinking water.

What is Storey County and our public water systems doing to provide clean drinking water?

The individual water systems in Storey County are constantly striving to provide their communities with safe and clean drinking water. The public water systems in Storey County are regularly taking the necessary steps to improve infrastructure, engage their communities, and are active participants in the Nevada Integrated Source Water Protection Program – a voluntary and community-driven program to protect drinking water at the source.

What can I do to protect my drinking water?

Protecting your drinking water from contamination is a huge challenge. Safeguarding your drinking water sources begins with awareness and education. We can take everything we've learned home with us, educate our friends and families, and change our behaviors to minimize our impact on our water resources. The adage is true: *"An ounce of prevention is worth a pound of cure!" – Benjamin Franklin.*

What contaminates the water we drink?

Numerous pollutants can contaminate both surface and groundwater. Some contaminants come from the improper disposal of household products such as cleaning agents, waste oil, pet waste, fertilizers, and pesticides. When these products are used, stored, or disposed of improperly, they can threaten drinking water. Emerging contaminants include a broad

spectrum of chemical compounds, industrial pollutants, and human by-products that have been entering our waterways for generations. Recent studies indicate that measurable amounts of these contaminants can be found in some drinking water sources. This makes local residents, industries, and businesses crucial participants in efforts to protect source water.

How can businesses participate in source water protection?

By actively participating in community-driven source water protection efforts, such as spill response and cleanup communication, primary and secondary containment, water quality best management practices, etc., businesses can demonstrate environmental stewardship, enhance corporate social responsibility, and contribute to the long-term sustainability of water resources for present and future generations.

6.0 Additional Education and Outreach Tools

Many tools and educational resources exist to support outreach efforts, Table 5 lists a variety of resource categories, organizations, and supplementary materials provided as Education Plan attachments. These materials are simply a starting point for a successful outreach event or campaign, should additional assistance be needed, please contact the organizations provided in Table 1.

Table 5. Additional Education Plan Tools and Tactics

Additional Educational Tools	Description
National Rural Water Association (NRWA)	The NRWA is a *nonprofit organization providing water and wastewater technical assistance and watershed protection coordination programs statewide*. NRWA has been, and will continue to be, a partner and asset during local and regional source water protection and conservation outreach and education efforts.
Boards and Local Leader Education and Engagement	Educate board members, town councils, and other local government leaders about the importance of source water protection and conservation. Invite Team members to talk about their source water protection achievements at home and encourage figureheads in the community to participate and lead by example.
Informational Meetings/Presentations	Informational meetings/presentations about source water protection and conservation to HOAs, schools, businesses, and the general population can facilitate positive changes in the way people think about their drinking water sources (short-term impacts), which can lead to positive *behavioral* changes that protect drinking water sources (long-term impacts).
Educational Flyers (Attachment C)	Educational flyers, such as proper disposal of household hazardous waste and pharmaceuticals, and safe septic practices, promote source water protection and give the community an opportunity to participate in protecting drinking water quality.
Participate in American Water Works Association (AWWA) Source Water Protection Week (Examples provided in Attachment C).	Supporting national water events to engage the community, facilitate community collaboration, and expand how the community thinks about drinking water, to cultivate short- and long-term impacts.
Website Links (Attachment D)	Website links are an important tool for promoting this County-Wide Plan and for creating mutually beneficial relationships with local and regional organizations who support source water protection and conservation.

Additional Educational Tools	Description
Social Media Promotion	Social media posts are an opportunity to share source water protection and conservation accomplishments. It can also serve as a means to invite the community to share their ideas and personal achievements, creating an environment where the community comes together to protect their drinking water.
Source Water Protection and Conservation Booth at Community Events	A sponsored booth at community events can promote source water protection and conservation education and expand communication between water system operators and their community. The watershed and groundwater models can provide an interactive element related to best management practices and conservation tips and tricks. Informational flyers can also be offered and/or distributed.
Site Signage	Businesses who use low impact development or best management practices to reduce their impact on source water can post signs to indicate their dedication to the community's most valuable resource, drinking water.
Testimonials	Encourage Team members, residents, and businesses who have changed their practices to share how they reduced their impact on source water, why they care about source water, and what the results mean for source water protection and conservation. Can be in many forms, such as posters, social media posts, pamphlets at events, and in presentations.

7.0 Measuring Education and Outreach Success

Measuring the success of an education and outreach program or event is important for assessing effectiveness, impact of key messages, and for identifying areas for improvement. Evaluation also can provide accountability to stakeholders and the community.

To assess effectiveness, it is important to determine the most suitable metric for evaluating each tactic, these can either be quantitative or qualitative measurements. It is essential to consider the desired outcomes of the outreach activity, the key audience(s), and the resources available.

Quantitative Measurements – Refers to things that are measurable or countable, such as the amount of information provided. Examples of quantitatively measuring effectiveness include:

- The quantity of presentations delivered and people in attendance,
- The quantity of distributed materials, and
- The quantity of inquiries (e.g. phone calls, emails, social media posts, contest participation, testimonials, booth visits, etc.).

Qualitative Measurements – Relates to the quality or value of the information provided. Examples of qualitative evaluation for public education and outreach include:

- Presentation, email, and website surveys,
- Paying attention to audience participation and engagement,
- Administering a short quiz at the end of school presentations,
- Asking questions about presentation content at the beginning and the end to see if attitudes or knowledge of material has changed, and
- Asking participants what they can do to protect their source water at the end of presentations to measure potential community participation.

8.0 References

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Attachment A

School Presentation Content Example

Attachment A

School Presentation Content Example

School presentations should last roughly 45 minutes. Introduce yourself and engage the students by asking a few questions:

Have you ever wondered where the water in your tap comes from?
Depending on the answers, the discussion can evolve. A discussion regarding the hydrologic cycle, groundwater aquifers, and how water is pumped from the aquifer to the tap is appropriate for the residents of Storey County.

Why is it important to protect drinking water at the source?
Protecting drinking water at the source may be difficult to understand for grade school or intermediate school students. The presenter may have to facilitate the discussion with statements, such as:

- *We rely on groundwater* – it's the water we drink and the water that grows our food!
- Man-made products, such as gasoline, oil, and road salt can move through the soil and end up in our groundwater.

Demonstration of the Watershed Model

Invite the students to come close to see the watershed model and ask if they know:

- ✓ *What is a watershed?* Discuss what is displayed on the watershed model, such as the area of land and the different water bodies.
- ✓ *What is a contaminant?* Discuss various forms such as oil and grease, factory chemicals, lawn fertilizer, etc. Hand the "contaminants" to the students and let them sprinkle it around. Engage them and ask them what kind of contaminants are on the farm, on the lawns, on the road, etc.
- ✓ *How much rainfall does the community receive each year?* Discuss rainfall in Storey County, and then rain on the watershed using a spray bottle. This is also a good place to discuss overwatering. Demonstrate what happens if someone has a leaky sprinkler, and what happens to fertilizers on landscape turf. Discuss the water flowing down the hills and the streets, and then discuss infiltration. Discuss replacements for landscape turf, which in turn conserves the drinking water. Pull the plug once the water settles in the "lake" and move to the groundwater model.
- ✓ Discuss the importance of individual actions to protect and conserve drinking water sources.

Demonstration of the Groundwater Model

- ✓ Put the green and the red coloring into the lake and pond and pump different wells.
- ✓ Discuss aquifers, contaminants, pumping, water movement, etc.
- ✓ Talk about infiltration and how the pollution in the watershed model can end up in the groundwater.
- ✓ Revisit the question: ***Why is it important to protect drinking water at the source?***
- ✓ Invite the students to brainstorm about what they can do to protect their water sources.

Attachment B

Terms Defined

Attachment B

Terms Defined

Aquifer: a naturally occurring, underground area of water-soaked sand or gravel.

Best Management Practices: barriers, methods, measures, or practices designed to prevent or reduce water pollution.

Bureau of Safe Drinking Water (BSDW): the mission of BSDW is *to protect public health and the environment by providing oversight, guidance, and support, while fostering collaboration with safe drinking water partners*. Through the NDEP, the Source Water Protection Program is administered through the BSDW to help communities protect their drinking water.

Contamination: introduction of an undesirable chemical or biological substance not normally present in source water.

Emerging Contaminant: synthetic or naturally occurring chemicals or microorganisms that are not commonly monitored but have the potential to enter the environment and cause known or suspected adverse ecological and/or human health effects.

Ground water: water found beneath the earth's surface. The water is pumped to the surface for drinking water.

Hydrologic Cycle: the sum of all processes in which water circulates from the land and ocean surface to the atmosphere and back in the form of precipitation.

Integrated Source Water Protection Program (ISWPP): ISWPP is a comprehensive, voluntary approach designed to help communities develop and implement a plan that protects their drinking water supplies. ISWPP is a program created and monitored through BWPC.

Nevada Division of Environmental Protection (NDEP): NDEP will protect the State's natural resources through an effective, efficient program of permitting, enforcement of regulations, monitoring the environment, pollution prevention and remediation based on state and federal laws. NDEP encourages, motivates, and supports communities' local source water protection activities; manages, shares, and integrates source water protection information; develops federal, state, and local source water protection partnerships; and integrates and implements source water protection at the state level.

Surface water: consists of springs, streams, and rivers that become our drinking water.

Source Water: consists of bodies of water such as lakes, springs, streams, rivers, and ground water/aquifers that become our water supply.

Watershed: the area of land that drains to a common water body like a stream, river, or lake.

Water Conservation: includes all policies, strategies, and activities which support careful use and preservation of the water supply.

Attachment C

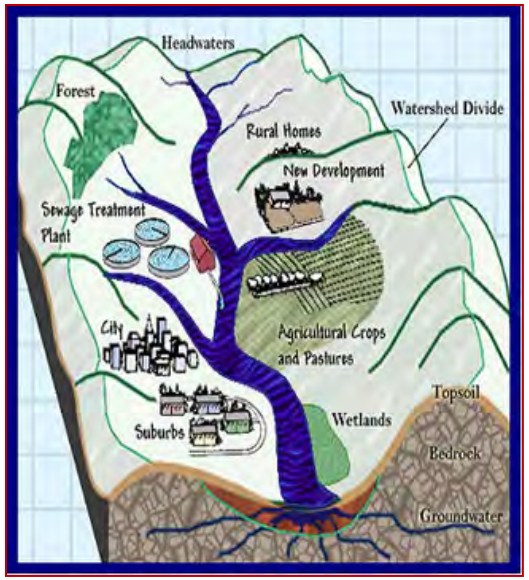
Educational Flyers

What is a Watershed?

A watershed is all the land that drains to the same river or lake. Water travels from the highest points at the watershed edge to the lowest point at the bottom of the watershed. Wherever you are, you are in a watershed!

When it rains, some water travels over the land surface to the nearest stream or creek. This water is called *surface runoff* or *stormwater*. As the stormwater flows, it picks up any contaminants lying on the surface – pesticides and fertilizer from lawns, manure from farms, sediment from construction sites, and oil and gas from roads. Small streams join to form larger and larger rivers, until the water – and any contaminants it is carrying – reaches the water sources.

Some precipitation, instead of traveling over the land, will percolate into the soil and reach the *groundwater*. Similarly, the groundwater may pick up nitrates from failing septic systems, gasoline from leaky storage tanks, and industrial chemicals from improper dumping. The groundwater ultimately flows into one of the rivers or lakes in the watershed.



Ways to Help

What can you do?

- Dispose of motor oil at a garage that will recycle it. Never pour oil on the ground in a storm drain or sewer on the street.
- Purchase alternative products that contain fewer hazardous ingredients.
- Use only as much as you need and use up the product completely.
- Minimize the use of pesticides and herbicides on your lawn and garden. Use biodegradable products when available.
- Do not pour used or unused chemicals or paints down the drain or flush in the toilet.
- Use water-based paints if possible. Sweep up dust and paint chips from sanding or stripping activities.
- NEVER mix leftover chemicals with other materials.
- Make sure all chemicals are properly labeled and stored away from children and pets.
- Contact your county solid waste department for HHW collection events in your area.
- Remember: anything you throw or store on the ground can find its way into the groundwater. Store and handle chemicals properly.

For more information:
Check your county's website for programs available.

HOMEOWNER GUIDE

Proper Disposal of Household Hazardous Waste

Storey County Community Source Water Protection Program

NRWA

Remember, it's not just toxic to you!

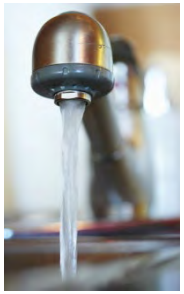
Did you know that many household products are dangerous to our children, pets, and environment? Household cleaners, lawn & garden chemicals, gasoline, antifreeze, and many other substances need to be stored and disposed of properly.

When Household Hazardous Waste (HHW) makes its way into the environment, plants, animals, and humans can all be affected. Never throw away these materials into the trash or flushed down a drain.

All the items listed in this brochure should be carefully handled and disposed of according to directions. Check for HHW collection events sponsored by your municipality or the county government.

Examples of Household Hazardous Wastes

- ✓ Latex and oil-based paint
- ✓ Vehicle fluids like gasoline, used motor oil, and antifreeze
- ✓ Lawn & garden fertilizers, pesticides, and herbicides
- ✓ Pool Chemicals
- ✓ Solvents
- ✓ Household cleaners
- ✓ Electronic devices
- ✓ Asphalt and driveway sealants
- ✓ Ammunition
- ✓ Vehicle batteries
- ✓ Lithium/NiCad batteries
- ✓ Outdated or unused pharmaceuticals



How does drinking water sometimes become polluted?
Your drinking water may become polluted when substances that are harmful to human health enter the groundwater or surface source, like a lake or reservoir. Common pollutants include gasoline or oil from leaking tanks, homeowner lawn and garden activities , salt from winter road maintenance, and other chemicals from stormwater runoff. Once water is contaminated, it must be treated or abandoned as a drinking water source. The expense of treating polluted water or finding a new source of drinking water can be avoided through source water protection.

Caring for Your System

Remember that the Homeowner is responsible for the care and maintenance of the septic system! Here are some ideas to keep your system in top shape:

- Inspect the entire system every 1 to 3 years to ensure good working order.
- Pump the solids from the tank every three (3) years to avoid overfilling and failing tanks.
- Keep service and pumping records handy.
- Repair the system as soon as trouble signs appear, such as sluggish toilets, sewer odors, spongy ground around septic tank, or raw sewage backups.
- Conserve water and follow directions to prevent malfunctions.

Visit the United States Environmental Protection website for more information at:

https://www.epa.gov/septic

Septic System Maintenance Record			
Date	Company	Service	Comments

Do's and Don'ts

DO dispose of motor oil at a garage that will recycle it. Never pour oil down the sink or in a storm drain or sewer on the street.

DO limit the use of household chemicals. These substances can reduce the necessary bacteria that breaks down the waste solids. Resulting sludge can clog the drainfield.

DON'T dispose of non-degradable solids in the system. Examples include tissues, sanitary supplies, cigarette butts, and paper towels. A buildup will clog the inlet and effluent pipes.

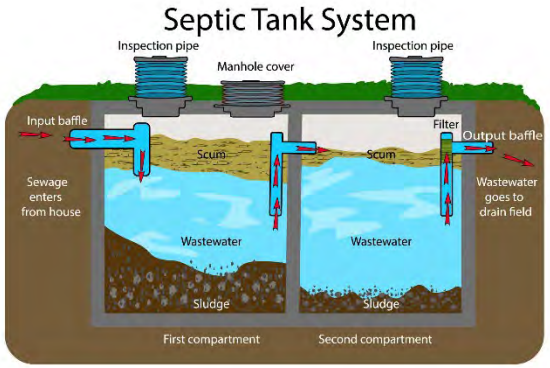
DO regularly check faucets and toilets for leaks. This extra drainage can overload your system.

DO substitute substances like vinegar, baking soda,, or borax for household hazardous wastes like ammonia bleach, and other hazardous cleaners. Use a phosphate-free laundry detergent.

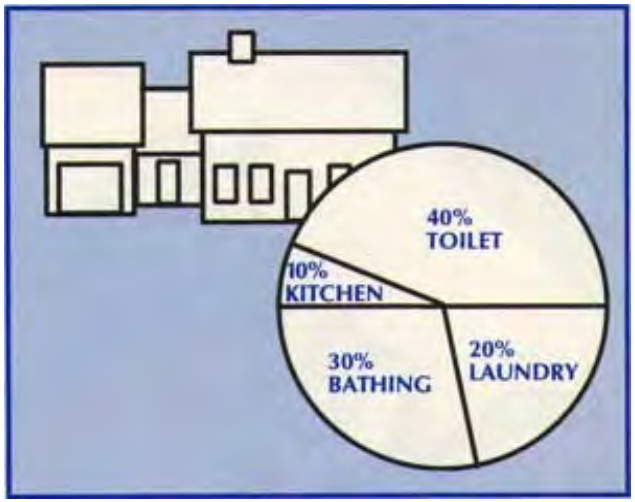
DON'T clean paint brushes or dispose of paint into the septic system. Both latex-based and oil-based paint can clog the system and create problems.

HOMEOWNER GUIDE

Septic Systems Care and Maintenance



Storey County Community Source Water Protection Program



What is a Septic System?

Households that are not on a public sewer system use an on-lot septic system to dispose of their wastewater. Household wastewater contains all the wastes from our homes, including toilet use, bathroom and kitchen use, laundry, and other activities. It contains human waste, detergents, chemicals, grease, oils, and many other substances. If not treated properly, these substances can travel through soil and potentially contaminate local waterways.

Most systems have three components:

• **Septic Tank** – Tanks can be constructed from plastic, fiberglass, or concrete. Tank size and specifications are determined by state regulation, and systems are permitted and approved by local agencies.

• **Drainfield** – a drainfield is constructed from a series of perforated pipes buried in gravel- filled trenches in the soil. When wastewater enters the septic tank, an equal amount (known as *effluent)* is forced into the drainfield for treatment.

• **Soil** – the soil encompassing the trenches treats the wastewater by allowing infiltration of the liquids to neutralize most of the pollutants. The effluent eventually is incorporated into groundwater.

NRWA

Example of Typical Septic System

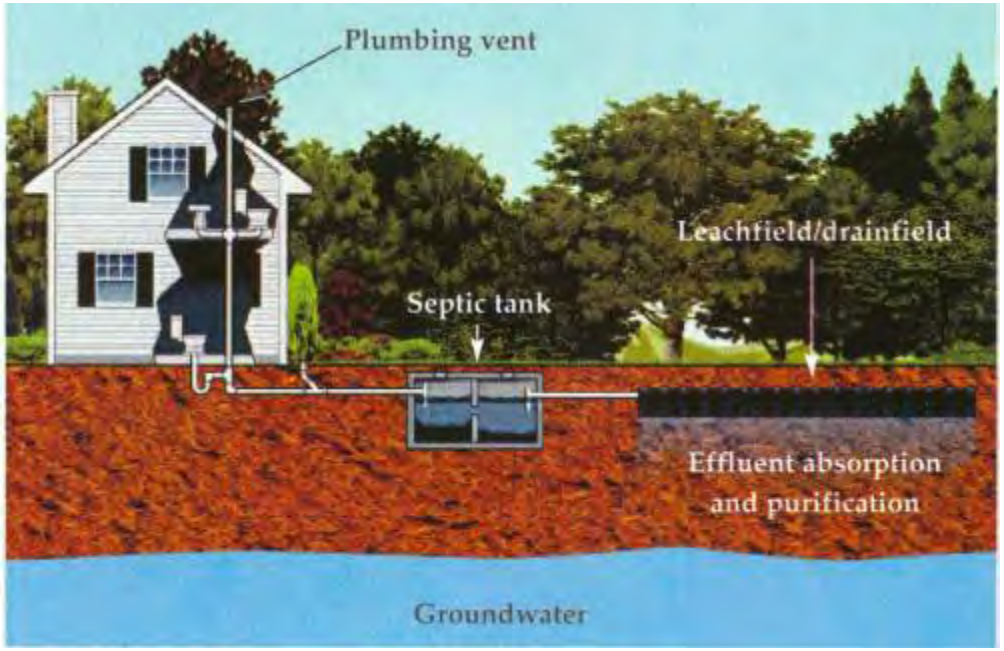


Photo courtesy of Infiltrator Systems, Inc.

Why Should I Maintain My Septic System?

• ***Saves Money!*** Repairing or replacing a septic system can be very expensive. Inspecting and pumping the system every 3 years helps keep the components working correctly.

• ***Protects Your Health!*** Bacteria and viruses are found in the wastewater, and a functional septic system removes most of the organisms during treatment.

• ***Protects the Environment!*** What goes into your septic system may end up in your drinking water source. Refrain from using cleaners and other chemicals that may eventually be discharged from your system and soak into the ground.

Flushing Do's and Don'ts

What are the WORST items to dump down the drain:

- **WIPES** – Wipes (even "flushable" wipes) do not break down like toilet paper and can clog household sewer pipes and pipes at the treatment plant. This can be expensive to fix.
- **HOUSHOLD CHEMICALS** like cleaners, painting products, and pesticides contain some chemicals that cannot be removed during the wastewater treatment process. If possible, used biodegradable or plant-based cleaning products that are more easily treated.
- **FATS, OILS, GREASE** (FOGs) Cooking grease, leftover animal fats, and motor oil can become solid, causing buildup in pipes when they are poured in the drain, or washed away. Pour FOGs into a container to solidify and throw away in the trash.


Photo Courtesy of Rock Hill, SC

What Else Should Never Go In A Drain:

- Medicines/Prescriptions
- Kitty Litter
- Feminine Products
- Cigarette Butts
- Diapers
- Disposable Toilet Brushes

Protecting Source Water

Local water and wastewater operators are working non-stop provide residents with services that protect the environment, and they can use your help! Everyone has an important part to play in protecting drinking water – today and for the future. Source water protection is a community effort – we hope you will read this, and other information forwarded to you, and help protect your water supply.

Why do water sources sometimes become polluted? A water supply can become polluted when substances that are harmful to human health enter the groundwater, rivers, reservoir, or springs. Common pollutants include gasoline or oil from leaking tanks, nitrate and pesticides from agriculture and lawns, pathogens from livestock and pet waste, salt from winter road maintenance, and chemicals from industrial facilities. Once drinking water is contaminated, it must be treated or abandoned as a drinking water source. The expense of treating polluted water or finding a new source of drinking water can be avoided through source water protection.

CITIZEN'S GUIDE

Wastewater in Your Home

Storey County Community Source Water Protection Program

NRWA

What Happens to Our Wastewater?

Household wastewater contains all the wastes from our homes, including toilet use, bathroom and kitchen use, laundry, and other activities. It contains human waste, detergents, chemicals, fats, oils, grease, and many other substances. This brochure helps people understand the complex process of treating wastewater.

Households that are on a public sewer system have these wastes treated at a local wastewater treatment plant. They are designed to handle water, human waste, and toilet paper.

Anything else that goes down the drain can damage both the treatment system and the environment! Before you dump something in a sink, think ***Should this go down the drain?***

What Are The Worst Things To Dump in Drains?

- Wipes – even “flushable” wipes!
- Fats, Oils, and Grease
- Household Chemicals

Example of a Typical Wastewater Treatment Plant

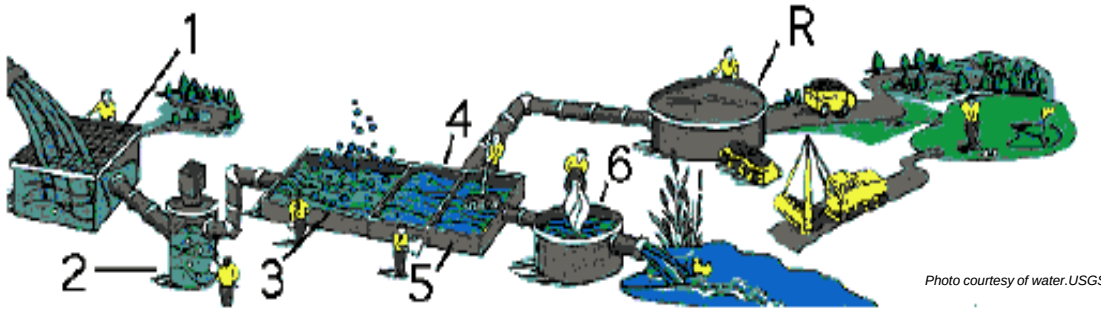


Photo courtesy of water.USGS.gov

The Primary Treatment Process

1. **Screening:** Wastewater entering the treatment plant includes items like wood, rocks, and even dead animals. Unless they are removed, they could cause problems later in the treatment process.

2. **Pumping:** Gravity moves sewage from your home to the treatment plant. If the plant is built above the ground level, the wastewater has to be pumped up to the aeration tanks (item 3).

3. **Aerating:** One of the first steps is to shake up the sewage and expose it to air. This causes some of the dissolved gases (such as hydrogen sulfide, which smells like rotten eggs) that taste and smell bad to be released from the water. Wastewater enters a series of long, parallel concrete tanks. Each tank is divided into two sections. In the first section, air is pumped through the water. As organic matter decays, it uses up oxygen. Aeration replenishes the oxygen. The 'grit' (coffee grounds, sand and other small, dense particles) will settle out.

4. **Removing sludge:** Wastewater then enters the second section or sedimentation tanks. Here, the organic sludge settles out of the wastewater and is pumped out of the tanks. Some of the water is removed in a step called thickening and then the sludge is processed in large tanks called digesters.

5. **Removing scum:** As sludge is settling to the bottom of the sedimentation tanks, lighter materials are floating to the surface. This 'scum' includes grease, oils, plastics, and soap. Slow-moving rakes skim the scum off the surface of the wastewater. Scum is thickened and pumped to the digesters along with the sludge. Many cities also use filtration in sewage treatment. After the solids are removed, the liquid sewage is filtered through a substance, usually sand, by the action of gravity. This method gets rid of almost all bacteria, reduces turbidity and color, removes odors, reduces the amount of iron, and removes most other solid particles that remained in the water.

6. **Killing bacteria:** Finally, the wastewater flows into a 'chlorine contact' tank, where the chemical chlorine is added to kill bacteria, which could pose a health risk, just as is done in swimming pools. The chlorine is mostly eliminated as the bacteria are destroyed, but sometimes it must be neutralized by adding other chemicals. This protects fish and other marine organisms, which can be harmed by the smallest amounts of chlorine.

The treated water (called effluent) is then discharged to a local river or the ocean.

Reproduced from https://water.usgs.gov/edu/wwvisit.html

Industrial Stormwater

Fact Sheet Series

Sector K: Hazardous Waste Treatment, Storage, or Disposal Facilities

U.S. EPA Office of Water
EPA-833-F-06-026
February 2021

What is the NPDES stormwater program for industrial activity?

Activities, such as material handling and storage, equipment maintenance and cleaning, industrial processing or other operations that occur at industrial facilities are often exposed to stormwater. The runoff from these areas may discharge pollutants directly into nearby waterbodies or indirectly via storm sewer systems, thereby degrading water quality.

In 1990, the U.S. Environmental Protection Agency (EPA) developed permitting regulations under the National Pollutant Discharge Elimination System (NPDES) to control stormwater discharges associated with eleven categories of industrial activity. As a result, NPDES permitting authorities, which may be either EPA or a state environmental agency, issue stormwater permits to control runoff from these industrial facilities.

What types of industrial facilities are required to obtain permit coverage?

This fact sheet specifically discusses stormwater discharges from hazardous waste treatment, storage, or disposal facilities (TSDF), including those that are operating under interim status or a permit under Subtitle C of the Resource Conservation and Recovery Act (RCRA). Some industrial facilities that generate hazardous waste have on-site capacity to store, treat, and even dispose of their waste. Many hazardous waste generators, however, send their waste offsite to a TSDF.

What does an industrial stormwater permit require?

Common requirements for coverage under an industrial stormwater permit include development of a written stormwater pollution prevention plan (SWPPP), implementation of control measures, and submittal of a request for permit coverage, usually referred to as the Notice of Intent or NOI. The SWPPP is a written assessment of potential sources of pollutants in stormwater runoff and control measures that will be implemented at your facility to minimize the discharge of these pollutants in runoff from the site. These control measures include site-specific best management practices (BMPs), maintenance plans, inspections, employee training, and reporting. The procedures detailed in the SWPPP must be implemented by the facility and updated as necessary, with a copy of the SWPPP kept on-site. The industrial stormwater permit also requires collection of visual, analytical, and/or compliance monitoring data to determine the effectiveness of implemented BMPs. For more information on EPA's industrial stormwater permit and links to State stormwater permits, go to **www.epa.gov/npdes/stormwater** and click on "Industrial Activity."

What pollutants are associated with activities at my facility?

Pollutants conveyed in stormwater discharges from facilities involved with the storage, treatment and disposal of hazardous waste will vary given the diversity and quantity of hazardous waste handled at TSDFs. There are a number of factors that influence to what extent industrial activities and significant materials can affect water quality. TSDFs regulated under RCRA Subtitle C, however, are required to control much of their stormwater runoff through secondary containment (e.g., secondary

containment for tank systems). When a spill of a listed hazardous waste occurs, for example, the spilled material and any stormwater that comes into contact with the material is a hazardous waste under RCRA and must be cleaned up and managed in accordance with all applicable regulations.

In addition to the types of hazardous materials handled and the procedures for controlling runoff at a particular TSDF, there are a number of factors that influence to what extent industrial activities and significant materials can affect water quality.

- Geographic location
- Topography
- Extent of impervious surfaces (i.e., concrete or asphalt)
- Type of ground cover (e.g., vegetation, crushed stone, or dirt)
- Outdoor activities (e.g., only storage, or storage plus treatment and disposal)
- Size of the operation (e.g., volume of wastes handled)
- Type, duration, and intensity of precipitation events

The activities, pollutant sources, and pollutants detailed in Table 1 are commonly found at hazardous waste treatment, storage, or disposal facilities.

Table 1. Common Activities, Pollutant Sources, and Associated Pollutants at Hazardous Waste Treatment, Storage, or Disposal Facilities

Activity	Pollutant Source	Pollutant
Bulk Liquid/Solid Transfer	Spills during transfer of chemicals between above ground storage tank and drums or other containers.	Acids, solvents, ammonia, hydroxides, detergents, fuels
	Spills or leaks of hazardous materials used for operations	Total suspended solids (TSS), chemical oxygen demand (COD) pH, biological-oxygen demand (BOD)
	Outdoor storage or handling of chemicals	Organic and inorganic compounds.
	Unloading of chemicals and other hazardous materials	
	Leaks and spills of acids or solvents from drums or tanks	
Hazardous Material Storage	Spills or leaks	Organic and inorganic compounds
	Residual hazardous material due to poor housekeeping	
Waste Handling & Disposal	Chemical mixing	Mixed waste which can limit recyclables
Vehicle and equipment fueling and maintenance	Vehicle fueling and maintenance activities, outdoor storage tanks, and drums of gas, diesel, kerosene, lubricants, solvents	Oil and grease (O&G), diesel, gasoline, TSS, antifreeze
Building and Grounds Maintenance	Storage of pesticides and other chemicals	Pesticides, oxygen-demanding substances, sediments, nutrients, organics, and toxicants
	Application of chemicals	
Illicit discharges	Improper connection of floor, sink, or process wastewater drains to storm sewers	Dependent on source

Note: Activities may have additional pollutant sources that contain PFAS and can come into contact with stormwater discharges. Per- and polyfluoroalkyl substances (PFAS) are a group of man-made chemicals that include PFOA, PFOS, GenX, and many other chemicals.

What BMPs can be used to minimize contact between stormwater and potential pollutants at my facility?

A variety of BMP options may be applicable to eliminate or minimize the presence of pollutants in stormwater discharges from hazardous waste treatment, storage, or disposal facilities. You will likely need to implement a combination or suite of BMPs to address stormwater runoff at your facility. Your first consideration should be for pollution prevention BMPs, which are designed to prevent or minimize pollutants from entering stormwater runoff and/or reduce the volume of stormwater
requiring management. Prevention BMPs can include regular cleanup, collection and containment of debris in storage areas, and other housekeeping practices, spill control, and employee training. It may also be necessary to implement treatment BMPs, which are engineered structures, intended to treat stormwater runoff and/or mitigate the effects of increased stormwater runoff peak rate, volume, and velocity. Treatment BMPs are generally more expensive to install and maintain and include oil-water separators, wet ponds, and proprietary filter devices.

Facilities in this industrial sector must already be in compliance with the standards for operating a hazardous waste treatment, storage, or disposal facility as established under RCRA. Due to previously imposed requirements on hazardous waste treatment, storage, or disposal facilities, stormwater BMPs are already employed at most TSDFs. These BMPs include:

- Roofs or other forms of permanent cover for storage areas.
- Secondary containment, capable of preventing stormwater run-on from entering the system or with the capacity to contain the volume of the tank plus precipitation from a 25-year, 24-hour rainfall event, for tank systems.
- Detention/retention ponds and filtering devices.
- Daily and weekly inspections of tank systems and containers, respectively. These inspections, which should already take place, will be incorporated into facility stormwater pollution prevention plans.
- Employee training already should be occurring, will need to be expanded as necessary to include issues concerning stormwater management.

BMPs must be selected and implemented to address the following:

Good Housekeeping Practices

Good housekeeping is a practical, cost-effective way to maintain a clean and orderly facility to prevent potential pollution sources from coming into contact with stormwater. It includes establishing protocols to reduce the possibility of mishandling materials or equipment and training employees in good housekeeping techniques. Common areas where good housekeeping practices should be followed include trash containers and adjacent areas, material storage areas, vehicle and equipment maintenance areas, and loading docks. Good housekeeping practices must include a schedule for regular pickup and disposal of garbage and waste materials and routine inspections of drums, tanks, and containers for leaks and structural conditions. Practices also include containing and covering garbage, waste materials, and debris. Involving employees in routine monitoring of housekeeping practices has proven to be an effective means of ensuring the continued implementation of these measures. Industrial facilities can conduct activities that use, store, manufacture, transfer, and/or dispose of PFAS containing materials. Successful good housekeeping practices to minimize PFAS exposure to stormwater could include inventorying the location, quantity, and method of storage; using properly designed storage and transfer techniques; providing secondary containment around chemical storage areas; and using proper techniques for cleaning or replacement of production systems or equipment.

Minimizing Exposure

Where feasible, minimizing exposure of potential pollutant sources to precipitation is an important control option. Minimizing exposure prevents pollutants, including debris, from coming into contact with precipitation and can reduce the need for BMPs to treat contaminated stormwater runoff. It can also prevent debris from being picked up by stormwater and carried into drains and surface waters. Examples of BMPs for exposure minimization include covering materials or activities with temporary structures (e.g., tarps) when wet weather is expected or moving materials or activities to existing or new permanent structures (e.g., buildings, silos, sheds). Even the simple practice of keeping a dumpster lid closed can be a very effective pollution prevention measure. Another example could include locating PFAS-containing materials and residues away from drainage pathways and surface waters.

Erosion and Sediment Control

BMPs must be selected and implemented to limit erosion on areas of your site that, due to topography, activities, soils, cover, materials, or other factors are likely to experience erosion. Erosion control BMPs such as seeding, mulching, and sodding prevent soil from becoming dislodged and should be considered first. Sediment control BMPs such as silt fences, sediment ponds, and stabilized entrances trap sediment after it has eroded. Sediment control BMPs should be used to back-up erosion control BMPs.

Management of Runoff

Your SWPPP must contain a narrative evaluation of the appropriateness of stormwater management practices that divert, infiltrate, reuse, or otherwise manage stormwater runoff so as to reduce the discharge of pollutants. Appropriate measures are highly site-specific, but may include, among others, vegetative swales, collection and reuse of stormwater, inlet controls, snow management, infiltration devices, and wet retention measures. Incorporating treatment like granular activated carbon may be helpful to remove certain pollutants like PFAS.

A combination of preventive and treatment BMPs will yield the most effective stormwater management for minimizing the offsite discharge of pollutants via stormwater runoff. Though not specifically outlined in this fact sheet, BMPs must also address preventive maintenance records or logbooks, regular facility inspections, spill prevention and response, and employee training.

All BMPs require regular maintenance to function as intended. Some management measures have simple maintenance requirements, others are quite involved. You must regularly inspect all BMPs to ensure they are operating properly, including during runoff events. As soon as a problem is found, action to resolve it should be initiated immediately.

Implement BMPs, such as those listed below in Table 2 for the control of pollutants at hazardous waste treatment, storage, or disposal facilities, to minimize and prevent the discharge of pollutants in stormwater. Identifying weaknesses in current facility practices will aid the permittee in determining appropriate BMPs that will achieve a reduction in pollutant loadings. BMPs listed in Table 2 are broadly applicable to hazardous waste treatment, storage, or disposal facilities; however, this is not a complete list and you are recommended to consult with regulatory agencies or a stormwater engineer/consultant to identify appropriate BMPs for your facility.

One activity that is not included in the RCRA requirements is loading and unloading operations and the potential for spills during this process. Table 2A identifies examples of effective BMPs for the control of pollutants associated with unloading and loading activities.

Table 2. BMPs for Potential Pollutant Sources at Hazardous Waste Treatment, Storage, or Disposal Facilities

Pollutant Source	BMPs
Hazardous Material Storage	❑ Confine storage of hazardous materials to designated areas. ❑ Storage of hazardous materials should be indoors or in a covered area. ❑ Store hazardous materials according to the manufacturer by installing concrete or non-absorbing berms around each specific hazardous material to avoid mixing wastes. ❑ Ensure sufficient aisle space to ease inspections and handling. ❑ Store hazardous materials away from high-traffic areas. ❑ Implement inspection schedule for storage areas to detect problems before they occur. ❑ Inspect all containers prior to placing in hazardous materials storage areas. ❑ Store drums of hazardous material on spill pallets. ❑ ASTs of hazardous materials should be stored within secondary containment equipped with self bailers, shutoff valve, and sumps. ❑ Use dry cleanup methods instead of washing the areas down. ❑ Train employees on proper storage techniques.
Bulk liquid/solid transfer areas	❑ Confine transferring activities to a designated area. ❑ Performing transfer activities indoors or in a covered area. ❑ Install an impervious or concrete pad under area for bulk transfer activities with area sloped toward sump or detention pond. ❑ During transfer activities of hazardous materials always close drains using drain seals, drain guards, drain plugs, or a shutoff valve. ❑ After drum use, washout should drain directly into a clarifier. ❑ Place track pans or popup pool containers under tankers before transfer activities occur to prevent uncontained spills. ❑ Avoid transferring bulks materials in the rain. ❑ Inspect the transfer areas to detect problems before they occur. ❑ Inspect all containers prior to transferring activities of hazardous materials. ❑ Use dry cleanup methods instead of washing the areas down. ❑ Train employees on proper bulk transfer techniques.
Bulk storage areas	❑ Confine bulk storage to a designated area. ❑ Store hazardous bulk materials indoors or in a covered area. ❑ Cover bulk materials with permanent cover (e.g., roofs) or temporary cover (e.g., tarps). ❑ Implement schedule to conduct inspections of the bulk storage areas to detect problems before they occur. ❑ Inspect all containers prior to storage of outside bulk materials. ❑ Store outside bulk materials within secondary containment either using concrete berms or other non absorbing materials. ❑ Berm, curb or dike outside bulk storage areas. ❑ Use dry cleanup methods instead of washing the areas down. ❑ Train employees on proper outside bulk storage of hazardous material techniques.

Table 2. BMPs for Potential Pollutant Sources at Hazardous Waste Treatment, Storage, or Disposal Facilities

Pollutant Source	BMPs
Vehicle and equipment fueling	❑ Conduct fueling operations (including the transfer of fuel from tank trucks) on an impervious or contained pad or under a roof or canopy where possible. Covering should extend beyond spill containment pad to prevent rain from entering. ❑ When fueling in uncovered area, use concrete pad (asphalt is not chemically resistant to the fuels being handled). ❑ Use drip pans where leaks or spills of fuel can occur and where making and breaking hose connections. ❑ Use fueling hoses with check valves to prevent hose drainage after filling. ❑ Use spill and overflow protection devices including gutter guards, basin guard, and curb guards. ❑ Keep spill cleanup material readily available. Clean up spills and leaks immediately. ❑ Minimize/eliminate run-on into fueling area with diversion dikes, berms, curbing, surface grading or other equivalent measures. ❑ Direct stormwater from fueling area into detention pond or filtering system. ❑ Use dry cleanup methods for fuel area rather than hosing down the fuel area. Implement procedures for sweeping up absorbents as soon as spilled substance have been absorbed. ❑ Fuel pumps should be protected from collisions by installing curbing or posts. ❑ Discourage "topping off" of fuel tanks. ❑ Implement inspection schedule of preventive maintenance on fuel storage tanks to detect potential leaks before they occur. ❑ Train employees as well as any outside contractor, the proper fueling techniques.
Vehicle maintenance	❑ Eliminate floor drains that are connected to the storm or sanitary sewer; if necessary, install a sump that is pumped regularly. Collected wastes should be properly treated or disposed of by a licensed waste hauler. ❑ Implement preventive measures to avoid spills and drips. ❑ Conduct all cleaning at a centralized station so the solvents stay in one area. ❑ If parts are dipped in liquid, remove them slowly to avoid spills. ❑ Use drip pans, drain boards, and drying racks to direct drips back into a fluid holding tank for reuse. ❑ Drain all parts of fluids prior to disposal. Oil filters can be crushed and recycled. ❑ Promptly transfer used fluids to the proper container; do not leave full drip pans or other open containers around the shop. Empty and clean drip pans and containers. ❑ Clean up leaks, drips, and other spills without using large amounts of water. Use absorbents for dry cleanup whenever possible. ❑ Use dry cleanup methods instead of washing the areas down. ❑ Prohibit the practice of hosing down an area where the practice would result in the discharge of pollutants to a stormwater system. ❑ Do not pour liquid waste into floor drains, sinks, outdoor storm drain inlets, or other storm drains or sewer connections. ❑ Maintain inventory of materials. ❑ Eliminate or reduce quantity of hazardous materials and waste by substituting non- hazardous or less hazardous materials. ❑ Label and track the recycling of waste material (e.g., used oil, spent solvents, batteries). ❑ Store batteries and other significant materials inside or if stored outdoors, cover with tarps and stored on spill pallets

Table 2. BMPs for Potential Pollutant Sources at Hazardous Waste Treatment, Storage, or Disposal Facilities (continued)

Pollutant Source	BMPs
Vehicle maintenance (continued)	❑ Dispose of oily rags, oil filters, air filters, batteries, spent coolant, and degreasers in compliance with RCRA regulations. Minimizing Exposure ❑ Perform all cleaning operations indoors or under covering when possible. Conduct the cleaning operations in an area with a concrete floor with no floor drainage other than to sanitary sewers or treatment facilities. ❑ If operations are uncovered, perform them on a concrete pad that is impervious and contained. ❑ Park vehicles and equipment indoors or under a roof whenever possible and maintain proper control of oil leaks/spills. ❑ Check vehicles closely for leaks and use pans to collect fluid when leaks occur. Management of Runoff ❑ Use berms, curbs, grassed swales or other diversion measures to ensure that stormwater runoff from other parts of the facility do not flow over the maintenance area. ❑ Collect the stormwater runoff from the cleaning area and provide treatment or recycling. Discharge vehicle wash or rinse water to the sanitary sewer (if allowed by sewer authority), wastewater treatment, a land application site, or recycle on-site. DO NOT discharge washwater to a storm drain or to surface water. Inspections and Training ❑ Inspect the maintenance area regularly to ensure BMPs are implemented. ❑ Train employees on waste control and disposal procedures.
Vehicle and equipment storage and parking	❑ Store vehicles and equipment indoors. ❑ Install berms and dikes in storage areas. ❑ Use absorbents and dry cleanup methods. ❑ Clean pavement surface to remove oil and grease. ❑ Use drip pans under all vehicles and equipment waiting for maintenance. ❑ Cover the storage area with a roof. ❑ Inspect the storage yard for filling drip pans and other problems regularly. ❑ Train employees on procedures for storage and inspection items.

Table 2A. BMPs for Potential Pollutant Sources Associated with Unloading and Loading at Hazardous Waste Treatment, Storage, or Disposal Facilities

Pollutant Source	BMPs
Outdoor unloading and loading	❑ Confine loading/unloading activities to a designated area. ❑ Performing loading/unloading activities indoors or in a covered area. ❑ Cover loading/unloading area with permanent cover (e.g., roofs) or temporary cover (e.g., tarps). ❑ Close storm drains during loading/unloading activities in surrounding areas. ❑ Avoid loading/unloading materials in the rain. ❑ Inspect the unloading/loading areas to detect problems before they occur. ❑ Inspect all containers prior to loading/unloading of any raw or spent materials. ❑ Berm, curb or dike loading/unloading areas. ❑ Use dry cleanup methods instead of washing the areas down. ❑ Train employees on proper loading/unloading techniques.

What if activities and materials at my facility are not exposed to precipitation?

The industrial stormwater program requires permit coverage for a number of specified types of industrial activities. However, when a facility is able to prevent the exposure of ALL relevant activities and materials to precipitation, it may be eligible to claim no exposure and qualify for a waiver from permit coverage.

If you are regulated under the industrial permitting program, you must either obtain permit coverage or submit a no exposure certification form, if available. Check with your permitting authority for additional information as not every permitting authority program provides no exposure exemptions.

Where do I get more information?

For additional information on the industrial stormwater program see **https://www.epa.gov/npdes/npdes-stormwater-program**

A list of names and telephone numbers for each EPA Region or state NPDES permitting authority can be found at **https://www.epa.gov/npdes/npdes-state-program-information**

References

Information contained in this Fact Sheet was compiled from EPA's past and current Multi-Sector General Permits and from the following sources:

- City of Phoenix, Street Transportation Department, Storm Water Management Section. 2004. Prevent Stormwater Contamination Best Management Practices for: Section K - Hazardous Waste Facilities (Typically RCRA subtitled) SIC Code - NA/NAICS Code - 562211. SIC Codes: 3210-3299."
- Naval Facilities Engineering Service Center. "Storm Water Best Management Practices (BMP) Decision Support Tool: Storm Water Pollution Prevention Options by Category. Category: Hazardous Waste Storage, Treatment, and Recycling."
- Orange County, California; Watershed & Coastal Resources Division.
- U.S. EPA, September 1992. Stormwater Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices. EPA 832-R-92-006.
- U.S. EPA, Office of Science and Technology. 1999. Preliminary Data Summary of Urban Stormwater Best Management Practices. EPA-821-R-99-012.
- U.S. EPA, Office of Wastewater Management. NPDES Stormwater Multi-Sector General Permit for Industrial Activities (MSGP).

HOMEOWNER'S MAINTENANCE CHECKLIST

Properly constructed private water supply systems require little routine maintenance. These simple steps will protect your system and investment:

1. Always use licensed or certified water well drillers and pump installers when a well is constructed, a pump is installed, or the system is serviced. ✔
2. An annual well maintenance check, including a bacterial test, is recommended. Drinking water should be checked any time there is a change in taste, odor, or appearance, or when the well system is serviced. ✔
3. Keep hazardous chemicals, such as paint, fertilizer, pesticides, and motor oil, far away from your well. ✔
4. Periodically check the well cover or well cap on top of the casing (well) to ensure it is in good repair. ✔
5. Always maintain proper separation between your well and buildings, waste systems or chemical storage facilities. Your professional contractor knows the rules. ✔
6. Don't allow back-siphonage. When mixing pesticides, fertilizers, or other chemicals, don't put the hose inside the tank or container. ✔
7. When landscaping, keep the top of your well at least 1 foot above the ground. Slope the ground away from your well for proper drainage. ✔
8. Take care in working or mowing around your well. A damaged casing could jeopardize the sanitary protection of your well. Don't pile snow, leaves, or other materials around your well. ✔
9. Be aware of changes in your well, the area around your well, or the water it provides. ✔
10. When your well has come to an end of its serviceable life (usually 20+ years), have a qualified water well contractor decommission it after constructing your new system. ✔

LOOKING FOR A GROUNDWATER PROFESSIONAL?
GO TO WELLOWNER.ORG/FIND-A-CONTRACTOR TODAY

RCAP Rural Community Assistance Partnership www.rcap.org

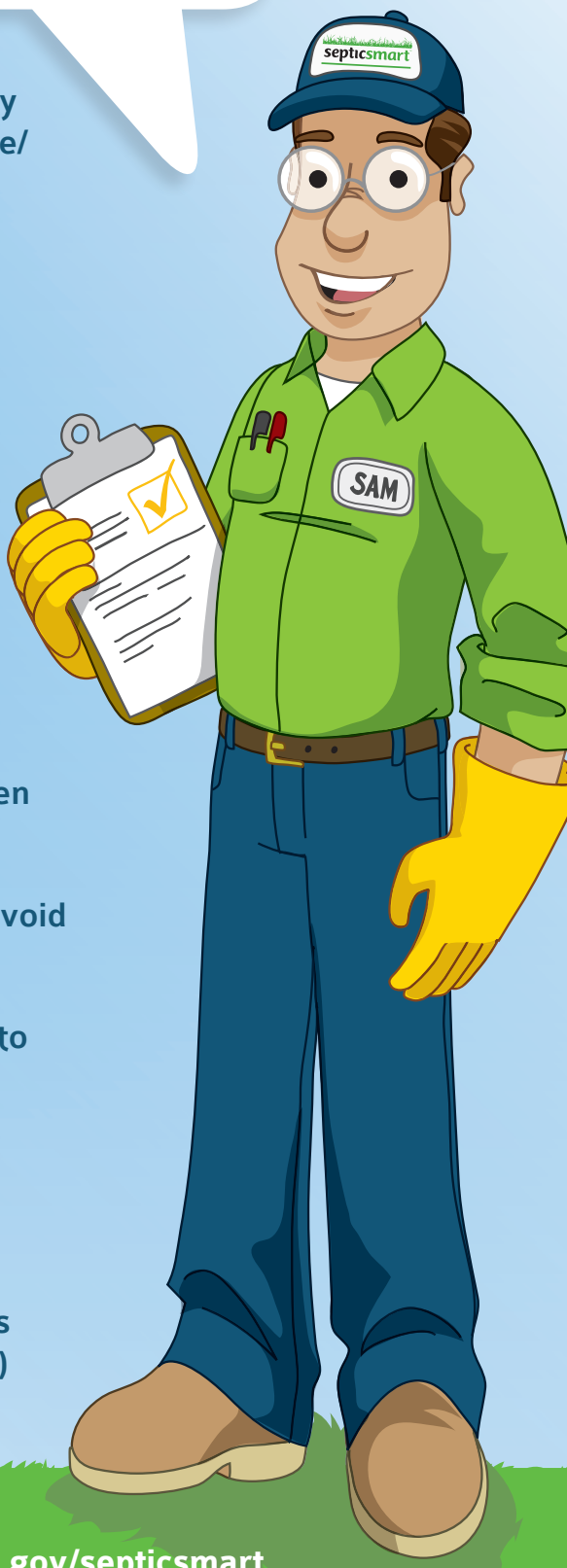
Wellowner.org

NGWA The Groundwater Association FOCUSED ON THE FUTURE

WellOwner.org is supported by the Rural Community Assistance Partnership (RCAP.org), as part of the USEPA funded program "Improving Water Quality through Training and Technical Assistance to Private Well Owners."

Top 10 Ways to Be a Good Septic Owner

- Have your system inspected every three years by a qualified professional or according to your state/ local health department's recommendations
- Have your septic tank pumped, when necessary, generally every three to five years
- Avoid pouring harsh products (e.g., oils, grease, chemicals, paint, medications) down the drain
- Discard non-degradable products in the trash (e.g., floss, disposable wipes, cat litter) instead of flushing them
- Keep cars and heavy vehicles parked away from the drainfield and tank
- Follow the system manufacturer's directions when using septic tank cleaners and additives
- Repair leaks and use water efficient fixtures to avoid overloading the system
- Maintain plants and vegetation near the system to ensure roots do not block drains
- Use soaps and detergents that are low-suds, biodegradable, and low- or phosphate-free
- Prevent system freezing during cold weather by inspecting and insulating vulnerable system parts (e.g., the inspection pipe and soil treatment area)



septicsmart
U.S. Environmental Protection Agency

For more SepticSmart tips, visit **www.epa.gov/septicsmart**

EPA EPA-832-F-16-010 | July 2016

Storey County Household Hazardous Waste Disposal

Household Hazardous Waste (HHW) includes household cleaners, car batteries, pesticides, paints and solvents, motor oil, etc. Used motor oi, antifreeze, and car batteries are collected at the Virginia City Transfer Station. Additionally, E-waste is accepted at the Lockwood Landfill. For more information about were to dispose of Household Hazardous Wase (HHW), visit:

https://www.storeycounty.org/government/departments/community_relations/transfer_station.php.

Transfer Station

Lockwood Landfill
2700 Mustang Road
Sparks, NV

Open Monday - Saturday
8:00 AM - 4:30 PM
Closed All Holidays

Storey County Transfer Station

E. Washington & R Street Virginia City, NV

Open Thursday - Saturday (winter hours)
8:00 AM - 3:30 PM
(closed: 12:00 - 12:30 PM)
Closed All Holidays

Beginning April 28, 2023
Open Friday - Sunday (summer hours)
8:00 AM - 3:30 PM
(closed: 12:00 - 12:30 PM)
Closed All Holidays

Dayton Transfer Station
5000 Enterprise Road
Dayton, NV

Open Saturday - Wednesday
8:00 AM - 4:30 PM
(closed: 12:00 - 12:30 PM)
Closed All Holidays

New Sunday Rate Reduction MOU 2021

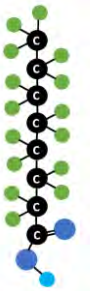
Resident Free Dump Vouchers – Vouchers available for pickup at the Storey County Courthouse, County Managers Office

Storey County residents are entitled to three (3) free-dump vouchers per year to use at the Virginia City Transfer Station or the Lockwood Regional Landfill.

Up to three (3) cubic yards may be dumped for each voucher. Limitations include transfer station and landfill operation hours and days, certain waste type waste limitations, single-family residences only (no apartments or businesses). For additional details, review the solid waste franchise agreement, fees, and contact information are posted here. View flyer here. Customers may also contact a local Waste Management representative at the following email: storeycounty@wm.com

PFAS Explained:

Scientific studies have shown that exposure to some PFAS in the environment may be linked to harmful health effects in humans and animals.



What are PFAS?

PFAS are manufactured chemicals that have been used in industry and consumer products since the 1940s.
Because of their widespread use and their persistence in the environment, many PFAS are found in the blood of people and animals all over the world. There are thousands of different PFAS, some of which have been more widely used and studied than others.

Are PFAS safe?

Research is ongoing to determine how exposure to different PFAS can lead to a variety of health effects. Studies have shown that exposure to certain levels of PFAS may lead to:

Cancer Effects
Increased risk of some cancers, including prostate, kidney, and testicular cancers.

Weight Effects
Increased cholesterol levels and/or risk of obesity.

Immune Effects
Reduced ability of the body's immune system to fight infections.

Developmental Effects
Low birth weight, accelerated puberty, bone variations, or behavioral changes.

Reproductive Effects
Decreased fertility or increased high blood pressure in pregnant women.

The more we learn about PFAS chemicals, the more we learn that certain PFAS can cause health risks even at very low levels. This is why anything we can do to reduce PFAS in water, soil, and air, can have a meaningful impact on health. EPA is taking action to reduce PFAS in water and in the environment. You can also take action if you remain concerned about your own risk.

Read on to learn where PFAS are coming from, how EPA is taking action on PFAS, and what actions you can take.

PFAS Explained:

Where are PFAS found?

Most people in the United States have been exposed to some PFAS. People can be exposed to PFAS by touching, drinking, eating, or breathing in materials containing PFAS. PFAS may be present in:

Drinking Water
An important potential source of PFAS exposure.

Waste Sites
Soil and water at or near landfills, disposal sites, and hazardous waste sites.

Fire Extinguishing Foam
Used in training and emergency response events at airports and firefighting training facilities.

Facilities
Chrome plating, electronics, and certain textile and paper manufacturers that produce or use PFAS.

Consumer Products
Stain- or water-repellent, or non-stick products, paints, sealants, and some personal care products.

Food Packaging
Grease-resistant paper, microwave popcorn bags, pizza boxes, and candy wrappers.

Biosolids
Fertilizer from wastewater treatment plants used on agricultural lands can affect ground and surface water.

Food
Fish caught from water contaminated by PFAS and dairy products from livestock exposed to PFAS.

Very little of the PFAS in water can get into your body through your skin, so, showering, bathing, and washing dishes in water containing PFAS are unlikely to significantly increase your risk.

EPA's researchers and partners across the country are working hard to understand how much PFAS people are exposed to and how.

Keep reading to find out how EPA is taking action on PFAS.

EPA is taking action to address PFAS

In October 2021, EPA released its PFAS Strategic Roadmap, which highlights concrete actions the Agency will take across a range of environmental media and EPA program offices to protect people and the environment from PFAS contamination. The Roadmap is guided by three primary goals:

- **Research** — Invest in research, development, and innovation
- **Restrict** — Prevent PFAS from entering air, land, and water
- **Remediate** — Broaden and accelerate the cleanup of PFAS contamination

Since the Roadmap's release, EPA has taken a number of key actions including:

- **Began distributing $10 billion in funding to address emerging contaminants under the Bipartisan Infrastructure Law (BIL).**
- **Issued health advisories for PFAS and proposed new, legally, enforceable Maximum Contaminant Levels (MCLs) for six PFAS substances known to occur in drinking water.**
- **Proposed to designate two PFAS as CERCLA hazardous substances.**
- **Laid the foundation for enhancing data on PFAS.**

To learn more about the PFAS Strategic Roadmap and key actions taken by EPA scan the QR code.

SCAN ME

Turn the page to learn what actions you can take.

EPA

PFAS Explained:

Actions you can take: Protect your drinking water

1

Find out if PFAS are in your drinking water:

- If you get your water from a public drinking water system, reach out to your local water utility to see if they do testing. Or, you can choose to test the water yourself.
- If you get your water from a home drinking water well, you are responsible for conducting regular testing.
- If you choose to test your water yourself, contact your state environmental or health agency for detailed advice or to obtain a list of state-certified laboratories using EPA-developed testing methods in drinking water.

2

Compare your results to your state standards for safe levels of PFAS in drinking water or to EPA's Health Advisory Levels (HALs) for PFAS.

Scan this code for more information about HALs:

SCAN ME

3

If you remain concerned about the level of PFAS in your drinking water:

- Contact your state environmental and health agencies for recommendations.
- Consider installing an in-home water treatment (e.g., filters) that are certified to lower the levels of PFAS in your water.
- Consider using an alternate water source for activity when your family might swallow water.

EPA makes frequent updates to its PFAS website:

To learn more about PFAS, scan the QR code to the right or go to https://www.epa.gov/pfas.

SCAN ME

Keep it Flowing!

A Guide to Caring for Your Septic System

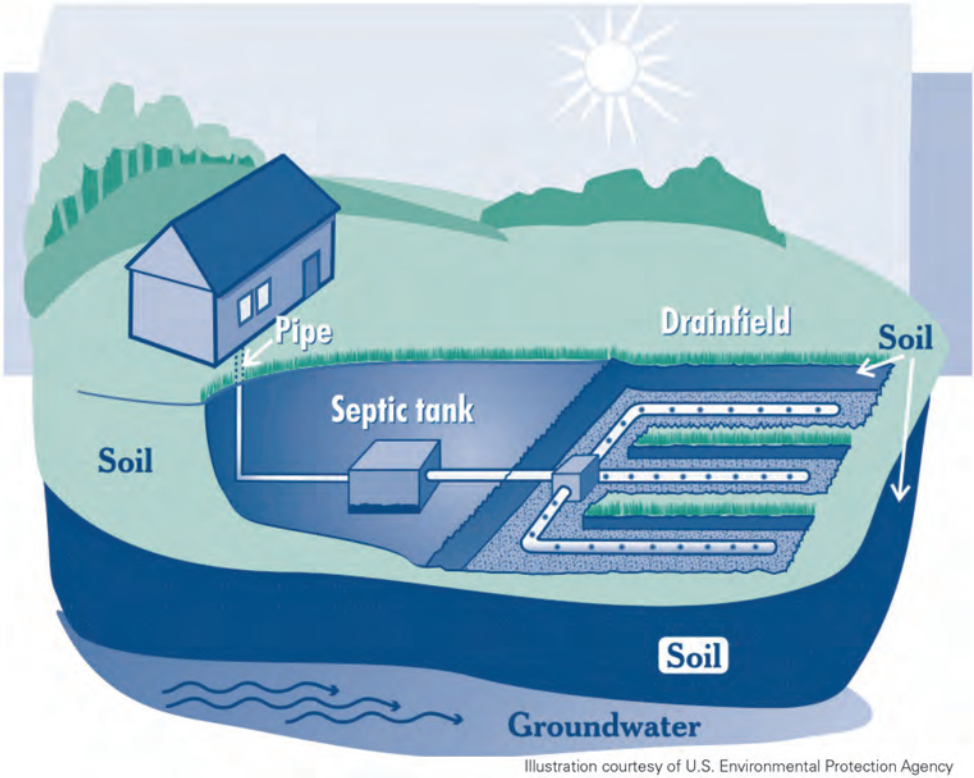


Illustration courtesy of U.S. Environmental Protection Agency

LOCALLY MADE
PRECAST PROUD
QUALITY ASSURED

Your Precast Concrete Septic Tank

Congratulations on your new precast concrete septic tank! A high-quality precast concrete tank is an important part of your septic system. With proper care, it will provide you with many years of reliable service.

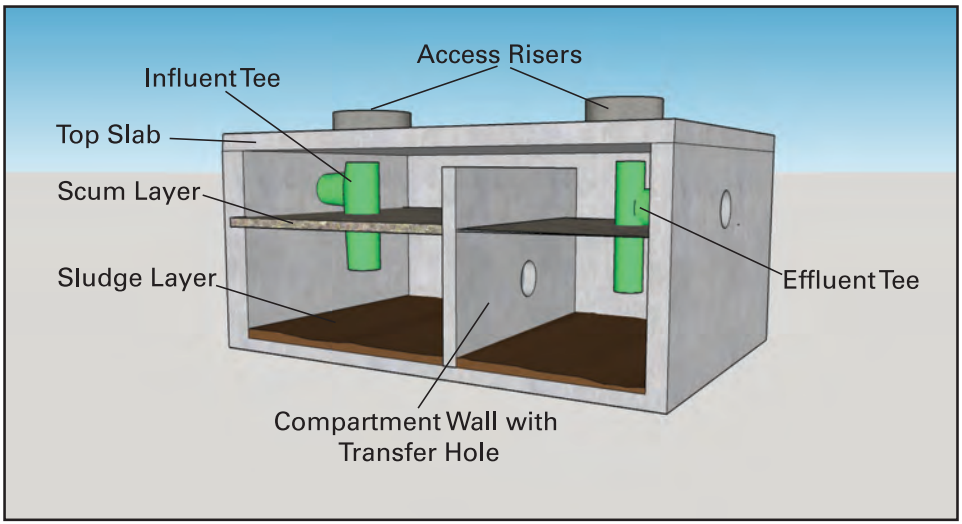
Septic systems come in many styles and may include a variety of components that require additional service, but the same basic care guidelines apply to nearly all septic systems.

Check with your installer or local Health Department if you have questions. Or, see the list of resources at the end of this booklet.

Top 4 Things You Can Do to Protect Your System

1. Regularly inspect your system and pump your tank as necessary.
2. Use water efficiently.
3. Don't dispose of household hazardous wastes in sinks or toilets.
4. Take care of your drain field.

–Environmental Protection Agency



A Long-Lasting Septic System

With proper care and routine maintenance, your septic system will last a long time. It is important to follow these simple guidelines to ensure years of trouble-free service.

- It is extremely important to keep man-made materials from entering your septic system. So never flush plastic wrappers, diapers, tampons, coffee grounds, cigarette butts, cooking fats, paint or food items.
- Using a garbage disposal will cause your tank to fill more rapidly. Many states require larger tanks if garbage disposals are used.
- Determine how often you need to have your tank pumped based on its size, number of people living in the house and usage patterns. Your installer may be able to help you determine a schedule for inspections and pumping.
- Divert roof drains and water from the driveway away from the septic system.
- Draw a diagram marking the location of your septic tank and disposal field and keep it in a handy place.
- Never park on or drive through the disposal field. Do not park or drive over the tank, unless it is traffic-rated. Cars, trucks, excavating equipment and other heavy equipment will damage the system. Lawn mowers and lawn tractors are acceptable.

What's in the Tank?

Your precast concrete septic tank is a high-quality, watertight container that holds wastewater long enough to allow solids to settle out (sludge) and oil and grease to float to the surface (scum).

Compartments in the tank prevent the sludge and scum from leaving the tank and traveling into the drain field.

Frequently Asked Questions

Why should I maintain my septic system?

When septic systems are properly designed, constructed and maintained, they effectively reduce or eliminate most human health or environmental threats posed by pollutants in household wastewater. However, they require regular maintenance or they can fail. Septic systems need to be monitored to ensure that they work properly throughout their service lives.

How often does my system need to be pumped?

Your installer should be able to help you determine how often your system needs to be inspected and pumped.

How do I know if I have a blocked pipe, a full septic tank or a clogged disposal field?

Signs of a failing system include slow draining or flushing of toilets; sewage backup into the house; sewage odors near the tank; and sewage in the lawn. Problems can be difficult to diagnose, so it is best to call a professional if you experience any of these situations.

Should I use a septic system additive to help keep the tank clean?

Products are available that claim to break down sludge in septic tanks so that they never need to be pumped. While there is some disagreement on the effectiveness of additives, the typical septic tank will contain all the microbes it needs for effective treatment. The best way to ensure your system works properly is through periodic pumping and regular inspections.

Can too much water damage the system?

The best way to ensure the long-term health of your system is to avoid flooding it with water. Leaking faucets and older toilets that use lots of water make your system less efficient. Washing multiple loads of clothes on the same day will also tax many septic systems. In general it's a good idea to monitor the use of water in your home and try to avoid using too much water at the same time.

How Does it Work?

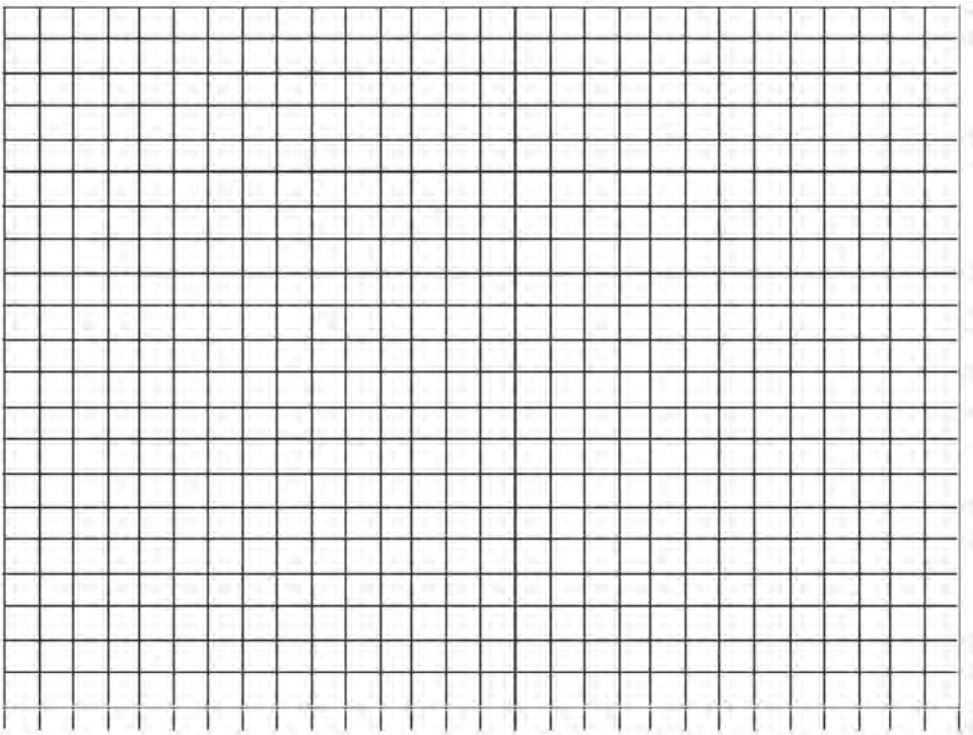
Everything that goes down the drain and toilet ends up in the septic tank. There it is greeted by billions of microscopic bacteria that break down the waste as it is filtered and separated through a variety of chambers (see diagram). The filtered waste leaves the tank and, in most cases, passes through a disposal field – a series of underground perforated pipes – where it is again filtered by the soil before it reaches the water table.

Septic System Maintenance Record

Date	Description

Diagram of Septic System Location

So you remember the exact location of your septic tank and disposal field in relation to your house, make a diagram showing the house, the tank and drain field.



For More Information

Environmental Protection Agency
epa.gov/septic

National Small Flows Clearinghouse
nesc.wvu.edu

National Precast Concrete Association
precast.org/precast-product/septic-tanks/

National Onsite Wastewater Recycling Association
nowra.org

Find a Local Professional
septiclocator.com

National Association of Wastewater Transporters
nawt.org

What Does an Inspection Include?

- Locating the system
- Uncovering access holes
- Flushing the toilets
- Checking for signs of backup
- Measuring scum and sludge layers
- Identifying any leaks
- Inspecting mechanical components
- Pumping the tank (if necessary)

YOUR LOCAL SERVICE PROVIDER IS:

Attachment D

Online Resources

Attachment D

Online Resources

For more information on your drinking water, visit local and regional websites (links may change) which support source water protection and conservation education and the State of Nevada Integrated Source Water Protection Program. Go to:

Source Water Protection

Association of State Drinking Water Administrators – Stormwater Calculator: https://www.asdwa.org/2013/07/26/national-stormwater-calculator-helps-manage-stormwater-runoff/

Association of State Drinking Water Administrators – Stormwater BMPs: https://stormwater-1.itrcweb.org/

Association of State Drinking Water Administrators - Source Water Protection: https://www.asdwa.org/source-water/

Nevada Integrated Source Water Protection Program: https://ndep.nv.gov/water/source-water-protection/integrated-source-water-protection

USEPA – Drinking Water Treatability Database: https://tdb.epa.gov/tdb/home/

USEPA - Spill Prevention, Control, and Countermeasure Guidance: https://www.epa.gov/oil-spills-prevention-and-preparedness-regulations/oil-spills-prevention-and-preparedness-guidance

USEPA - Industrial Stormwater Fact Sheet Series: https://www.epa.gov/npdes/industrial-stormwater-fact-sheet-series

Emerging Contaminants

Interstate Technology Regulatory Council - Emerging Contaminants: https://cec-1.itrcweb.org/

Interstate Technology Regulatory Council - Per- and Polyfluoroalkyl Substances: https://pfas-1.itrcweb.org/

USEPA – Safer Choice Standard: https://www.epa.gov/saferchoice/products

USGS - Emerging Contaminants: https://www.usgs.gov/mission-areas/water-resources/science/emerging-contaminants

Hazardous Waste

National Groundwater Association - Groundwater Fundamentals: https://www.ngwa.org/what-is-groundwater/About-groundwater

USEPA - Hazardous Waste Generators: https://www.epa.gov/hwgenerators

Private Well Maintenance

Rural Community Assistance Corporation - Private Well Class: https://privatewellclass.org/

USEPA – Private Drinking Water Wells: https://www.epa.gov/privatewells

Septic System Maintenance

USEPA - SepticSmart Education Materials: https://www.epa.gov/septic/septicsmart-education-materials

K-12 Educational Resources

USEPA - Drinking Water and Groundwater Kids Stuff: https://www3.epa.gov/safewater/kids/index.html

USGS - Water Science School: https://www.usgs.gov/special-topics/water-science-school

Appendix D

Meeting Notes

Appendix D
Meeting Notes

Storey County & Public Water System
2023 Public Participation and Support Letters

TRI General Improvement District
Board of Trustees
Staff Report

Meeting Date: August 3, 2023 **Agenda Item No.** 7

Prepared by: Shari Whalen, P.E., CPM **Legal Review:** Debbie Leonard, Esq.

Title:

Presentation, Discussion and Possible Action to Request TRIGID Participation in the State of Nevada Integrated Source Water Protection Program (ISWPP), a Voluntary Program to Prevent the Pollution of Drinking Water Sources

Fiscal Impact:

None

Recommended Motion:

I move to approve the letter of request for TRIGID participation in the State of Nevada ISWPP Program and to authorize the President of the Board of Trustees to sign the request letter on behalf of TRIGID

Staff Summary:

TRIGID has been provided an opportunity to take advantage of a Nevada Division of Environmental Protection (NDEP) program to help develop an Integrated Source Water Protection Plan (ISWPP). ISWPP is a comprehensive, voluntary approach designed to help local governments and communities develop and implement a plan that protects their drinking water supplies with an emphasis on groundwater resources. Through NDEP, ISWPP helps communities protect their drinking water.

NDEP encourages, motivates and supports local source water protection activities; manages, shares and integrates source water protection information; develops federal, state and local source water protection partnerships; and integrates and implements source water protection at the state level. NDEP has contracted with a technical service provider, Resource Concepts, Inc. (RCI), to assist in every aspect of source water protection planning and implementation for public water systems and community stakeholders should they choose to participate in the planning process.

With the assistance of RCI, TRIGID, its customers, and
other stakeholders will identify sensitive drinking water protection areas and activities that could contaminate water sources in these areas. TRIGID, its customers, and stakeholders can then set source water protection goals, develop strategies to prevent drinking water contamination, and identify resource needs to implement a source water protection plan.

Attachments:

ISWPP Fact Sheet and TRIGID Letter of Request

TRI-GID

TRI General Improvement District
1705 Peru Drive, #104
McCarran, Nevada 89437
775-636-6126

August 3, 2023

Mr. Brendon Grant, PE
Integrated Source Water Protection Program
Nevada Division of Environmental Protection
901 South Stewart Street, Suite 4001
Carson City, Nevada 89701-5249

RE: Participation in the Integrated Source Water Protection Program

Dear Mr. Grant,

Pursuant to the action taken by the TRI General Improvement District Board of Trustees at its regular meeting on August 3, 2023, TRI General Improvement District hereby requests participation in the State of Nevada Integrated Source Water Protection Program (ISWPP).

The Board of Trustees considers the quality of drinking water sources to be a critical consideration for our customers. We understand the Nevada Division of Environmental Protection (NDEP), Bureau of Safe Drinking Water, administers the ISWPP for the purpose of providing technical assistance to public water systems and communities throughout Nevada for drinking water quality protection and preservation.

The Board supports its staff's participation in developing a community source water protection plan. We will provide a liaison to facilitate District involvement and work with NDEP, its contracted technical assistance provider, local customers and stakeholders toward successful completion of this plan.

Sincerely,

Julian "Jay" Carmona,
President, TRIGID Board of Trustees

CANYON GENERAL IMPROVEMENT DISTRICT

800 Peri Ranch Rd., Suite 103, Sparks, NV 89434 Phone 342-2850 Fax 342-2851

November 30, 2023

Mr. Brendon Grant. PE
Integrated Source Water Protection Program
Nevada Division of Environmental Protection
901 South Stewart Street, Suite 4001
Carson City, NV.

RE: Participation in the Integrated Source Water Protection Program

Dear Mr. Grant;

Pursuant to the action taken by the Canyon General Improvement District (CGID) Board of Trustees at its regular meeting on November 21, 2023, CGID would like to review any proposed consolidated Storey County Integrated Source Water Protection Program at a future meeting before approval.

The CGID Board supports its staff to work with Resource Concepts Inc. (RCI) Jill Sutherland, Storey County, and any other entities involved on this project to see if will be feasible for the CGID.

Sincerely,

Dave Hart

Dave Hart,
Chairman of the Board,
Canyon General Improvement District

Cc: Jill Sutherland, P.E., RCI

Board of Storey County Commissioners
Agenda Action Report

Meeting date: 12/19/2023 10:00 AM - BOCC Meeting	**Estimate of Time Required:** 5
Agenda Item Type: Discussion/Possible Action	

- **Title:** A Request for Storey County to participate in the State of Nevada Integrated Source Water Protection Program (ISWPP), a voluntary program to prevent the pollution of drinking water sources.

- **Recommended motion:** In accordance with the recommendation by staff, I [Commissioner], hereby move to approve the letter of request for Storey County to participate in the State of Nevada Integrated Source Water Protection Program.

- **Prepared by:** Kathy Canfield

  Department: **Contact Number:** 7758471144

- **Staff Summary:** See staff report and letter

- **Supporting Materials:** See attached

- **Fiscal Impact:** None

- **Legal review required:** False

- **Reviewed by:**

  ____ Department Head **Department Name:**

  ____ County Manager **Other Agency Review:** _____

- **Board Action:**

[ ] Approved	[ ] Approved with Modification
[ ] Denied	[ ] Continued

STOREY COUNTY
PLANNING DEPARTMENT
Storey County Courthouse
26 South B Street, PO Box 176, Virginia City, NV 89440 Phone (775) 847-1144 – Fax (775) 847-0949
planning@storeycounty.org

To:	Storey County Board of County Commissioners
From:	Storey County Planning Department
Meeting Date:	December 19, 2023
Meeting Location:	Storey County Courthouse, 26 S. B Street, Virginia City, Storey County, Nevada, via Zoom
Staff Contact:	Kathy Canfield
Request:	Approval for Storey County to participate in the State of Nevada Integrated Source Water Protection Program (ISWPP), a voluntary program to prevent the pollution of drinking water sources.

1. Background & Analysis:

Storey County, and the public water systems located within the County, have been provided an opportunity to take advantage of a Nevada Division of Environmental Protection (NDEP) program to help develop an Integrated Source Water Protection Plan (ISWPP). ISWPP is a comprehensive, voluntary approach designed to help local governments and communities develop and implement a plan that protects their drinking water supplies with an emphasis on groundwater resources. Through NDEP, ISWPP helps communities protect their drinking water.

NDEP encourages, motivates and supports local source water protection activities; manages, shares and integrates source water protection information; develops federal, state and local source water protection partnerships; and integrates and implements source water protection at the state level. NDEP has contracted with a technical service provider, Resource Concepts, Inc. (RCI), to assist in every aspect of source water protection planning and implementation for public water systems and community stakeholders should they choose to participate in the planning process.

With the assistance of RCI, and other stakeholders, Storey County will set source water protection goals, identify sensitive drinking water protection areas or activities that could contaminate water sources, and then develop strategies to prevent drinking water contamination.

Both TRI-GID and Canyon GID are participating with NDEP in the development of a plan for their jurisdictions and have identified Storey County as being an integral part of their plan development. Storey County anticipates the developing a voluntary plan for not only the water sources for Storey County municipal service, but that also assists TRI-GID and Canyon GID in their goals.

2. Recommended Motion

In accordance with the recommendation by staff, I [*Commissioner*], hereby move to approve the letter of request for Storey County to participate in the State of Nevada Integrated Source Water Protection Program.

STOREY COUNTY COMMISSIONERS' OFFICE
Storey County Courthouse
26 South "B" Street
P.O. Box 176 Virginia City, Nevada 89440
hone (775) 847-0968 Fax (775) 847-0949
commissioners@storeycounty.org

December 19, 2023

Mr. Ethan Mason
Integrated Source Water Protection Program
Nevada Division of Environmental Protection
901 South Stewart Street, Suite 4001
Carson City, Nevada 89701-5249

RE: Participation in the Integrated Source Water Protection Program

Dear Mr. Mason:

Pursuant to the action taken by the Storey County Commissioners at its regular meeting on December 19, 2023, Storey County hereby requests participation in the State of Nevada Integrated Source Water Protection Program (ISWPP).

Storey County considers the quality of drinking water sources to be a critical consideration for our communities. We understand the Nevada Division of Environmental Protection (NDEP), Bureau of Safe Drinking Water, administers the non-regulatory ISWPP for the purpose of providing technical assistance to public water systems and communities throughout Nevada for drinking water quality protection and preservation.

The Storey County Board of County Commissioners supports participation of Storey County staff in developing a community source water protection plan. We will provide a liaison to facilitate County involvement and work with NDEP's contracted technical assistance provider and local stakeholders toward successful completion of this plan.

Sincerely,

Jay Carmona
Chairman
Storey County Board of County Commissioners

Appendix D
Meeting Notes

Storey County & Public Water System
2024 Pubic Participation & Team Meetings

Draft Agenda

Source Water Protection Program

TRI-GID Source Water Protection Planning

Date: October 13, 2023
Time: 3:00 to 4:00 p.m.
Where: Virtual Meeting on Teams

1. **Update on the CSWP Plan Process and Schedule**
2. **Discuss CSWP Plan Goals for TRI-GID**
3. **Review preliminary Potential Contaminant Source Inventory**
   - Examples of different types,
   - Discuss local criteria and concerns.
4. **Water Sources and Simulation Criteria**
5. **Schedule and Next Steps**

   Next meeting scheduled for Thursday November 10, 2023, 9-10 AM.

Draft Meeting Notes

TRI-GID and RCI

Friday, October 13, 2023
3:00pm-4:00pm (Pacific)
Virtual Meeting

Attending

NAME	CONTACT INFORMATION		AFFILIATION
Shari Whalen	775-636-6126	swhalen@tri-gid.org	TRI-GID General Manager
Alison Cramer	775-883-1600	alison@rci-nv.com	Resource Concepts, Inc. (RCI)
Jill Sutherland	775-883-1600	jill@rci-nv.com	Resource Concepts, Inc. (RCI)

Purpose & Overview

The purpose of this meeting was to discuss the development of a Community Source Water Protection (CSWP) Plan in Storey County.

Discussion

Update on the CSWP Plan Process and Schedule

RCI gave TRI-GID an update on Planning Team (Team) members who are interested in representing Storey County, including:

- Storey County Planning Manager,
- Storey County Emergency Manager,
- Canyon GID Manager, and
- NvRWA Source Water Protection Specialist.

RCI will coordinate a Team meeting to review the CSWP Plan planning process and develop CSWP Plan Goals.

Discuss CSWP Plan Goals for TRI-GID

Keeping in mind that the industrial center should be friendly to industrial development, The TRI-GID provided insight into the reasons they would like to pursue a CSWP Plan, including:

- Given that there can be no real limit on development near drinking water wells, TRI-GID would like to develop best management practices (BMPs) or suggestions that both encourage development and work to protect source water,
    - What can TRI-GID suggest that industries do to protect source water?
        - BMPs, secondary containment intact and approved, and established minimum criteria.
        - RCI will look further into BMPs for industrial areas that are designed to keep the groundwater safe.
- Develop and emergency response for spills in the area that may impact groundwater.
    - How does TRI-GID get notified if there is a spill near their water sources?

Review Preliminary Potential Contaminant Source (PCS) Inventory

The TRI-GID gave the Group an overview of PCSs that might be a concern for drinking water, including:

- Underground Storage Tanks,
    - Chronic leaking, failure, isolated incidents.

- Commercial Wells,
    - What are the safety protocols?
    - Who runs the Environmental Health and Safety Programs?
    - How can commercial wells be involved in community source water protection?
        - Proximity to groundwater.
- Industry in close proximity to groundwater wells.
    - If there is a spill or leak, which way does the groundwater flow and are the closest water sources in danger of contamination?

Water Sources and Simulation Criteria

RCI provided a brief overview of the Capture Zone simulation method from EPA's Wellhead Analytic Element Model (WhAEM). TRI-GID agreed that the time-of-travel capture zone simulations could be a great tool to use when working on source water protection with various industries.

Next Steps / To Do List

Next Meeting is scheduled for November 10, 2023 from 11:30AM - 12:30PM

RCI:

- Schedule a Team meeting, and
- Continue to develop the PCS Inventory based on comments and concerns for TRI-GID review on November 10, 2023.

TRI-GID:

- Send RCI the signed letter for NDEP requesting technical assistance.
- Continue to think about Source Water Protection goals.

DRAFT Agenda

Source Water Protection Program

Source Water Protection Program

Planning Team Meeting #1

Date: November 28, 2023
Time: 10 to Noon
Where: In person – near Canyon and TRI GIDs final location TBD

1. **Welcome & Introductions**
2. **Brainstorm Source Water Protection Goals**
3. **Public Water Systems in Storey County**
   Review drinking water sources
   Existing Wellhead Protection Plans
4. **Potential Sources of Contaminants**
   Review types
   Preliminary mapping & DWMaps https://geopub.epa.gov/dwwidgetapp/
5. **Revisit Goals**
6. **Schedule and Next Steps**

Draft Meeting Notes

TRI-GID, Storey County, NDEP, NvRWA, and RCI

Wednesday, November 28, 2023
10:00am-11:00am (Pacific)
In-Person Meeting at TRI-GID

Attending

NAME	CONTACT INFORMATION		AFFILIATION
Kathy Canfield	775-847-1144	kcanfield@storeycounty.org	Planning Manager, Storey County
Jason Wierzbicki	775-847-0958	jwierzbicki@storeycounty.org	Public Works Director, Storey County
Mitch Andreini	775-342-2850	canyongid@att.net	General Manager, Canyon GID
Shari Whalen	775-636-6126	swhalen@tri-gid.org	General Manager, TRI-GID
Christopher Berkey	702-540-6107	christohperb@nvrwa.org	Source Water Protection Specialist, Nevada Rural Water Assoc. (NvRWA)
Ethan Mason	775-687-9311	e.mason@ndep.nv.gov	Coordinator, NDEP Integrated Source Water Protection Program (ISWPP)
Alison Cramer	775-883-1600	alison@rci-nv.com	Resource Concepts, Inc. (RCI)
Jill Sutherland	775-883-1600	jill@rci-nv.com	Resource Concepts, Inc. (RCI)

Purpose & Overview

The purpose of this meeting was to discuss the development of a Community Source Water Protection (CSWP) Plan in Storey County.

Discussion

1. Welcome & Introductions

The meeting began with an introduction from each Group member, their affiliation, and their role in source water protection.

2. Integrated Source Water Protection Program

RCI gave an overview of Nevada's Integrated Source Water Protection Program (ISWPP); a voluntary program to empower communities to develop and implement a local Community Source Water Protection Plan (CSWP Plan) to protect their sources of drinking water from human activities that could cause contamination. See attached PowerPoint for additional details.

The ISWPP seeks approval from stakeholders (County Commission, City Council, public water systems, etc.) for participation in the technical assistance program:

- At the start, a Letter of Support indicating a desire to participate in the CSWP Plan development.
- At the finish, approval or adoption of this local CSWP Plan developed (non-regulatory).

Upon local approval, the ISWPP will endorse the plan, which also makes technical assistance available from the ISWPP to support implementation of the Action Plan.

Current status and upcoming Letters of Support:

- TRI-GID Board of Trustees has approved a letter of support, dated August 3, 2023.
- Canyon GID staff presented to their Board of Trustees in mid-November. Letter of Support is anticipated in early December.
- Storey County anticipates requesting support for ISWPP participation at the Board of Commissioners meeting in December.

TRI-GID, Canyon GID, and Storey County staff agreed that to move forward with successful CSWP Plan development, and achievable action plan projects, it is important to have the support of Storey County. The group brainstormed about source water protection in their community; ideas including:

- Storey County is a partner in TRI-GID and Canyon GID's goals to preserve and protect their ground and surface water supplies. Planning, emergency services and public works coordinate with partners throughout the County.
- Canyon GID works closely with Storey County, as their service boundary extends beyond Lockwood.
    - The aquifer where they source water extends beyond areas under their jurisdiction for land use.
    - There's a need for public awareness about drinking water sources and to manage contaminants and (business and the general public).
- Storey County operates one public water system that relies on surface water supplies (Marlette Lake), in which they have no control over protection at the source.
    - The water system was constructed in 1873 and Storey County is replacing parts of the pipeline.
- Storey County currently has goals and policies in the Master Plan that safeguard wellheads, and building the CSWP Plan around those Goals for TRI-GID and Canyon GID will be important for Storey County support, adoption, and implementation of the CSWP Plan.
    - Only Storey County has zoning and land use authority in and around wellheads.
    - The TRI Development Agreement is important to consider in source water protection planning.
- TRI-GID is interested in working with the industries they serve to develop best management practices (BMPs), emergency protocols, spill controls, and/or operating requirements to protect source water.
- Storey County has a large number of residences with domestic wells and individual sewage disposal systems (ISDSs) and is interested in expanding source water protection education into these communities.
    - Storey County is interested in promoting county-wide source water protection - flyers, social media, public outreach, etc. (no outreach coordinator or GIS specialist on staff).
    - The group agreed that source water protection education for wellhead protection, septic care and maintenance, and potential contamination for the general public supports source water protection for the public water systems.

3. Public Water Systems in Storey County

The Storey County staff, TRI-GID staff, and Canyon GID staff gave a review of their water systems. The group discussed potential future water sources.

- Marlett Lake Water System falls under Storey County jurisdiction from the east side of I-580 at Lakeview to Virginia City.
    - Water is transferred from Marlette Lake, into Five-Mile reservoir, and then into a storage tank in Virginia City.
    - The group agreed that RCI should reach out to the State of Nevada, Marlette Lake Water System operator and invite him to join the Planning Team (Team).
- The Group agreed that RCI should reach out to the additional water systems in USA Parkway to introduce source water protection and invite them to participate on the Team, including:
    - Asia Union Electronic Chemicals, Reno.

        - Connected to TRI-GID but still have an active well listed in Nevada's Drinking Water Watch.
    - EP Minerals LLC Clark.
        - Future plans to connect to TRI-GID, and industrial well will stay in service.
    - Mars Petcare US, Inc.
- The inactive public water system, "Mustang Ranch" is in an area that may need future water service.
    - A portion of the Mustang Ranch area is served by TRI-GID.
    - Canyon GID would need to expand their service connections to accommodate new development.
    - Storey County will have the final say relative to new developments.
    - Source water protection strategies outlined in the CSWP Plan may be pertinent for the area.
    - RCI will research the well locations for the inactive public water system for Mustang Ranch for the Team to review.
    - Canyon GID has expanded their service area toward Mustang Road, and from Rainbow Bend to Fulcrum.
    - Canyon GID has wells along Peri Ranch they don't currently use.
- The inactive public water system, TRW Inc. VSSI Division (TRW), is not anticipated to come online in the near future.
    - Canyon GID has a service line that extends to the landfill behind Canyon Way. It does not reach the property where TRW was located.

4. Existing Plans

RCI ran through several goals and objectives from existing local plans that are pertinent to source water protection. See attached PowerPoint for details. RCI will send out the existing Canyon GID Wellhead Protection Plan for review. Additional existing plans include the emergency response plans required by the State for public water systems. The group agreed that the CSWP Plan goals and strategies should be integrated, support, and work to implement the goals and objectives that exist within Storey County's current planning framework.

Next Steps / To Do List

- Next Meeting is scheduled for January 10, 2023, from 12:00PM - 2:30PM at TRI-GID

RCI:

- Continue to develop CSWP Plan Sections for Team review.
- Send the Group well locations for Mustang Ranch water system.
- Reach out to the additional water systems in USA Parkway.
- Reach out to the State of Nevada Marlette Lake Water System Operator.
- Send the existing Canyon GID Wellhead Protection Plan for review.
- Set up a OneDrive for the CSWP Plan Team.

Group:

- Send NDEP the signed support letter from Canyon GID requesting participation in the ISWPP.
- Storey County Board of Commissioners presentation in December. Reach out to RCI for any materials or with questions.

Nevada Integrated SourceWater Protection Program

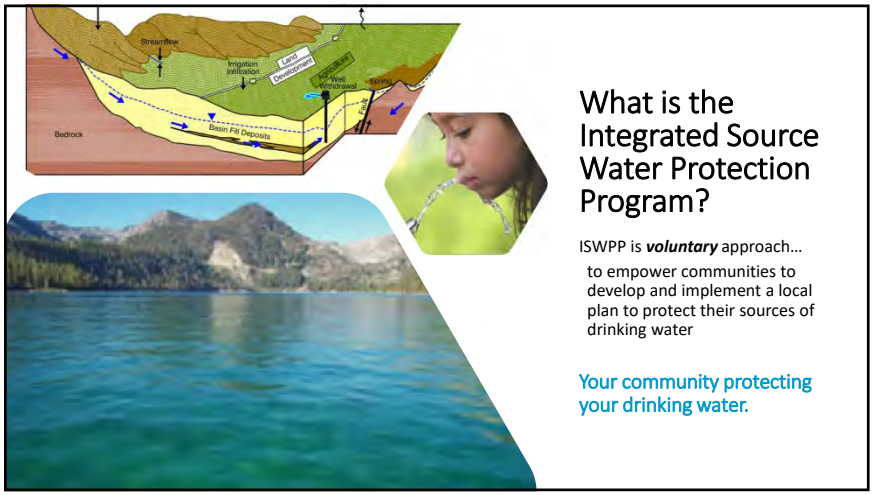
NDEP

https://ndep.nv.gov/water/source-water-protection

RCI Resource Concepts Inc

Contractor for the Nevada Integrated Source Water Protection Program

1



What is the Integrated Source Water Protection Program?

ISWPP is ***voluntary*** approach…

to empower communities to develop and implement a local plan to protect their sources of drinking water

Your community protecting your drinking water.

2

NDEP ISWPP GOAL:

Voluntary, Locally-Driven, Community Source Water Protection Plans for all Public Water Systems in the State.

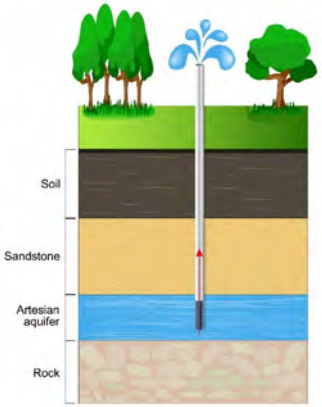
3

Developing a Community Plan….

Develop a local Planning Team

4

Developing a Community Plan....

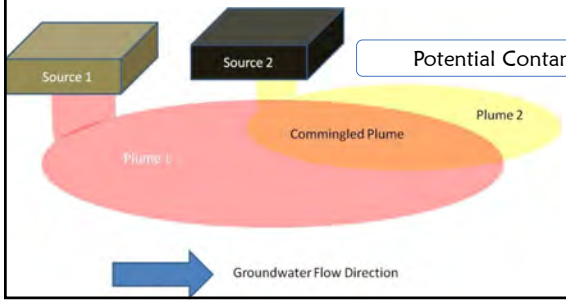


- Develop a local Planning Team
- Drinking Water Source Inventory

5

Developing a Community Plan....

- Develop a local Planning Team
- Drinking Water Source Inventory
- Potential Contaminant Source Inventory



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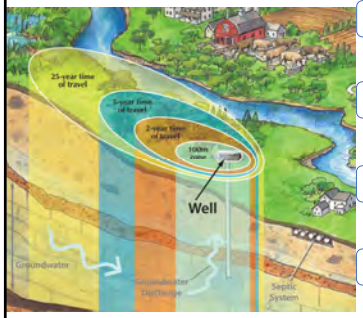
Developing a Community Plan....



- Develop a local Planning Team
- Drinking Water Source Inventory
- Potential Contaminant Source Inventory
- Source Water Protection Areas

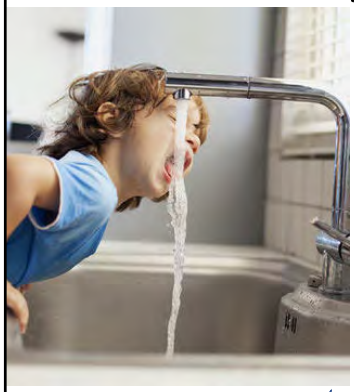
7

Developing a Community Plan....

- Develop a local Planning Team
- Drinking Water Source Inventory
- Potential Contaminant Source Inventory
- Source Water Protection Areas
- Community-Driven Strategies, Action Plan, and Education to Protect Drinking Water Sources

8

Developing a Community Plan....



- Develop a local Planning Team
- Drinking Water Source Inventory
- Potential Contaminant Source Inventory
- Source Water Protection Areas
- Community-Driven Strategies, Action Plan, and Education to Protect Drinking Water Sources
- Action Plan Implementation

9

How Many PWSs are in Storey County?

Water System No.	Water System Name	Type	Status	Principal County Served	Primary Source Water Type	Number of Sources
NV0000879	ASIA UNION ELECTRONIC CHEMICALS RENO	NTNC	A	STOREY	GW	1 Well
NV0005056	CANYON GID	C	A	STOREY	GW	Well: 2 Active 1 Inactive
NV0003075	EP MINERALS LLC CLARK	NTNC	A	STOREY	GW	1 Well
NV0000878	MARS PETCARE US INC	NTNC	A	STOREY	GW	1 Well
NV0000240	STOREY COUNTY WATER DISTRICT	C	A	STOREY	SW	1 SW intake
NV0000913	TRI GENERAL IMPROVEMENT DISTRICT	NTNC	A	STOREY	GW	8 Well
NV0000227	LOCKWOOD COMMUNITY CORPORATION	C	I	STOREY	GW	3 Well
NV0004069	MUSTANG RANCH	NC	I	STOREY	GW	Well: 1 Active 1 inactive
NV0005064	NOT USED	NC	I	STOREY	GW	1 Active Well
NV0000930	TRW INC VSSI DIVISION	NTNC	I	STOREY	GW	1 Active Well

10

Existing Plans that Protect Source Water in Storey County

Storey County Master Plan

Chapter 3, Land Use

Goal 2: ***Create and Maintain livable and sustainable communities***

Objective 5: ***To ensure safe and sustainable water resources for each community and natural ecosystem in the county.***

11

Existing Plans that Protect Source Water in Storey County

Storey County Master Plan

Chapter 3, Land Use

Goal 2: ***Create and Maintain livable and sustainable communities***

Objective 5: ***To ensure safe and sustainable water resources for each community and natural ecosystem in the county.***

Chapter 4, Public Lands

Policy 15-3:

Support a coordinated effort to protect wellhead protection areas and municipal watersheds from undue degradation through proactive zoning and development controls, pursuant to Storey County ordinances.

12

Existing Plans that Protect Source Water in Storey County

Storey County Master Plan

Chapter 3, Land Use

Goal 2: ***Create and Maintain livable and sustainable communities***

Objective 5: ***To ensure safe and sustainable water resources for each community and natural ecosystem in the county.***

Chapter 4, Public Lands

Policy 15-3:

Support a coordinated effort to protect wellhead protection areas and municipal watersheds from undue degradation through proactive zoning and development controls, pursuant to Storey County ordinances.

Chapter 10, Water and Natural Resources

Goal 6: ***Protect the quality of present and future water resources.***

13

Existing Plans that Protect Source Water in Storey County

Storey County Hazard Mitigation Plan
Flood and Wildfire

"Exposed soils erode quickly and enhance siltation of rivers and streams, thereby increasing flood potential, harming aquatic life, and degrading water quality."

14

Existing Plans that Protect Source Water in Storey County

Storey County Hazard Mitigation Plan
Flood and Wildfire

"Exposed soils erode quickly and enhance siltation of rivers and streams, thereby increasing flood potential, harming aquatic life, and degrading water quality."

Goal 4: ***Reduce the possibility of damage and losses due to flood and flash flood.***

- ***Protect and enhance existing water conveyance structures, storage, and treatment facilities to reduce impact from flood.***

Goal 6: ***Reduce the threat to life, new and existing property and infrastructure, and natural resources due to catastrophic wildfires.***

15

Existing Plans that Protect Source Water in Storey County

Canyon GID Wellhead Protection Plan

GOALS	IMPLEMENTATION STRATEGIES
1 Provide a single reference and guide for protecting drinking water resources	A Develop a WHPP Team that includes interested community members
2 Identify and evaluate threats to drinking water resources	B Delineate WHPAs and inventory potential contamination sources
3 Provide management tools to address potential sources of contamination	C Identify the best management strategies for each potential contaminant source
4 Provide ongoing protection for current and future drinking water resources	D Maintain an active record of activities that affect the WHPP
5 Provide documentation to support proposed monitoring waivers	E The program will involve the community through public activities, information, and education regarding resource protection
6 Define protection criteria and possible locations for new wells	F The program will identify resources to address future contamination events with a contingency plan
7 Provide documentation that guides and supports land use decisions regarding the WHPAs and future well sites	G Update the WHPP on a regular basis

16

What are the benefits of a Community Source Water Protection Plan?

1. Protect public health

17

What are the benefits of a Community Source Water Protection Plan?

1. Protect public health
2. Implementation of the Storey County Master Plan

18

What are the benefits of a Community Source Water Protection Plan?

1. Protect public health
2. Implementation of the Storey County Master Plan
3. Source sustainability = Economic development

19

What are the benefits of a Community Source Water Protection Plan?

1. Protect public health
2. Implementation of the Storey County Master Plan
3. Source sustainability = Economic development
4. Bring Storey County Water Quality Objectives together

20

What are the benefits of a Community Source Water Protection Plan?

1. Protect public health
2. Implementation of the Storey County Master Plan
3. Source sustainability = Economic development
4. Source sustainability = Economic development
5. Bring Storey County Water Quality Objectives together

21

What are the benefits of a Community Source Water Protection Plan?

1. Protect public health
2. Implementation of the Storey County Master Plan
3. Source sustainability = Economic development
4. Source sustainability = Economic development
5. Bring Storey County Water Quality Objectives together
6. Complements the upcoming Water Master Plan

22

What Can ISWPP Do for YOU??

- Education and Outreach

23

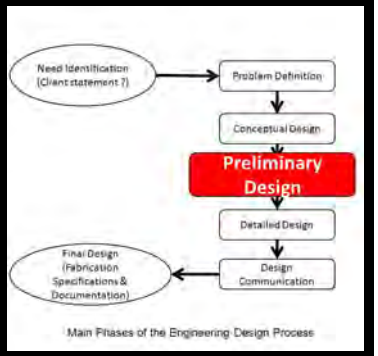
What Can ISWPP Do for YOU??

- Education and Outreach
- Technical or Financial Assistance and Implement Control Measures:
  - Fencing around Wellheads,
  - BMPs.

24

What Can ISWPP Do for YOU??

- Education and Outreach
- Technical or Financial Assistance and Implement Control Measures:
  - Fencing around Wellheads,
  - BMPs.
- PER development for Non-regulatory projects:
  - Testing for emerging contaminants,
  - New Well siting.

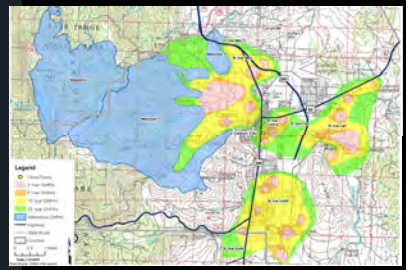


Main Phases of the Engineering Design Process

25

What Can ISWPP Do for YOU??

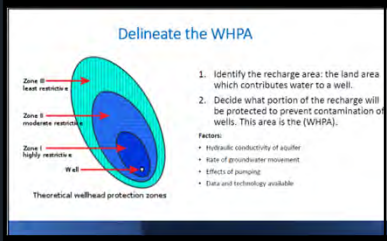
- Education and Outreach
- Technical or Financial Assistance and Implement Control Measures:
  - Fencing around Wellheads,
  - BMPs.
- PER development for Non-regulatory projects:
  - Testing for emerging contaminants,
  - New Well siting.
- GIS Mapping Assistance



26

What Can ISWPP Do for YOU??

- Education and Outreach
- Technical or Financial Assistance and Implement Control Measures:
  - Fencing around Wellheads,
  - BMPs.
- PER development for Non-regulatory projects:
  - Testing for emerging contaminants,
  - New Well siting.
- GIS Mapping Assistance
- Conduct Assessments and Model Groundwater Sources



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"It is important to take advantage of the knowledge and expertise that exists within your community to design a plan that will best meet the needs of your community"

What's Your Role in the Community?

28

NEXT STEPS……..

Board Approvals:

- *Storey County*
- *Canyon GID*

29

NEXT STEPS……..

Additional Team Members?

30

NEXT STEPS……..

In-Person Team Meeting

31

Agenda

Source Water Protection Program

TRI-GID Source Water Protection Planning

Date: January 5, 2024
Time: 9:00AM to 10:00AM
Where: Virtual Meeting on Teams

1. **Review the Draft PCS Inventory Format**

2. **Update on the Draft Well Worksheets**

3. **Discuss Recycled Water as Source Water**
   - How many facilities in USA Parkway plan to use Recycled Water?
   - Which Facilities have Pre-Treatment Permits with TRI-GID?
   - Tell us how it all works!

4. **Schedule and Next Steps**

   Storey County Team meeting scheduled for Wednesday, January 10, 12PM-2:30PM.
   TRI-GID Offices

Draft Meeting Notes

TRI-GID, RCI

Friday, January 5, 2024
9:00am-10:00am (Pacific)
Virtual Meeting

Attending

NAME	CONTACT INFORMATION		AFFILIATION
Shari Whalen	775-636-6126	swhalen@tri-gid.org	TRI-GID General Manager
Alison Cramer	775-883-1600	alison@rci-nv.com	Resource Concepts, Inc. (RCI)
Jill Sutherland	775-883-1600	jill@rci-nv.com	Resource Concepts, Inc. (RCI)

Purpose & Overview

The purpose of this meeting was to discuss the development of a Community Source Water Protection (CSWP) Plan for public water systems in Storey County.

Discussion

Review the Potential Contaminant Source (PCS) Inventory Format

TRI-GID reviewed the Draft PCS Inventory and agreed on the current format. TRI-GID provided information regarding future needs and desired outcomes of the PCS inventory, including:

- Including an inventory of hazardous chemicals stored on site throughout USA Parkway.
    - Storey County Emergency Manager (EM) maintains a chemical list.
    - RCI will reach out to discuss the inventory with Storey County EM.
    - RCI will plan to attend the January 10, 2024 Local Emergency Planning Committee meeting to introduce source water protection and discuss the committee's view on risks to groundwater.
        - Which chemical storage facilities pose the greatest risk to groundwater?
    - TRI-GID would like to be in direct communication with Emergency Management in the event that a spill occurs.
- TRI-GID would like to build a GIS inventory that can be updated as new industries move into the area.
    - DOWL manages the TRI-GID GIS.
        - RCI will reach out to DOWL in coordination with TRI-GID for a GIS meeting.
    - Collaboration with Storey County on regulations and GIS inventory is vital.
    - Linking the spreadsheet to the GIS Inventory points would be useful.
    - GIS and spreadsheet inventory of PCSs will serve to help TRI-GID assess sites that need a discharge permit.
- Asia Union Electronic Chemical Corp. (AUECC) is currently the only site with a TRI-GID discharge permit.
    - AUECC was annexed into the TRI-GID sewer but not the water.

  - A past chemical spill at AUECC did not result in groundwater impacts.
- TRI-GID agreed that shipping and receiving facilities may not be a high risk to groundwater.
- TESLA could be a great resource to discuss emergency management protocols.
  - TRI-GID Well 6 is located on the TESLA site.
  - TRI-GID will reach out for a meeting.
- TRI-GID is concerned about pollution on the Truckee River, and how that may interact with groundwater.
  - Issues such as garbage, vagrancy, and homelessness are a concern.
  - TRI-GID agreed that adding collaboration with Washoe County regarding issues upstream could be a great action project.
  - Similar projects were built into the Washoe County Source Water Protection and Watershed Plan.
  - RCI will draft Truckee River Action Plan projects and send to TRI-GID for review.

Update on Draft Well Worksheets

TRI-GID reviewed the Draft Well Worksheet and discussed source water protection area (SWPA) goals with RCI. The group agreed on the following:

- The SWPAs should be focused on groundwater within USA Parkway.
  - TRI-GI is not interested in expanding SWPAs to include the watershed.
  - Truckee River water quality issues will require collaboration outside of Storey County and should be addressed in the Action Plan.
  - RCI will simulate some Time-of-Travel capture zones and draft some Fixed Radius SWPAs for TRI-GID and EM review.
- SWPAs should be delineated so they're useful for TRI-GID and the surrounding industries.
  - Management boundaries that promote coordination with industries in close proximity of the well locations.
  - Developing a checklist for an inspector to use while reviewing industries within a SWPA would be a useful action project.

Discuss Recycled Water as Source Water

TRI-GID does not want to include recycled water as source water in the 2024 Community Source Water Protection (CSWP) Plan for Public Water Systems in Storey County. The group discussed and agreed to:

- Characterize the groundwater sources, as the recycled water project is not commissioned yet.
- Add a placeholder for recycled water in the CSWP Plan to revisit during the CSWP Plan update.

Next Steps / To Do List

Next Team Meeting is scheduled for January 10, 2024 from 12:00PM - 2:30PM at TRI-GID offices.
Next Virtual Tri-GID SWP Meeting is scheduled for February 2, 2024 from 9:00AM – 10:00AM.

RCI:

- Reach out to Storey County EM to discuss the chemical inventory.
- Attend the January 10, 2024, Local Emergency Planning Committee meeting to introduce source water protection and discuss the committee's view on risks to groundwater.
- Reach out to DOWL in coordination with TRI-GID for a GIS meeting.
- Draft Truckee River Action Plan projects for TRI-GID to review.
- Simulate Time-of-Travel capture zones and draft Fixed Radius SWPAs for TRI-GID and EM review.

TRI-GID

- Reach out to TESLA for an emergency operating protocol meeting.
- Continue to think about Source Water Protection goals.

Storey County Local Emergency Planning Committee (LEPC)

DATE: Wednesday, January 10, 2024 TIME: 10:00 a.m. LOCATION: Storey County Tahoe Reno Industrial Center Complex: 1705 Peru Drive, McCarran

-OR-

ZOOM: https://us04web.zoom.us/j/79613872491?pwd=bRSdjmUFVG2VLZuv4JEOsWk7XzNHNx.1

Meeting ID: 796 1387 2491
Passcode: 7QVtzi

NOTES

Please Note: The Storey County Local Emergency Planning Committee may 1) take agenda items out of order; 2) combine two or more items for consideration; or 3) remove an item from the agenda or delay discussion related to an item at any time.

1. **CALL TO ORDER** at 10:00 by Adam Wilson

2. **ROUNDTABLE INTRODUCTIONS**

3. **PUBLIC COMMENT:** Panasonic EM: Roads during extreme weather

   Jason W. (PW) - when weather comes in we have no control, mother nature does as it wishes. NDOT staffing is very low – 3 plow drivers for the I80 corridor, 1 between here and Hwy 50. Storey County is staged ready to go, when traffic is stopped on 80, plows can't get through. Additional consideration – is it one issue, what are the external factors, public meetings. NDOT and Storey have separate issues. These potent storms come as they please, snow amounts are unknow, very little will make a difference.
   David Young (Panasonic) – Are there road blocks to the major players on Electric Ave to kick in on Salt truck/ Plow to help with the road conditions?
   Jason W. (PW): Can not due it – County owned and maintained.
   David Young – When does it become private property?
   Jason W. (PW) - 720 feet passed the road.
   TESLA – just passed the entrance.

4. **DISCUSSION/POSSIBLE ACTION:** Approval of October 2023 Meeting Minutes by S. Houghton, 2nd Dana Kern; all in favor, none opposed.

5. **DISCUSSION ONLY: 2024 Training Opportunities**
   Adam Wilson – completed Integrate Preparedness Plan for County – cover all training and exercise. Email Adam and he will send out PDF. Focus mass casualty events. Running a mass shooting tabletop; August a functional exercise to test lesson learned.
   2026 HAZMAT tabletop – focus on TRI, later do functional exercise. Please participate.
   Regional training exercise – all region – LEPC will be a big part of the exercise – start planning at the end of 2024.
   Belfor – Disaster response – have case studies on many industries – happy to present those – what has happened in those industries, walk you through that training, no cost.
   Panasonic – some things in play, will be reaching out.
   A. Wilson – let him know he can participate.

6. **DISCUSSION ONLY: Review of Grants Received by Storey County Local Emergency Planning Committee.**

A.Wilson - No new ones – looking at next year for SO and FD – will have more direction at the next meeting.

7. **DISCUSSION ONLY: Emergency Management Director's Report from Adam Wilson.**
In addition to the IPP, this is an election year working with Clerk, looking at COOP, HAZMAT plan up for review next year, starting the review this year.

8. **DISCUSSION ONLY: Cooperating Local Emergency Planning Committee Members' Report on Activities.**
America Battery – October 10 operation started, phase 1 is beginning. Emergency response, environment permits completed.
Panasonic – Continuity Plan: we are working with Tesla to enhance programs in place and fill them out so they are more than surface response, holistic multi-layered. Enhancing security measures at the factory for active threat. Emergency processes basic process, evacuations how it is done the nitty gritty details – gone back to basics. Emergency plans and processes that are meaningful and understood. Multiyear training plans and strategies.
Belfor – here to be a resource.
AUECC – increase production on process, solvent processes starting up. Running a drill, coordination with Morgan for Hazmat response.
Google – Always under construction. Under review of emergency process. Once a quarter practice of drills, coordinating with Morgan.
Wal-Mart – Nothing new to report
Greg – New Rise – slow process to starting but getting really close to renewable diesel. New technology brings new issues. Get going quick, Polaris is on board and helping. Rolling strong this year
Dan Hiles – Power Plan – NV Gold mine – make power.
TESLA – more earthwork, expansion this year, semi-truck production starting this year, steel erection this year. Fire Marshall – emergency response to those electric vehicles, planning together with FD to practice emergency response - fires and extradition of electric vehicles.
Lauren Staffen (Quad PHP) – Reminder upper respiratory season; their team is completing jurisdiction risk assessment, looking at all hazards and risk and how they impact public health and healthcare system. Meeting with Quad EM, many projects moving forward.
Lara Mather – ask everyone to let them know Lara exists; she has resources to connect. Hearing 2nd hand; reach out she is available and here to help.

9. **DISCUSSION ONLY: Review any Hazardous Materials Incidents that have occurred since the last meeting of this Committee in October 2023.**
Several Reports – nothing major.
Last storm – semi on I-80, diesel spilled after slipping on ice.
Spill Reports – Adam can send them if anyone would like to see them.

10. **PUBLIC COMMENT (Discussion Only)**.
Jason W. – 16 years in the county, I-80 has always been an issue, it takes one person. Several winters and we cannot make it out due to accidents. In the past they were well staffed, one person can cause an issue. Storey running 2 shifts, day and night, the park minus USA Parkway we are prepping and her for.
Young Panasonic – I-80: Is there a plan to position on those exit area, specialized equipment/ team staged. Jason – NDOT Question, federal highway. Few months they have had public outreach about what to do. A project is promising, but
Dan – American Battery – private snow removal? Tesla, internal (facilities, onsite). Any snow removal? Reno Green. Other landscape companies. Maybe Q&D, FMP(?) Family Maid.
Ethan DEPA Safe Drinking Water; Alison Cramer (contractor) – drinking water plan, 10 years, county; assist in plans for the state to protect their drinking water. Allison – hydrogeologist – tech

assistance providers – free of charge, volunteers, working with Storey County, the GIDs, Marlette Lake water system. Goal – build a county plan, by the community for the community to protect drinking water. Work with the stakeholders and build a community plan, all useful for us. Emergency planning is vital to that process, we already have plans; they capture that. If an organization has plans in place, we want to know about that and put in the plan. There could be a bit of a gap; drinking water sources, understand if there is a risk presented to know if it Is drinkable. Meeting down the street at noon with lunch; know about the plan – want your operations plan listed; get in touch, Adam has contact and cards available.

Thank you for attending. Years past things got derailed, we are moving forward. What would keep you involved, send an email about presentation/ training that you would like to see to keep you coming.

Next meeting – April – continue to offer via zoom. Business cards are here for Adam's information.

11. **ADJOURNMENT** at 10:33 a.m.

Please note that these minutes are not verbatim and are presented in summary format. These are draft minutes and will be submitted for approval at our next LEPC meeting. Respectfully Submitted by: Stacy York

Agenda

Source Water Protection (SWP) Program

Source Water Protection Program

SWP Team Meeting #1

Date: January 10, 2024
Time: 12 to 2:30 PM
Where: TRI-GID 440 USA Parkway, Suite 105; McCarran, Nevada 89437

1. **Welcome & Introductions**
   - Tamales, Snacks, and Drinks
2. **Integrated Source Water Protection Program**
   - What is Source Water Protection in Nevada?
   - Development Process and Participation.
     - Develop a Local Planning Team.
     - Drinking Water Source Inventory.
     - Potential Contaminant Source Inventory.
     - Source Water Protection Areas.
     - Community Driven Strategies, Action Plan, and Education.
3. **Team Brainstorm – Your Source Water Protection Goals**
4. **Schedule and Next Steps**

Storey County Pictures!

Draft Kickoff Meeting Notes

TRI-GID, Canyon GID, Storey County, NvRWA, US Silica, NDEP, & RCI

Wednesday, January 10, 2024
12:00pm-2:30pm (Pacific)
IN-Person Meeting at TRI-GID (One attendee joined virtually)

Attending

NAME	CONTACT INFORMATION		AFFILIATION
Ozwald Henke	775-636-6126	ohenke@tri-gid.org	Technical Services Manager at TRI-GID
Kathy Canfield	775-847-1144	kcanfield@storeycounty.org	Planning Manager, Storey County
Jason Wierzbicki	775-847-0958	jwierzbicki@storeycounty.org	Public Works Director, Storey County
Mitch Andreini	775-342-2850	canyongid@att.net	General Manager, Canyon GID
Adam Wilson	775-634-7443	awilson@storeycounty.org	Emergency Management Director
Christopher Berkey	702-540-6107	christohperb@nvrwa.org	Source Water Protection Specialist, Nevada Rural Water Assoc. (NvRWA)
Connor Welsh	775-560-4119	Connor.welsh@ussilica.com	Regional Environmental Manager US Silica
Ethan Mason	775-687-9311	e.mason@ndep.nv.gov	Coordinator, NDEP Integrated Source Water Protection Program (ISWPP)
Erin Smith	775-883-1600	erin@rci-nv.com	Resource Concepts, Inc. (RCI)
Alison Cramer	775-883-1600	alison@rci-nv.com	Resource Concepts, Inc. (RCI)
Jill Sutherland	775-883-1600	jill@rci-nv.com	Resource Concepts, Inc. (RCI)

Purpose & Overview

The purpose of this kickoff meeting was to:

- Bring together members of Storey County's public water system staff, planners, emergency managers, and local representatives to develop a county-wide Community Source Water Protection (CSWP) Plan to address interests, concerns, and future planning related to source water protection.
- Provide the Local Planning Team (Team) with an overview of the Integrated Source Water Protection Program (ISWPP). Development of a fully adopted CSWP Plan will improve funding possibilities for projects that aid source water protection, offer resources to make informed decisions regarding protection of drinking water sources, and provide each community with greater leverage for future planning and development.

Discussion

1. Welcome & Introductions

The meeting began with introductions from each Team member, who noted their roles and responsibilities within Storey County and related to Source Water Protection.

2. Integrated Source Water Protection Program

The Team was provided with an overview of the ISWPP and steps toward development of a CSWP Plan.

- The ISWPP is a county-wide, voluntary, locally driven program intended to protect drinking water from potential sources of man-made contamination.
- Steps to develop a CSWP Plan include:
    1. Development of a Team,
    2. Drinking water source inventory,

3. Potential contaminant source inventory,
4. Delineation of source water protection areas, and
5. Team-derived management strategies, Action Plan, contingency measures, and Education and Outreach Plan.

- Final CSWP Plans are presented to local boards and the Nevada Division of Environmental Protection (NDEP) for adoption and endorsement, respectively.

CSWP Plans are developed to work within the existing planning framework for each county. Existing Plans that support source water protection in Storey County include:

- Wellhead Protection Plan for Canyon General Improvement District (December 29, 2004, rev. June 2023).
- Storey County Hazard Mitigation Plan (2015).
- Storey County Master Plan (2019) – scheduled update at end of 2024.
- Recently added: Water Resource Plan Storey County (2023).

See attached PowerPoint for further details on ISWPP and CSWP Plan development.

3. Team Brainstorm – Your Source Water Protection Goals

Following the program overview, the Team was asked a series of questions regarding their concerns for water quality and community needs.

The CSWP Plan Vision identified by the Team was: *To provide clean and safe drinking water for all residents and businesses.*

Additional Team ideas and comments included:

- PFAS is a growing concern for Storey County's groundwater and surface water resources.
  - Team willing to consider coordinating with TMWA or other partners to develop a PFAS inventory or task force.
  - The Team is concerned about unregulated emerging contaminants along Truckee River corridor. Is there an early warning system for spills affecting the river?.
  - Interested in investigating use of PFAS in firefighting foams during emergency response in the Tahoe Reno Industrial Center (TRIC).
- The Team recognized that the new Lead and Copper regulations are difficult to accommodate for small water systems.
- TRI-GID might consider injection (indirect potable reuse) in the future. It would require extensive planning and investigations.
- Consider developing a CSWP Plan that can be integrated with the Washoe County CSWP Plan.
  - Incorporating similar Plan features such as a notification system for new development inside source water protection areas may be pertinent.
- Consider adding a reference to the final CSWP Plan in the 2024 Master Plan update.
  - Storey County Master Plan update may be finalized in late 2024.
- The Team was concerned about balancing and separating individual water system needs with County needs in the CSWP Plan.
  - Consider separate sections for the public water systems and the County in the Action Plan.
  - Consider separating "CSWP Plans" by water system or region.
- The Team recognized that education and outreach are important county-wide.

  - The public should be informed of where public water system purview ends.
  - A significant portion of Storey County community is on private well and septic - approximately half of the population. Homeowners should also be informed of proper maintenance of septic and wells to protect groundwater resources from potential contamination.
- The Team agreed that it's important to develop a CSWP Plan that can be easily read by and distributed to the residents of Storey County.

See attached Tables for Questionnaire responses.

4. Schedule & Next Steps

The Team agreed to meet roughly once each month to develop the CSWP Plan. A source water protection presentation to the Storey County Planning Commission will be made virtually by RCI/NDEP at the February 15, 2024, meeting. The Team discussed presentation and adoption of the CSWP Plan at the public water system Boards, Storey County Planning Commission, and the Storey County Board of Commissioners. The Team agreed to the following tentative schedule:

- **February 2024** – Water Characterization, Potential Contaminant Source Inventory, Source Water Protection Areas
- **March 2024** – Strategies, Action Plan
- **April 2024** – Review Final Documents and Provide Feedback
- **May & June 2024** – Present to Boards for Adoption
- **June 2024** – Final Document with resolution letters.

Next Steps / To Do List

Next Team Meeting is TBD.
Next Virtual Tri-GID SWP Meeting is scheduled for February 2, 2024, from 9:00AM – 10:00AM.

RCI:

- Send a Doodle Poll to schedule the next Team meeting.
- Source Water Protection presentation to Storey County Planning Commission on February 15, 2024.
- Continue to build the GIS based Potential Contaminant Source Inventory for Team review.
- Draft Truckee River Action Plan projects for TRI-GID to review.
- Simulate Time-of-Travel capture zones and draft Fixed Radius SWPAs for TRI-GID, Emergency Management, and Team review.
- Draft CSWP Plan Goals and Management Strategies that support the CSWP Plan Vision for Team review.
- Draft the Action Plan and send it to Team for review and additional Action Plan project input.
- Schedule an in-person meeting with Storey County Public Works to visit Five-Mile Reservoir to discuss action projects and additional potential contaminant sources.

Team

- Provide input and review as requested.
- Continue to think about Source Water Protection Goals and Management Strategies.

What are your responsibilities regarding water quality protection?	
Emergency Response Planning	Critical Infrastructure Protection
To keep it clean, safe, and treatable	That existing development maintains access to basic water services
Evaluate where growth can occur – no growth with no available quality water	Testing, planning, budgets, and reporting to Canyon GID Board
TRI-GID Operating Manager for water, sewer, and reuse.	Site tours, sampling, and partnering with stakeholders for TRIC.
Technical assistance to support county-wide source water protection, implementation of source water protection plans/activities, hazard mitigation, and emergency response planning	Provide creative solutions to facilitate county-wide coordination and cooperation

What are your concerns regarding water quality?	
Protection	Sustainability
Runoff, PFAS, Lead & Copper	Being able to maintain water sources for existing and proposed development – quality & quantity
Future regulations	Funding and cost to treat
Industrial users and discharge	Future development, storm drains, and runoff
Emerging contaminants, PFAS, and microplastics	Recharge areas – activity management
Spills in a fractured rock aquifer	Unregulated industrial uses
Industrial facility proximity to well locations	Data security
The use Firefighting foam to put out a fire and the potential for fire flow to migrate offsite either through infiltration to groundwater or as surface water flow toward the Truckee River	Containment at industrial facilities in the event of an emergency

If we work together to address the concerns, what are the outcomes you would like to see?	
Achievable Goals and Actions	Future Growth and Planning
To provide clean and safe drinking water for all residents and businesses	Education
Voluntary compliance – buy-in from residents and businesses	Less regulatory but stressing importance and potential outcomes if not complying - impacts
A document that the public can view	Work with neighboring counties and their Plans
Shared GIS and land use	Bi-Annual meetings and shared resources
Coordination with emergency management and industrial facilities on spill response	Build source water protection into the planning framework
Recycled water is source water – direct injection	Counties working together to protect drinking water sources – groundwater and surface water don't conform to political boundaries
Accommodate for the increase in growth	Non-regulatory approach
Increased hazard mitigation planning for industrial sites, BMP development and installation, and increased involvement from TRIC tenants	A greater understanding of how contaminants migrate within source water protection areas to further develop site-specific emergency response plans to mitigate the potential risk to existing/future source water

What does this Plan need to be so it's useful to you?	
Maps and boundaries	Responsible Parties
Covers all of each of the communities' needs	Easy for novices to understand
A document that can be provided to various entities for funding	Electronic and shareable
Easy to navigate	Updatable, dynamic, understandable for the public and decision makers
Cannot be used against the public water systems or County – soft language in the Action Plan	A document that communicates to the resident that a Plan exists to protect their water
Elevate source water protection in each community	Beneficial impacts in creating dialogue between potential contaminant source contributors and the Planning Team

Nevada Integrated SourceWater Protection Program

https://ndep.nv.gov/water/source-water-protection

NDEP

Bureau of Safe Drinking Water

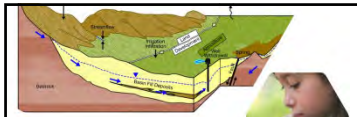
Ethan Mason
e.mason@ndep.nv.gov
775-687-9311

RCI

Jill Sutherland, PE - jill@RCI-NV.com
Alison Cramer - Alison@RCI-NV.com
340 N. Minnesota Street
Carson City, Nevada
775-883-1600

Contractor for the Nevada Integrated Source Water Protection Program

1



What is the Integrated Source Water Protection Program?

ISWPP is ***voluntary*** approach…

to empower communities to develop and implement a local plan to protect their sources of drinking water

Your community protecting your drinking water.

2

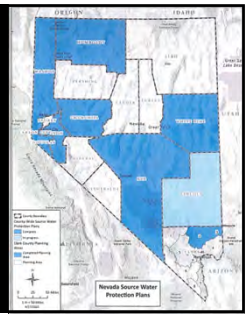
NDEP ISWPP GOAL:

County-Wide, Voluntary, Locally-Driven, Community Source Water Protection Plans for all Public Water Systems in the State.

3

County and City Participation to Date

- Douglas County 2012
- White Pine County 2012
- Nye County 2013
- Lyon County 2014
- Carson City County 2015 (Updated & Adopted 2023)
- Churchill County 2016
- Humboldt County 2016 (Updated & Adopted 2023)
- Washoe County 2021
- Moapa / Overton 2021
- Mesquite / Bunkerville 2023
- Lincoln County Expected Completion Spring 2024
- Storey County In Progress



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YOUR Community YOUR Plan

What's YOUR Vision?

Source Water Sustainability

=

Economic Development

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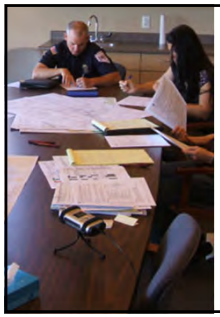
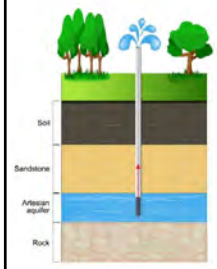


Developing a Community Plan….

Develop a local Planning Team

6



Developing a Community Plan….

Develop a local Planning Team

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Drinking Water Source Inventory

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Developing a Community Plan….

Develop a local Planning Team

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Drinking Water Source Inventory

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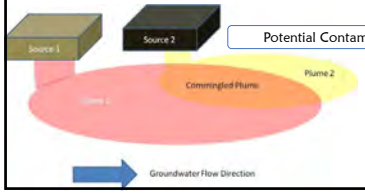
Potential Contaminant Source Inventory



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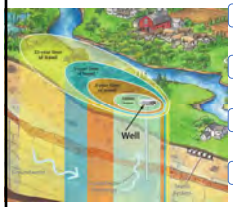
Developing a Community Plan….



Develop a local Planning Team

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Drinking Water Source Inventory

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Potential Contaminant Source Inventory

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Source Water Protection Areas

9

Developing a Community Plan....

- Develop a local Planning Team
- Drinking Water Source Inventory
- Potential Contaminant Source Inventory
- Source Water Protection Areas
- Community-Driven Strategies, Action Plan, and Education to Protect Drinking Water Sources

10

Board Approvals:

- *TRI-GID*
- *Storey County*
- *Canyon GID*

11

Develop a Planning Team - Existing Plans and Practices

12

Develop a Planning Team - Existing Plans and Practices

Other Community Plans/Practices?

We want to capture everything you do to protect Water Quality

13

Drinking Water Sources in Storey County

Water System No.	Water System Name	Type	Status	Principal County Served	Primary Source Water Type	Number of Sources
NV0000879	ASIA UNION ELECTRONIC CHEMICALS RENO	NTNC	A	STOREY	GW	1 Well
NV0005056	CANYON GID	C	A	STOREY	GW	Well: 2 Active 1 Inactive
NV0003075	EP MINERALS LLC CLARK	NTNC	A	STOREY	GW	1 Well
NV0000878	MARS PETCARE US INC	NTNC	A	STOREY	GW	1 Well
NV0000240	STOREY COUNTY WATER DISTRICT	C	A	STOREY	SW	1 SW intake
NV0000913	TRI GENERAL IMPROVEMENT DISTRICT	NTNC	A	STOREY	GW	8 Well
NV0000227	LOCKWOOD COMMUNITY CORPORATION	C	I	STOREY	GW	3 Well
NV0004069	MUSTANG RANCH	NC	I	STOREY	GW	Well: 1 Active 1 Inactive
NV0005064	NOT USED	NC	I	STOREY	GW	1 Active Well
NV0000930	TRW INC VSSI DIVISION	NTNC	I	STOREY	GW	1 Active Well

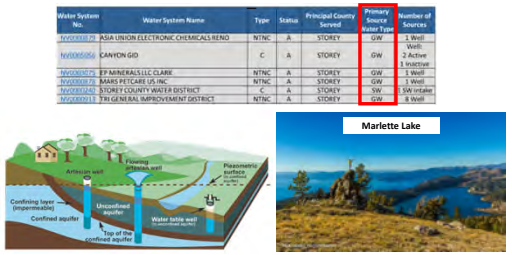
Community Water Systems (C) has at least 15 service connections used by year-round residents of the area served by the water system or regularly serves at least 25 year-round residents.

Transient Non-Community Water Systems (NC) does not regularly serve the same persons.

Non-Transient Non-Community Water Systems (NTNC) regularly serves at least 25 of the same persons for more than 6 months per year.

14

Drinking Water Sources in Storey County



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13 Active Wells
2 Future Wells

1 Lake
1 Reservoir
1 Tank

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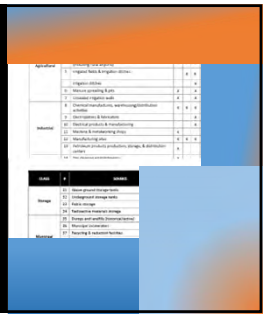
Potential Sources of Contamination

Current and prospective activities that have the potential to release contaminants to the environment



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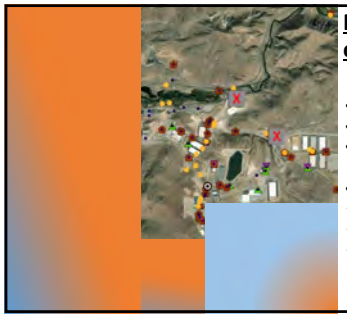

Potential Sources of Contamination

- Hazardous Material
- Storage Handling
- Disposal

- Controls:
  - ❖Potential for release?
  - ❖Risk to drinking water?
  - ❖Communication?

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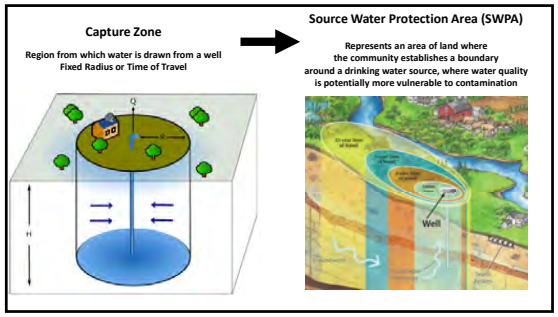

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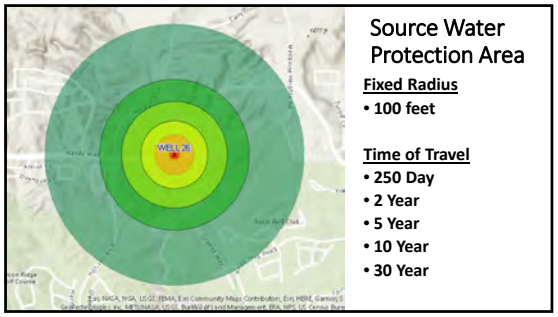

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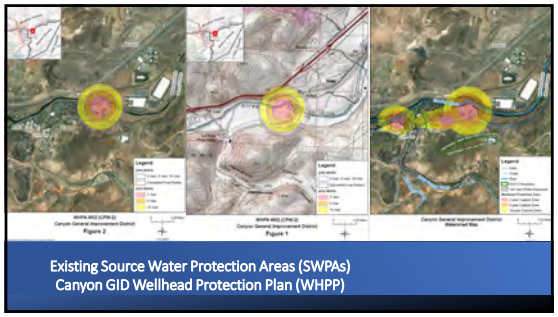

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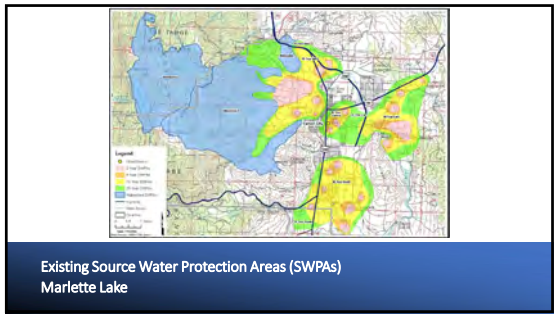

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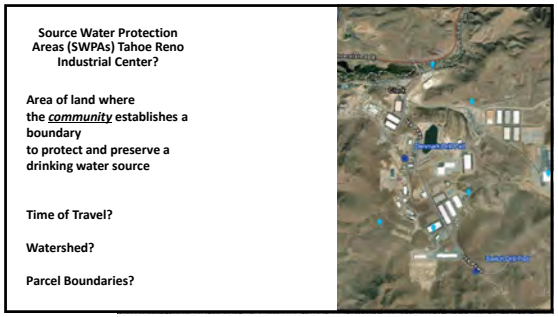

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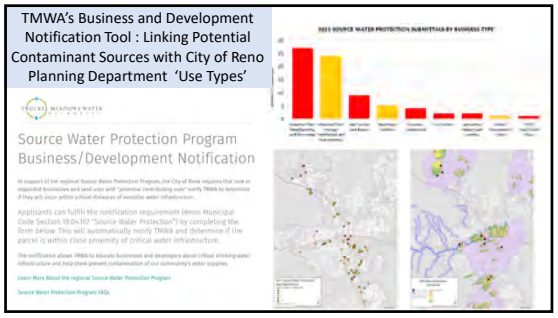

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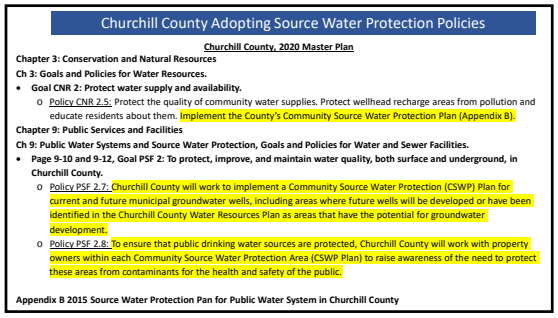

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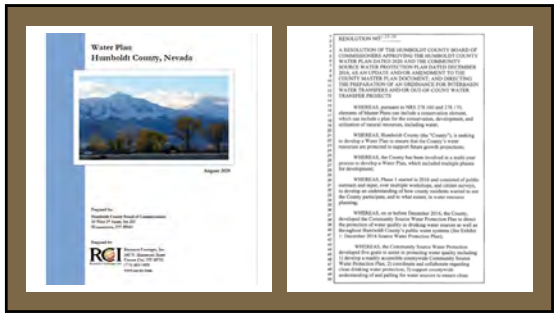

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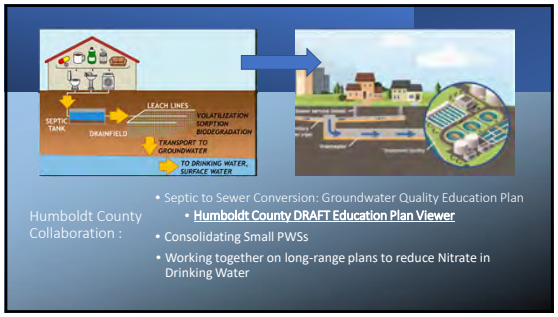

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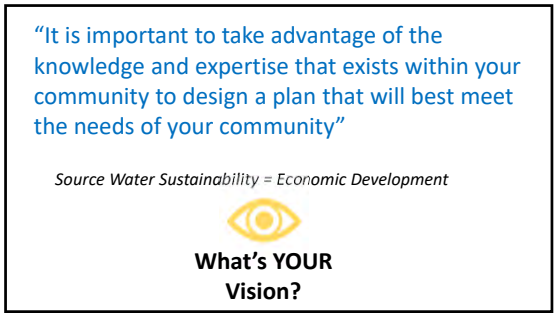

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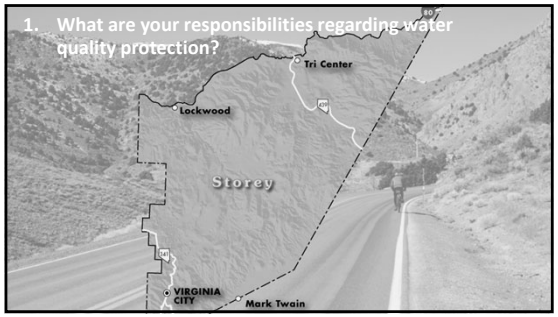

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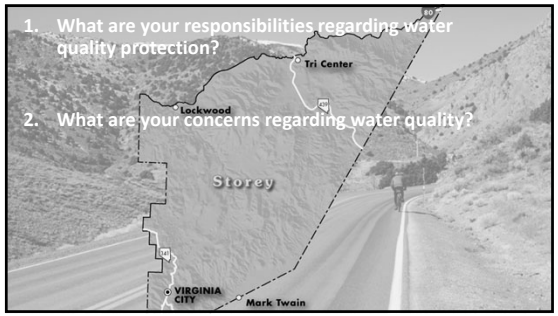

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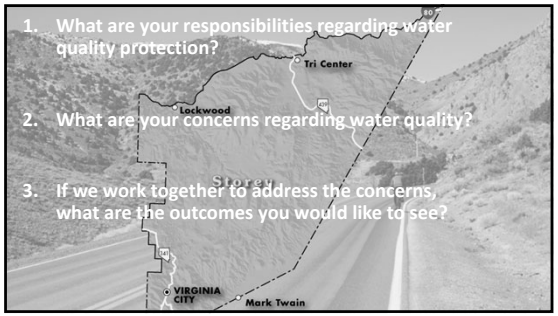

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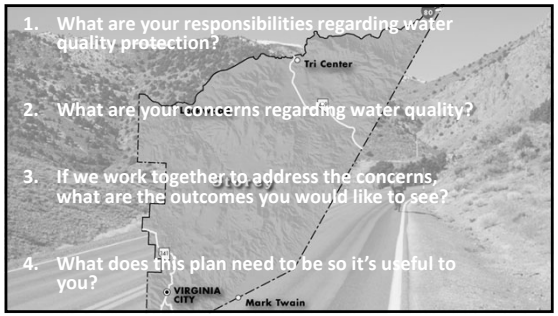

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NEXT STEPS……..

Additional Team Members?

37

Draft Schedule

February 2024 – Water Characterization, Potential Contaminant Source Inventory, Source Water Protection Areas

March 2024 – Strategies, Action Plan

April 2024 – Review Final Documents and Provide Feedback

May 2024 – Present to Boards for Approval

June 2024 – Final Document

38

Draft Meeting Notes

Storey County Water District / RCI

Wednesday February 13, 2024
In-person Meeting at Storey County Public Works Office

Attending

NAME	CONTACT INFORMATION		AFFILIATION
Jason Wierzbicki	775-847-0958	jwierzbicki@storeycounty.org	Public Works Director, Storey County
Erin Smith	775-883-1600	erin@rci-nv.com	Resource Concepts, Inc. (RCI)
Alison Cramer	775-883-1600	alison@rci-nv.com	Resource Concepts, Inc. (RCI)

Purpose & Overview

The purpose of this meeting was to discuss the development of the Community Source Water Protection (CSWP) Plan for Public Water Systems in Storey County.

Discussion

1. Water System Description

Storey County Water District gave RCI a description and a tour of the water system, including:

- Five Mile Reservoir and Water Treatment Plant,
- Water Storage Tanks, and
- Waste Water Treatment Plants.

2. Water System Concerns

Storey County Water District outlined their water system concerns, including:

- Vandalism at Five Mile Reservoir, and
- Vandalism at the Water Treatment Plant ponds.
- Not generally concerned with the abandoned mines throughout the area.

3. Action Plan

Storey County clearly outline actions to include in the Action Plan, such as:

- Increased water system security to reduce vandalism around Five Mile Reservoir,
- Source Water Protection/Source Water Signage around water sources and storage tanks, and
- Education and Outreach for emerging contaminants and lead and copper.

Next Steps / To Do List

Next Team Meeting is scheduled for February 29, 2024, from 1-2PM (PST).

RCI:

- Work on Draft source water protection areas and action plan for review.
- Share PFAS information/resources.

Draft Meeting Notes

Canyon GID / RCI

Wednesday February 14, 2024
1 – 2 PM (Pacific)
In-person Meeting at CGID Office

Attending

NAME	CONTACT INFORMATION		AFFILIATION
Mitch Andreini	702-283-0296	canyongid@att.net	General Manager, Canyon GID
Erin Smith	775-883-1600	erin@rci-nv.com	Resource Concepts, Inc. (RCI)

Purpose & Overview

The purpose of this meeting was to review wells, mapping of Potential Contaminant Sources (PCSs), and other topics for the development of the Community Source Water Protection (CSWP) Plan for Public Water Systems in Storey County.

Discussion

1. Hydrogeology

Review hydrogeology in existing WHPP:

- W01 is west of Long Valley Creek. Well log suggests semi-confined fractured rock Aquifer. Some recharge may come from the Truckee River. Flow constrained by geologic boundaries (creek and river canyons).
- Lockwood wellfield includes Mobile Home Park L02 and L03. Aquifer modeled as uniform flow in unconfined aquifer.
- CPW-2 (W02) is deeper and penetrates into Basalt. The report looked at both fixed radius and analytic element model as the nature of the confined, fractured rock aquifer creates more uncertainty in modeling capture zones.

2. Format and Content

Discussed how to bring the 2023 Canyon GID WHPP (updated in 2023) into the CSWP Plan.

- Checked to make sure wells and PCSs are current.
- The current CGID Board expects to see an updated format and content for CGID in the Storey County CSWP Plan.
- PFAS and Emerging Contaminants are a source of concern for CGID and the community.
- Current education/outreach: newsletter in utility bill (effective), Canyon GID website is used (may consider updating and adding materials), CGID is not interested in utilizing social media.

Request a fresh look, simplified, and streamlined for their specific part of the CSWP Plan.

- Current Board expecting a fresh look and amenable to updating format and language.

- Easy to read, something that can be posted on the CGID website.
- Seamless mesh with the overall Storey County CSWP Plan document.
- Include information about what to do if PFAS is detected in the wells (GID has detections see Attached).
- The Education & Outreach Plan should also include materials on PFAS, a possible presentation to the community, where does it come from?
- If important or warranted, SWPAs could be slightly adjusted.
- Consider expanding management strategies to include Lagomarsino Canyon, Truckee River, Truckee River upstream within Washoe County.

3. Area around Well CP2

Discussed PCSs

- Some PCSs listed on the web mapper are redundant – these should be removed.
- Consider ways to address WWTP discharges in Truckee River upstream of CGID.
- Highway, railroad, and river intersect with the existing SWPA and modeled capture zones for W02, the main water supply well.
- Consider including the FedEx Distribution Center across the river into the PCS map – they have their own well.
- How fast does PFAS travel in ground and surface water?

Next Steps / To Do List

Next Team Meeting is scheduled for February 29, 2024, from 1-2PM (PST).

RCI:

- Make a hard copy of the current WHPP Plan for Canyon GID.
- Share PFAS information/resources.

Canyon GID

- Provide copy of PFAS detection announcement.
- Provide improvements/progress made since the adoption of the original WHPP Plan (2004).

Agenda

Source Water Protection (SWP) Program

Source Water Protection Program

Community Source Water Protection (CSWP) Plan Team Meeting #2

Date: February 14, 2024
Time: 2:00 – 3:00 PM
Where: Virtual on Teams

1. **Welcome & Introductions**
   - Data Recap and Draft CSWP Plan Outline
2. **Finalize CSWP Plan Vision**

   You can't depend on your eyes when your imagination is out of focus.

   -Mark Twain
3. **Revisit and Finalize CSWP Plan Goals**

   You need a plan to build a house. To build a life, you need a Goal.

   -Zig Ziglar
4. **Review Updated Information and Mapping**
   - Preliminary Capture Zone Analysis
   - Potential Contaminant Source Inventory and Mapping
5. **Bonus: Team Brainstorm – Management Strategies**
   - Management strategies to protect YOUR sources of drinking water are locally driven. Get CREATIVE!
   - What strategies can easily be put into action to implement YOUR Plan Vision and Goals?

Schedule and Next Steps

Storey County Pictures!

Draft Meeting Notes

TRI-GID, Canyon GID, Storey County, Mars Pet Nutrition, NDEP, & RCI

Wednesday, February 14, 2024
2:00pm-3:00pm (Pacific)
Virtual Meeting on Teams

Attending

NAME	CONTACT INFORMATION		AFFILIATION
Ozwald Henke	775-636-6126	ohenke@tri-gid.org	Technical Services Manager, TRI-GID
Shari Whalen	775-636-6126	swhalen@tri-gid.org	General Manager, TRI-GID
Alan Terry	775-636-6126		Senior Water Operator, TRI-GID
Kathy Canfield	775-847-1144	kcanfield@storeycounty.org	Planning Manager, Storey County
Jason Wierzbicki	775-847-0958	jwierzbicki@storeycounty.org	Public Works Director, Storey County
Mitch Andreini	775-342-2850	canyongid@att.net	General Manager, Canyon GID
Adam Wilson	775-634-7443	awilson@storeycounty.org	Emergency Management Director
Scott Peterson	702-283-0296	Scott.peterson@effem.com	Health, Safety, and Environmental Manager, Mars Pet Nutrition
Ethan Mason	775-687-9311	e.mason@ndep.nv.gov	Coordinator, NDEP Integrated Source Water Protection Program (ISWPP)
Erin Smith	775-883-1600	erin@rci-nv.com	Resource Concepts, Inc. (RCI)
Alison Cramer	775-883-1600	alison@rci-nv.com	Resource Concepts, Inc. (RCI)
Jill Sutherland	775-883-1600	jill@rci-nv.com	Resource Concepts, Inc. (RCI)

Purpose & Overview

The purpose of this meeting was to finalize the Community Source Water Protection (CSWP) Plan Draft Outline, Vision, and Goals, and to discuss preliminary capture zone and Source Water Protection Area (SWPA) delineations for the public water systems in Storey County.

Discussion

1. Welcome & Introductions

The meeting began with introductions from each Team member, who noted their roles and responsibilities within Storey County and related to Source Water Protection.

Based on notes from the Kickoff Meeting on January 10, 2024, RCI presented the Team with a Draft CSWP Plan Outline. The Team agreed that RCI should move forward with the outline that was presented, including:

Publicly Available Documents:

- CSWP Plan Main Body
- Appendix A: SWPA Maps
    - Separate SWPA Maps will be developed for each water system.
- Appendix B: Action Plan
    - Separate Action Plans will be developed for each water system.
- Appendix C: Education Plan
- Appendix D: Meeting Notes

Documents Available upon request from the Public Water Systems:

- Appendix E: Canyon GID WHPP
- Appendix F: Storey County CSWP Plan
- Appendix G: TRI-GID WHPP
- Appendix H: Privately Owned Public Water System WHPP

The Team agreed that it is important for each water system to maintain autonomy, and that jurisdiction should be clearly outlined in the CSWP Plan. The Team agreed that CSWP Plan approval will be sought after by each water system Board prior to an approval from the County Commission.

2. Finalize CSWP Plan Vision

The Team agreed on a common CSWP Plan Vision:

Ensure safe and sustainable drinking water for all residents and businesses.

3. Revisit and Finalize CSWP Plan Goals

The Team reviewed the Draft Goals, and agreed to finalize three out of four Goals:

1. Protect the quality of present and future drinking water sources.
2. Preserve the quality and quantity of water sources for existing and proposed development.
3. Consider risks to drinking water sources in Emergency Planning.

The Team agreed that the verbiage in Goal Four should be changed and discussed further at the next meeting. Several options include:

- Educate/Engage the public, including the community, stakeholders, and businesses about actions to protect source water.
- Include education to water users about water education.
- Engage the public, water users, and stakeholders for source water protection education and actions.

4. Review Updated Information and Mapping

The Team reviewed drinking water sources in Storey County and the process to develop SWPAs. SWPAs are non-regulatory boundaries, and act as a tool to manage activities that could negatively affect water quality. Capture zones simulations in the form of 2-, 5-, 10-years are required by Nevada ISWPP and can assist in SWPA delineation. SWPA boundaries are generally informed by a combination of Time-of-Travel Capture Zone simulations, the distribution of potential contaminant sources (PCSs), and how the community decides to manage these land areas (ownership, property boundary, local jurisdiction). The Team discussed SWPAs for Storey County Water District and reviewed the current SWPAs and PCSs for Canyon GID, including:

- One Watershed SWPA was delineated around Marlette Lake in the Community Source Water Protection Plan for Public Water Systems in Carson City. The Team agreed to keep this watershed SWPA to maintain consistency.
- The Team agreed about adding two SWPAs around the surface water sources for Storey County, including:
    - One 1,100-ft SWPA around Five-Mile Reservoir.
    - One 600-ft SWPA around the Water Treatment Facility.
        - Potential risks to water quality for both SWPAs include vandalism and trash from recreation in the area.

        - Strategies to reduce the risks to water quality include SWPA signage, increased security with fencing repairs and camera installation, education and outreach to residents, and collaboration with Washoe County.
- Canyon GID has SWPAs around three of their water sources, including the 2-, 5-, and 10-Year capture zones.
    - RCI mapped the PCSs from the 2004 WHPP and the 2024 desktop survey.
    - Canyon GID provided input to RCI prior to the meeting regarding discrepancies in the location of some PCSs, as well as the decision to remove some of the PCSs from 2004.
        - RCI will update the PCS inventory per Canyon GID guidance.
        - Canyon GID would like to keep the current 2-, 5-, 10-Year SWPAs.
- The Team agreed to review the Capture Zone simulations for TRI-GID at the next meeting.
    - RCI and TRI-GID has a meeting scheduled following the Team meeting to discuss general water system overview and pumping rates to enable RCI to conduct more accurate simulations.
- RCI will meet with Mars Pet Nutrition for a discussion regarding participation and commitment on Friday, February 16, 2024.

Next Steps / To Do List

Next Team Meeting: February 29, 2024, from 1:00PM – 2:00PM.

RCI:

- Source Water Protection presentation to Storey County Planning Commission on February 15, 2024.
- Continue to build the GIS based Potential Contaminant Source Inventory for Team review.
- Draft some Action Plan projects for the Team to review.
- Simulate Time-of-Travel capture zones and draft Fixed Radius SWPAs for TRI-GID, Emergency Management, and Team review.
- Draft CSWP Plan Goal Four for Team discussion and review.
- Draft CSWP Plan Management Strategies that support the CSWP Plan Vision and Goals for Team review.
- Draft the Action Plan and send it to Team for review and additional Action Plan project input.

Team

- Provide input and review as requested.
- Continue to think about Source Water Protection Goals and Management Strategies.

Nevada Integrated SourceWater Protection Program

https://ndep.nv.gov/water/source-water-protection

NDEP

Bureau of Safe Drinking Water

Ethan Mason
e.mason@ndep.nv.gov
775-687-9311

RCI Resource Concepts, Inc.

Jill Sutherland, PE - Jill@RCI-NV.com
Alison Cramer - Alison@RCI-NV.com
340 N. Minnesota Street
Carson City, Nevada
775-883-1600

Contractor for the Nevada Integrated Source Water Protection Program

1

Draft Schedule

February 2024 – Water Characterization, Potential Contaminant Source Inventory, Source Water Protection Areas

Week of February 26 – Finalize Potential Contaminant Source Inventory & Source Water Protection Areas

March 14, 2024 – Strategies, Action Plan

April 2024 – Review Final Documents and Provide Feedback

May 2024 – Present to Boards for Approval

June 2024 – Final Document

2

Developing a Community Plan….

- Develop a local Planning Team
- Drinking Water Source Inventory
- Potential Contaminant Source Inventory
- Source Water Protection Areas
- Community-Driven Strategies, Action Plan, and Education to Protect Drinking Water Sources

3

Developing a Community Plan….

- ✓ Develop a local Planning Team
- ✓ Drinking Water Source Inventory
- Potential Contaminant Source Inventory
- Source Water Protection Areas
- Community-Driven Strategies, Action Plan, and Education to Protect Drinking Water Sources

4

Developing a Community Plan….

- ✓ Develop a local Planning Team
- ✓ Drinking Water Source Inventory
- Potential Contaminant Source Inventory
- Preliminary Watershed Areas and Capture Zones
- Source Water Protection Areas

5

Community Source Water Protection Plan for Public Water Systems in Storey County – DRAFT Outline of Publicly Available Documents

CSWP Plan Main Body – *Set the Scene*
- CSWP Plan Vision
- CSWP Plan Goals
- Planning Team
- Water Sources and Systems
- Existing County-Wide Plans and Practices
- Management Strategies

Appendix A – All Water Systems	Source Water Protection Area Maps
Appendix B – All Water Systems	Action Plan
Appendix C – All Water Systems	Education Plan
Appendix D – All Water Systems	Meeting Notes

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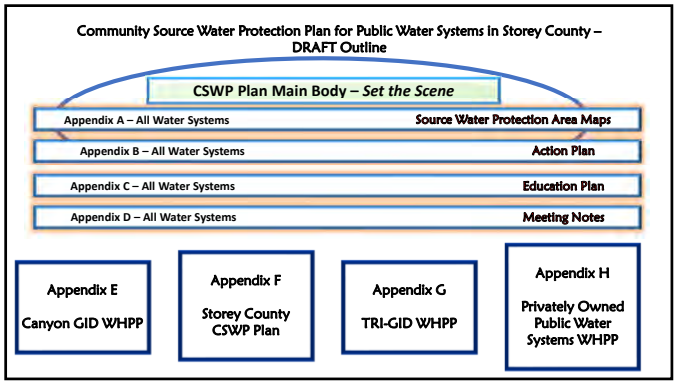
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Privately Owned Public Water Systems WHPP

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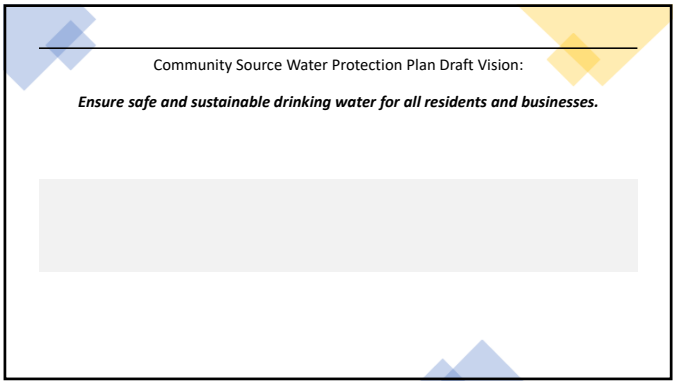
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Ensure safe and sustainable drinking water for all residents and businesses.

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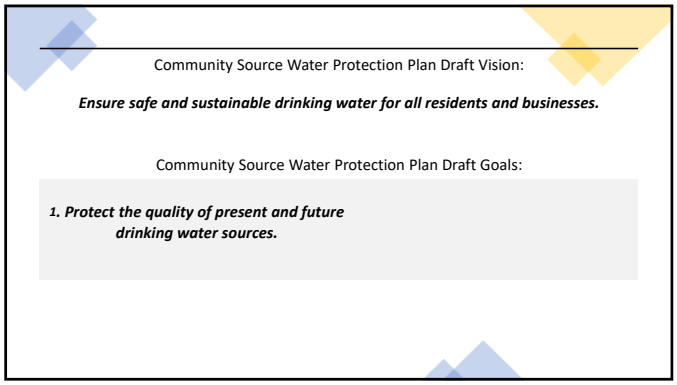
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Community Source Water Protection Plan Draft Goals:
1. Protect the quality of present and future drinking water sources.

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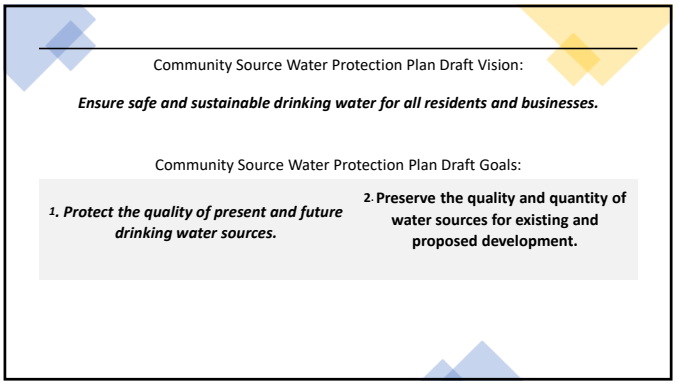
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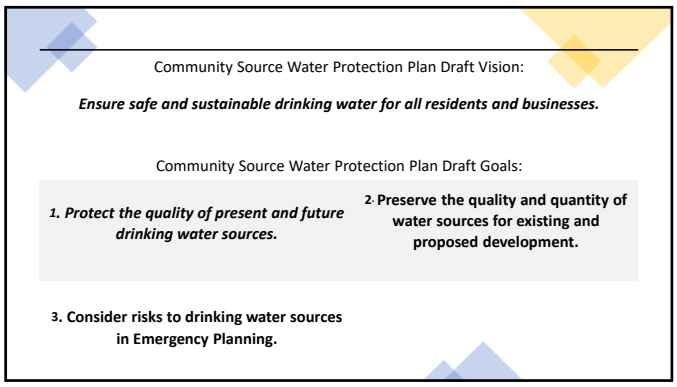
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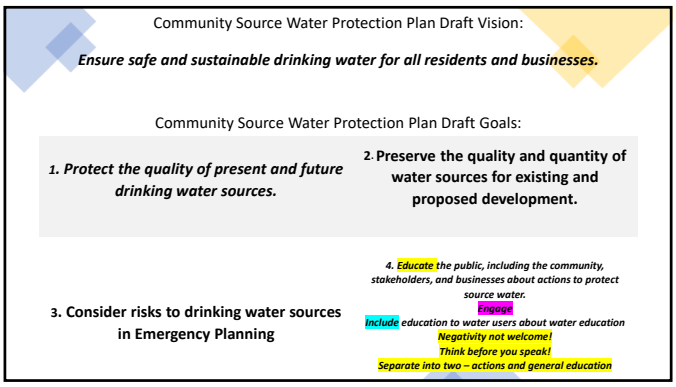
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3. Consider risks to drinking water sources in Emergency Planning
4. Educate the public, including the community, stakeholders, and businesses about actions to protect source water.
Engage
include education to water users about water education
Negativity not welcome!
Think before you speak!
Separate into two – actions and general education

12

Drinking Water Sources in Storey County

Water System No.	Water System Name	Type	Status	Principal County Served	Primary Source Water Type	Number of Sources
NV0000879	ASIA UNION ELECTRONIC CHEMICALS RENO	NTNC	A	STOREY	GW	1 Well
NV0005056	CANYON GID	C	A	STOREY	GW	Well: 2 Active 1 Inactive
NV0003075	EP MINERALS LLC CLARK	NTNC	A	STOREY	GW	1 Well
NV0000878	MARS PETCARE US INC	NTNC	A	STOREY	GW	1 Well
NV0000240	STOREY COUNTY WATER DISTRICT	C	A	STOREY	SW	1 SW intake
NV0000913	TRI GENERAL IMPROVEMENT DISTRICT	NTNC	A	STOREY	GW	8 Well

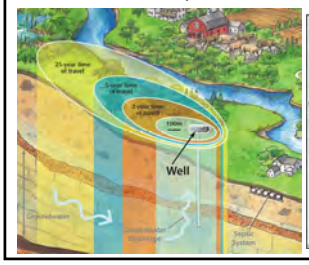
Community Water Systems (C) has at least 15 service connections used by year-round residents of the area served by the water system or regularly serves at least 25 year-round residents.

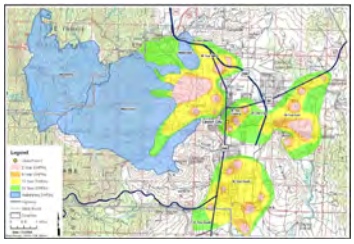
Non-Transient Non-Community Water Systems (NTNC) regularly serves at least 25 of the same persons for more than 6 months per year.

13

What is a Source Water/Wellhead Protection Area?

An area of land that contributes water to the drinking water supply
An area where man-made pollution poses a threat to a water source
Community-established boundary to protect a water source





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Potential Sources of Contamination

Current and prospective activities that have the potential to release contaminants to the environment

- Hazardous Material
- Storage Handling
- Disposal
- Vandalism

- Controls:
  - ❖Potential for release?
  - ❖Risk to drinking water?
  - ❖Communication?

15

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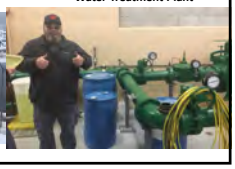
NV0000240	STOREY COUNTY WATER DISTRICT	C	A	STOREY	SW	1 SW intake
NV0000913	TRI GENERAL IMPROVEMENT DISTRICT	NTNC	A	STOREY	GW	8 Well

Marlette Lake | Five Mile Reservoir | Water Treatment Plant



16

Community Source Water Protection Plan

For Public Water Systems in Carson City, Nevada

Marlette Lake Watershed Source Water Protection Area

Watershed Boundary

17

Storey County DRAFT Watershed Source Water Protection Areas

Signage

Increased Security

Education and Outreach

Fence Repairs

Collaboration

18

Storey County DRAFT Watershed Source Water Protection Areas

Signage

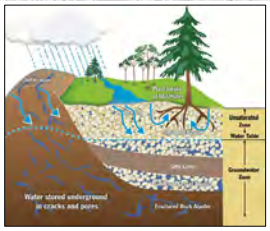
Increased Security

Education and Outreach

19

Groundwater in Storey County

Water System No.	Water System Name	Type	Status	Principal County Served	Primary Source Water Type	Number of Sources
NV0000879	ASIA UNION ELECTRONIC CHEMICALS RENO	NTNC	A	STOREY	GW	1 Well
NV0005055	CANYON GID	C	A	STOREY	GW	Well: 2 Active 1 Inactive
NV0003075	EP MINERALS LLC CLARK	NTNC	A	STOREY	GW	1 Well
NV0000878	MARS PETCARE US INC	NTNC	A	STOREY	GW	1 Well
NV0000713	TRI GENERAL IMPROVEMENT DISTRICT	NTNC	A	STOREY	GW	8 Well

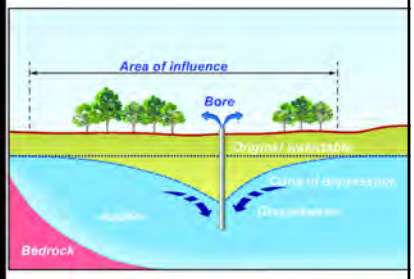


20

Capture Zone

- Region from which water is drawn from a well

Delineating Source Water/Wellhead Protection Areas

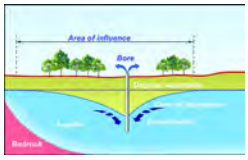


21

Delineating Source Water/Wellhead Protection Areas

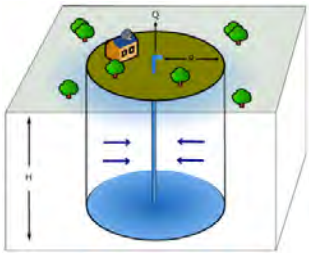
Capture Zone

- Region from which water is drawn from a well

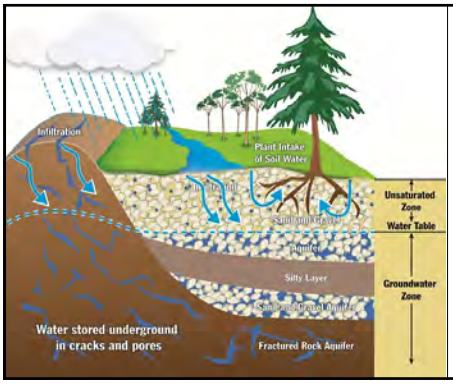


Capture Zone

- Fixed Radius (Vulnerability Assessment Report)
- Calculated Fixed Radius (Time of Travel)
- Uniform Flow Equation (Time of Travel)



22



What is an Aquifer?

Layers and areas of rocks below the ground where all the cracks a crevices, and spaces between the rocks are full of water.

23

Canyon GID Wellhead Protection Areas

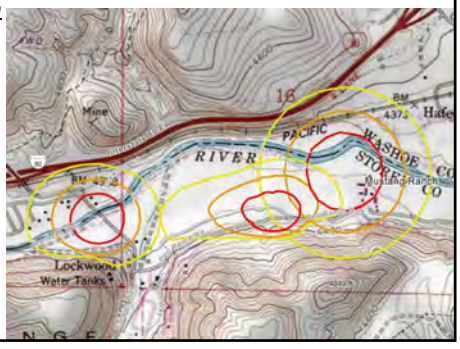
Uniform Flow Equation

2-, 5-, 10-Year Time of Travel

Well Pumping Rates

Aquifer Parameters

Groundwater Flow Direction



24

Canyon GID Wellhead Protection Areas

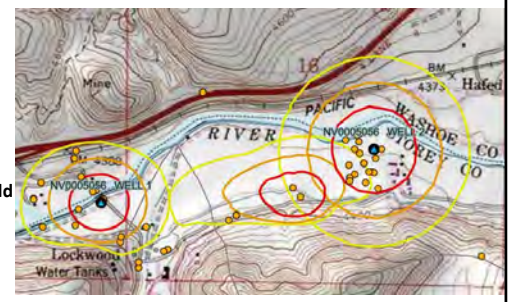
Potential Contaminant Sources:

Railroad

Private Wells

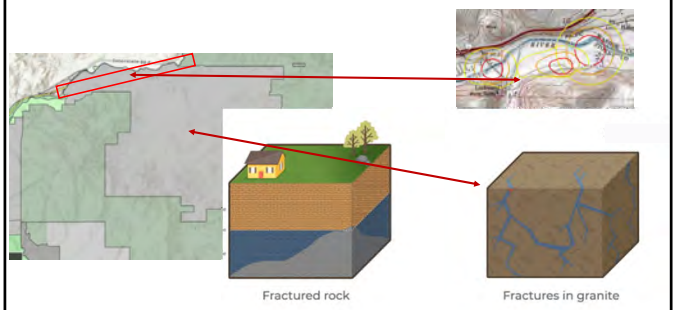
Monitoring Wellfield

Long Valley Creek



25

TRI-Center Source Water Protection Area Development



26

Draft Schedule

February 2024 – Water Characterization, Potential Contaminant Source Inventory, Source Water Protection Areas

Week of February 26 – Finalize Potential Contaminant Source Inventory, Source Water Protection Areas

March 2024 – Strategies, Action Plan

April 2024 – Review Final Documents and Provide Feedback

May 2024 – Present to Boards for Approval

June 2024 – Final Document

27

Draft Meeting Notes

TRI-GID, RCI

Wednesday, February 14, 2024
2:00pm – 3:00pm (Pacific)
Virtual Meeting

Attending

NAME	CONTACT INFORMATION		AFFILIATION
Shari Whalen	775-636-6126	swhalen@tri-gid.org	TRI-GID General Manager
Alan Terry	775-636-6126		Senior Water Operator, TRI-GID
Ozwald Henke	775-636-6126	ohenke@tri-gid.org	Technical Services Manager, TRI-GID
Alison Cramer	775-883-1600	alison@rci-nv.com	Resource Concepts, Inc. (RCI)
Jill Sutherland	775-883-1600	jill@rci-nv.com	Resource Concepts, Inc. (RCI)

Purpose & Overview

The purpose of this meeting was to discuss general water system operations at TRI-GID for Community Source Water Protection (CSWP) Plan Capture Zone simulations.

Discussion

1. General Water System Overview

TRI-GID provided and overview of their water system operations and information regarding future needs and desired outcomes of the CSWP Plan, including:

- TRI-GID reviewed and updated RCI's operating pump rates for each well.
- TRI-GID provided RCI with an overview of their operational strategy, including:
    - All wells have submersible pumps.
    - Wells do not pump together 24/7.
    - Adjusted seasonally.
    - Well 3 has been offline since 2020, and is expected to come online in summer 2024.
    - In general:
        - Wells 5 and 4 are in lead lag.
        - Wells 7 and 8 are in lead lag.
        - Wells 6 and 2 are always running.
        - When Well 3 comes online, Well 1 will be the backup well.
        - Location for Well 9 moved nearby in the future – within a few hundred feet (outside Tesla Building footprint).
    - Currently it is thought that there is no correlation between pumping rates and arsenic levels.
    - Demand is currently less than system capacity.
- TRI-GID is working on several Plans, including:
    - Conservation Plan,

  - Water Resource Plan, and
  - Groundwater Mitigation Plan.
- TRI-GID agreed that it is important to get the CSWP Plan finalized, with annual updates.
- TRI-GID agreed that it's important to include the pertinent CSWP Plan information regarding water quality protection out to new customers.
- Planning horizon for TRI-GID extends out to 50 years.
  - System updates will likely occur every 3-5 years.
  - The Group agreed that 25-, 50-year capture zone simulations will be pertinent for their planning horizon.
- The Group agreed to add an action project to the Action Plan that includes hydrogeological investigations.
- TRI-GID is concerned about impermeable surface area discharging to the Truckee River.
- Stormwater BMPs are controlled by Storey County.
  - Collaboration between Storey County and TRI-GID on stormwater BMPs could be added to the Action Plan for Storey County and TRI-GID.
- Currently there are no LIDs and no detention basins in the TRIC.
- Potential contaminant sources (PCSs) of concern include facilities without State/Federal environmental permits (less regulatory oversight). Facilities with multiple permits have on-going environmental programs.
- The reservoir is currently lined.
  - The unlined reservoir did leak, however, there are no studies regarding infiltration.
  - Storage is for TRI-GID treated wastewater and for effluent piped in from TMWARF.
- EP Minerals has annexed land and it is anticipated they will be a customer in the future, despite having their own water system.
- NDEP is concerned about discharges to groundwater and to the Truckee River.
  - TRI-GID is currently investigating permeability and infiltration rates north of the reservoir.
  - Not a compliance issue at this point.
- Additional PCS concerns include the closed RIBs on the backside of the WWTP.
  - WWTP is not uphill of any source water at this time.
  - The Groundwater Mitigation Plan is intended to focus on the high levels of nitrates near the WWTP.
  - Induction wells downgradient of the WWTP are treated as a non-potable resource and are not included in the CSWP Plan.
    - TRI-GID is only interested in Action projects for the potable resources at this time.

Next Steps / To Do List

Next Team Meeting is scheduled for February 29, 2024 from 1:00PM – 2:00PM (Pacific).

RCI:

- Reach out to Storey County EM and Planning Manager to discuss stormwater BMPs.
- Simulate Capture Zones based on updated well and water system information.
    - 2-, 5-, 10-, 25-, 50-Year.
- Draft Action Plan projects for TRI-GID to review.

Storey County Planning Commission
Meeting Agenda

Thursday February 15, 2024 at 6:00 p.m.
Storey County Courthouse, District Courtroom*
26 South B Street, Virginia City, NV

Jim Umbach – Chairman
David Yenne – Planning Commissioner
Lee Sterrett – Planning Commissioner

Alexia Sober- Vice Chairman
Donny Gilman– Planning Commissioner
Denise Victorine – Planning Commissioner
Summer Pellett – Planning Commissioner

*Storey County Planning Commission is hosting an **in person and teleconference** meeting this month. Members of the public who wish to attend the meeting remotely, may do so by accessing the following meeting on Zoom.com. Public comment may be made by communication through zoom.

***Join Zoom Meeting:** **https://us02web.zoom.us/j/88607320146** **Meeting ID:** **886 0732 0146**

Dial by your location
+1 346 248 7799 US (Houston)
+1 669 900 6833 US (San Jose)
+1 253 215 8782 US
+1 301 715 8592 US
+1 312 626 6799 US (Chicago)
+1 929 205 6099 US (New York)
Meeting ID: 886 0732 0146
Find your local number: https://zoom.us/u/adi9WjdtNr

For additional information or supporting documents please contact the Storey County Planning Department at 775-847-1144.

All items include discussion and possible action to approve, modify, deny, or continue unless marked otherwise.

1. **Call to Order at 6:00 p.m.**
2. **Roll Call**
3. **Pledge of Allegiance**
4. **Discussion/For Possible Action:** Approval of Agenda for February 15, 2024.
5. **Discussion/For Possible Action:** Approval of Minutes for January 11, 2024.

6. **Presentation/No Possible Action:** Presentation of Source Water Protection Program by Resource Concepts Inc.

7. **Discussion/No Possible Action:** Planning Manager Kathy Canfield will provide a summary to the ongoing Master Plan update.

8. **Discussion/No Possible Action:** Planning Manager Canfield will provide an update on the Long Valley Creek Hazard Mitigation Plan project.

9. **Discussion/No Possible Action:** Update on the Capital Improvement Plan (CIP).

10. **Discussion/For Possible Action:** Determination of next Planning Commission meeting.

11. **Discussion/For Possible Action:** Approval of Claims.

12. **Correspondence** (no action)

13. **Public Comment** (no action)

14. **Staff** (no action)

15. **Board Comments** (no action)

16. **Adjournment**

Notes:

- Supporting material is available to the public and may be obtained at https://www.storeycounty.org/government/departments/clerk/agendas___minutes/planning_commission.php or the Storey County Courthouse, Planning Department, 26 South B Street, Virginia City, Nevada.
- There may be a quorum of Storey County Commissioners in attendance, but no action or discussion will be taken by the Commissioners.
- Public comment will be allowed after each item on the agenda (this comment should be limited to the item on the agenda). Public comment will also be allowed at the end of each meeting (this comment should be limited to matters not on the agenda).
- Items on the agenda may be taken out of order, the public body may combine two or more agenda items for consideration, and the public body may remove an item from the agenda or delay discussion relating to an item on the agenda at any time.
- Additional information pertaining to any item on this agenda may be requested from Lyndi Renaud, Planning Department (775-847-1144).
- Supporting material is available to the public and may be obtained at https://www.storeycounty.org/government/departments/clerk/agendas___minutes/planning_commission.php or the Storey County Courthouse, Planning Department, 26 South B Street, Virginia City, Nevada.

Certification of Posting
I, Lyndi Renaud on behalf of the Storey County Planning Commission, do hereby certify that I posted, or caused to be posted, a copy of this Agenda at the following location on or before February 6, 2024: Storey County Courthouse and Storey County website at https://www.storeycounty.org/government/departments/clerk/agendas___minutes/planning_commission.php
And the Nevada State website at https://notice.nv.gov/. Courtesy copies of the agenda may be posted at the Storey County Community Development; Virginia City Fire Station 71; Mark Twain Community Center; Lockwood Community/Senior Center; Canyon GID; Lockwood Fire Station; Virginia City Highlands Fire Station; Virginia City Highlands Online Message Board.

By Lyndi Renaud, Secretary of the Planning Commission

STOREY COUNTY PLANNING COMMISSION MEETING

Thursday January 11, 2024 at 6:00 p.m.
Storey County Courthouse, District Courtroom
26 S B Street, Virginia City, Nevada

MEETING MINUTES

CHAIRMAN: Jim Umbach VICE-CHAIRMAN: Alexia Sober

COMMISSIONERS:
Adrianne Baugh, Donny Gilman, Summer Pellett, Lee Sterrett, At Large (vacant)

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1. **Call to Order:** The meeting was called to order by the Chairman at 6:00 P.M.

2. **Roll Call:** Jim Umbach, Summer Pellett, Lee Sterrett, Alexia Sober, Adrianne Baugh, Donny Gilman.
Absent: None (At Large position Vacant)

   Also Present: Planning Manager Kathy Canfield, Brian Brown D.A.'s office, County Manager Austin Osborne, County Commissioner Jay Carmona, Justice of the Peace Eileen Herrington, and Community Development Director Pete Renaud.

3. **Pledge of Allegiance:** The Chairman led the Pledge of Allegiance.

4. **Discussion/For Possible Action:** Approval of Agenda for January 11, 2024.

   Motion: Approval of Agenda for January 11, 2024, **Action:** Approve, **Moved by** Commissioner Sober, **Seconded by** Commissioner Sterrett, **Vote:** Motion carried by unanimous vote (**summary:** Yes=6).

   No Public Comment.

5. **Election of Chairperson** of the Planning Commission for 2024.

   Motion: I, Alexia Sober motion to nominate Jim Umbach to remain as Chairperson of the Planning Commission for 2024, **Action:** Approve, **Moved by** Commissioner Sober, **Seconded by** Commissioner Gilman, **Vote:** Motion carried by unanimous vote (**summary:** Yes=6).

   No Public Comment

6. **Election of Vice-Chairperson** of the Planning Commission for 2024.

   Motion: I, Adrianne Baugh motion to nominate Alexia Sober to remain as Vice Chairperson of the Planning Commission for 2024, **Action:** Approve, **Moved by** Commissioner Baugh, **Seconded by** Commissioner Gilman, **Vote:** Motion carried by unanimous vote (**summary:** Yes=6).

   No Public Comment

7. **Discussion/For Possible Action:** Approval of Minutes for November 2, 2023.

Motion: Approval of Minutes for November 2, 2023, **Action:** Approve, **Moved by** Commissioner Sober, **Seconded by** Commissioner Sterrett, **Vote:** Motion carried by unanimous vote (**summary:** Yes-6).

No Public Comment

8. **Discussion/No Possible Action:** File no. 2023-049 Zone Map Amendment. The applicant is requesting a Zone Map Amendment to rezone two parcels of land zoned Forestry to I2 Heavy Industrial.
No modifications to the existing site conditions are proposed with this zone map amendment application. The property is located west of USA Parkway at the Storey County/Lyon County boundary, Storey County, Nevada, and has Assessor's Parcel Numbers 004-171-20 and 004-181-10.

Planning Manager Canfield summarized the request. The property owner is requesting to rezone two parcels of land from Forestry zoning to I2 Heavy Industrial zoning. APN 004-171-20 is an approximate 533.46 acre parcel and APN 004-181-10 is an approximate 997.22 acre parcel. The applicant proposes to develop future industrial land uses on both properties. This land is not subject to the Tahoe Reno Industrial Center Development Agreement; however, this land is within the established service area of the TRI-GID. The Storey County Master Plan identifies this land to transition from Forestry to Industrial zoning when desired by the property owner. This request for the zoning district change is to allow for future industrial land use development on the properties. The two properties are currently zoned Forestry. The 2016 Storey County Master Plan identifies the two properties as having a Transition from Resources to Industrial land use designation. Staff believe this is appropriate. The neighboring properties are a mixture of Heavy Industrial and Forestry zoning.
The properties are not part of the Tahoe Reno Industrial Center, however they will be served by the Tahoe Reno General Improvement District (TRIGID) for water and sewer. Staff received one letter of support for the project. It was distributed to the commissioners and posted on the Storey County website.

Commissioner Sterrett asked a question regarding processed water that was mentioned in the description the applicant submitted. Will the processed water coming to the site be consumed and used on the site.

Coury Morris representing the applicant answered that the intent would be to utilize the processed water onsite. Currently there is no way to send the water back to the TRIGID for treatment so the water will be exhausted on site.

Vice Chairman Sober commented that the request is consistent with the nature and character of the area and does not see any issue in rezoning the land to Industrial. Chairman Umbach concurred with Vice Chairman Sober.

No Public Comment

Motion: In accordance with the recommendation by staff, the findings of fact under Section 3.A of this report, and other findings deemed appropriate by the planning commission, and in compliance with the conditions of approval, I, Alexia Sober, recommend approval for Zone Map Amendment (File 2023-049) to rezone two parcels of land zoned Forestry to I2 Heavy Industrial. No modifications to the existing site conditions are proposed with this zone map amendment application. The property is located west of USA Parkway at the Storey County/Lyon County boundary, Storey County, Nevada, and has Assessor's Parcel Numbers 004-171-20 and 004-181-10.,
Action: Approve, **Moved by** Commissioner Sober, **Seconded by** Commissioner Gilman,

Planning Manager Canfield read the findings of fact into the record.

(1) The proposed Zone Map Amendment complies with all Federal, Nevada State, and Storey County regulations;

(2) The proposed Zone Map Amendment will not impose substantial adverse impacts or safety hazards on the abutting properties;

(3) The conditions of approval of the Zone Map Amendment require compliance with the applicable codes;

(4) The conditions of approval of the Zone Map Amendment do not conflict with the minimum requirements in Chapter 17.35 I2 Heavy Industrial Zone or Chapter 17.03.220 Zone map amendments and zone text amendments;

(5) The uses allowed by the new zone do not appear to cause substantial adverse impacts to the uses allowed in abutting zones;

(6) The proposed Zone Map Amendment is in substantial compliance with and supports the goals, objectives and recommendations of the 2016 Storey County Master Plan;

(7) The proposed Zone Map Amendment will provide for land uses compatible with existing adjacent land uses and will not have detrimental impacts to other properties in the vicinity;

(8) The proposed Zone Map Amendment will not cause uses that will negatively impact existing or planned public services or facilities and will not adversely impact the public health, safety and welfare;

(9) The proposed Zone Map Amendment will not create any non-conforming conditions, such as non-conforming setbacks distances or minimum parcel area and width requirements.

No Public Comment

Vote: Motion carried by unanimous vote (**summary:** Yes=6).

9. **Discussion/For Possible Action:** Determination of next planning commission meeting.

   Motion: Next planning commission meeting to be held on February 15, 2024 at 6:00 P.M. at the Storey County Courthouse, District Courtroom in person and via Zoom, **Action:** Approve, **Moved by** Commissioner Sober, **Seconded by** Commissioner Sober, **Vote:** Motion carried by unanimous vote (**summary:** Yes=6).

   No Public Comment

10. **Discussion/For Possible Action:** Approval of claims **–** None

11. **Correspondence (No Action) –** None other than the correspondence mentioned in support of the Zone Map Amendment request.

12. **Public Comment (No Action) –** None

13. **Staff (No Action) –** Planning Manager Canfield told the commission about the Long Valley Creek Hazard Mitigation Plan community meeting scheduled for January 25th at 5:30 pm at the Rainbow Bend Clubhouse. This meeting will be a follow up to the meeting held in March 2023. The consultant working on this project has completed a draft and will present findings, recommendations and potential mitigation measures to help the community with the flooding issues. Notices of the meeting will be mailed out to all property owners in the Canyon GID service area.

    Canfield mentioned that the At Large position on the planning commission is still vacant but staff have completed interviews with three applicants and the board will be making an appointment soon.

    County Manager Austin Osborne told the commission that staff is working on scheduling dates for Master Plan update town hall meetings in Lockwood and Mark Twain.

14. **Board Comments (No Action) –** The commissioners welcomed new planning commissioner Donny Gilman. Mr. Gilman gave a brief summary of his background. Mr. Gilman stated that he has been in the county for over 20 years and has opened and closed businesses. Gilman said he has been involved in much of the development that has occurred in the county and looks forward to working with the planning commission.

    Planning Manager Canfield also told the board that Chief Deputy D.A. Keith Loomis retired and introduced Brian Brown, legal counsel taking over for Mr. Loomis. Mr. Brown stated that he has been practicing law for 30 years. He ran the Litigation Department at the Washoe County D.A.'s for 7 years and was also a partner is a statewide law firm where he practiced civil litigation for about 23 years. Brown said he has been working with D.A. Langer on a part time basis for 18 months and since Mr. Loomis retired he is working around 30 hours a week for Storey County and looks forward to working with everyone.

15. **Adjournment (No Action) -** The meeting was adjourned at 6:25 p.m.

To obtain a recording of the meeting please email planning@storeycounty.org or call the office at 775.847.1144

Respectfully Submitted, By Lyndi Renaud

Draft Meeting Notes

MARS Pet Nutrition, RCI

Friday, February 16, 2024
9:00AM – 10:00AM (Pacific)
Virtual Meeting

Attending

NAME	CONTACT INFORMATION		AFFILIATION
Scott Peterson	702-283-0296	Scott.peterson@effem.com	Health, Safety, and Environmental Manager, Mars Pet Nutrition
Alison Cramer	775-883-1600	alison@rci-nv.com	Resource Concepts, Inc. (RCI)
Jill Sutherland	775-883-1600	jill@rci-nv.com	Resource Concepts, Inc. (RCI)

Purpose & Overview

The purpose of this meeting was to discuss expectations for participating in a Community Source Water Protection (CSWP) Plan for Public Water Systems in Storey County, and water quality concerns for Mars Pet Nutrition.

Discussion

1. General Discussion and Water Quality Concerns

RCI gave a brief overview of what participation is expected of water systems to participate in Nevada's Integrated Source Water Protection Program (ISWPP), including:

- ISWPP is a voluntary, non-regulatory program, and comes at no charge to the water systems.
    - Seek Board participation and approval.
    - Attendance of 5-6 Team meetings.
    - Provide pertinent water system and emergency operating plan information.
    - Review and comments of documents.

Mars Pet Nutrition (Mars) provided valuable input regarding their water system, treatment operations, and water quality concerns, including:

- Currently operate using one potable well.
- Point of Use filtration for process, sinks, and drinking water.
    - Filtration system was recently updated.
    - On-site WWTP.
        - Discharge to a lined pond,
        - Permit for land application of wastewater,
        - Sample water quality on all property corners (Monitoring wells),
        - Self-sustained operation.
        - Managed by SPB.
- Water quality issues include arsenic, similar to other public water systems in the area.
- Facility was built in the early 90s.
- Mars is responsible for containing their waste and hazardous materials.

  - Mars has Industrial SWPP and Spill Prevention Control and Countermeasure (SPCC Plan).
  - Extensive emergency operating procedures (EOPs).
  - Mars agreed that collaboration and communication with TRI-GID on EOPs is pertinent to protect water quality.
  - Collaboration can be added as an action project to the Action Plan for TRI-GID and Mars.
- Mars has a helipad for landing to assist in wildfire emergencies.
- Water Quality concerns include:
  - Newly constructed facilities upgradient of water supply sources,
  - Power Facility to the East,
  - Air emissions from other industrial facilities at TRIC, and
  - Vagrancy and homeless population on the Truckee River.
- Mars is focused on sustainability and regeneration.
  - Mars plans to reduce non-renewable consumption annually and is on track to be carbon neutral by 2050.
  - Solar array for heat located at site.
- Mars will try to find a copy of their Well log and/or water rights permit number for capture zone simulation purposes.
  - The Well pump was recently replaced.
  - They understand the Well is 300-feet deep with the pump set at 100-feet.
  - There might be a pump test they could share with RCI.
- Mars will need to their discuss level of participation with legal counsel.
- RCI will send examples of CSWP and Wellhead Protection (WHP) Plans from other communities.

Next Steps / To Do List

Next Team Meeting is scheduled for February 29, 2024 from 1:00PM – 2:00PM (Pacific).

RCI:

- Send examples of CSWP and WHP Plans.
- Draft Action Plan projects for review.

MARS:

- Discuss level of participation with legal counsel.
- Send RCI Well log and/or water rights permit number, if available.
- Share well pump test with RCI, if available.

Agenda

Source Water Protection (SWP) Program

Source Water Protection Program

Community Source Water Protection (CSWP) Plan Team Meeting #3

Date: February 29, 2024
Time: 1:00 – 2:00 PM
Where: Virtual on Teams

1. **Welcome**
2. **Revisit and Finalize CSWP Plan Goals**

   You need a plan to build a house. To build a life, you need a Goal.
   -Zig Ziglar
3. **Review Updated Information and Mapping**
   - Preliminary Capture Zone Analysis for TRI-GID
   - Potential Contaminant Source Inventory and Mapping
4. **Team Brainstorm – Management Strategies**
   - Management strategies to protect YOUR sources of drinking water are locally driven. Get CREATIVE!
   - What strategies can easily be put into action to implement YOUR Plan Vision and Goals?
5. **Schedule and Next Steps**

   Storey County Pictures!

Draft Meeting Notes

TRI-GID, Canyon GID, Storey County, U.S. Silica, NDEP, & RCI

Thursday, February 29, 2024
1:00pm-2:00pm (Pacific)
Virtual Meeting on Teams

Attending

NAME	CONTACT INFORMATION		AFFILIATION
Shari Whalen	775-636-6126	swhalen@tri-gid.org	General Manager, TRI-GID
Kathy Canfield	775-847-1144	kcanfield@storeycounty.org	Planning Manager, Storey County
Jason Wierzbicki	775-847-0958	jwierzbicki@storeycounty.org	Public Works Director, Storey County
Mitch Andreini	775-342-2850	canyongid@att.net	General Manager, Canyon GID
Adam Wilson	775-634-7443	awilson@storeycounty.org	Emergency Management Director
Connor Welsh	775-560-4119	Connor.welsh@ussilica.com	Regional Environmental Manager US Silica
Ethan Mason	775-687-9311	e.mason@ndep.nv.gov	Coordinator, NDEP Integrated Source Water Protection Program (ISWPP)
Erin Smith	775-883-1600	erin@rci-nv.com	Resource Concepts, Inc. (RCI)
Alison Cramer	775-883-1600	alison@rci-nv.com	Resource Concepts, Inc. (RCI)
Jill Sutherland	775-883-1600	jill@rci-nv.com	Resource Concepts, Inc. (RCI)

Purpose & Overview

The purpose of this meeting was to finalize the Community Source Water Protection (CSWP) Plan Goals, and to discuss capture zone and Source Water Protection Area (SWPA) delineations for the public water systems in Storey County.

Discussion

1. Welcome & Introductions

The Team reviewed and agreed to the Draft CSWP Plan Outline, including:

The following section would be publicly available documents:

- CSWP Plan Main Body
- Appendix A: SWPA Maps
    - Separate SWPA Maps will be developed for each water system.
- Appendix B: Action Plan
    - Separate Action Plans will be developed for each water system.
- Appendix C: Education Plan
- Appendix D: Meeting Notes

The following sections would be documents available upon request from the Public Water Systems, because they show sensitive information like well locations:

- Appendix E: Canyon GID WHPP
- Appendix F: Storey County CSWP Plan
- Appendix G: TRI-GID WHPP
- Appendix H: Privately Owned Public Water System WHPP

The Team agreed that it is important for each water system to maintain autonomy, and that jurisdiction should be clearly outlined in the CSWP Plan. The Team agreed that CSWP Plan approval will be sought after by each water system Board, and as schedules allow prior to an approval from the Board of County Commissioners.

2. Revisit and Finalize CSWP Plan Goals

The Team reviewed the Draft Goals, and agreed to finalize Goal 4, highlighted below:

1. Protect the quality of present and future drinking water sources.
2. Preserve the quality and quantity of water sources for existing and proposed development.
3. Consider risks to drinking water sources in Emergency Planning.
4. Engage water users, stakeholders, and businesses about source water protection and participation.

3. Review Updated Information and Mapping

The Team reviewed and finalized the SWPAs for Storey County, and discussed and agreed to several potential contaminant source (PCS) inventory questions, including:

- Remove the NDOT yard from the SWPA around the water treatment facility.
- Maintain the desktop PCS GIS database and add an action to the Action Plan which includes building and refining a PCS GIS database for Storey County.
- Management Strategies for Storey County SWPAs include:
    - Education and Outreach, and
    - Interagency Collaboration.

The Team reviewed the draft capture zone simulations for TRI-GID, and agreed to:

- Include the rail system in the final SWPA, and
- Re-simulate the capture zones which are presently offset from the Truckee River.
- Management strategies could include:
    - Coordinate with Storey County Emergency Management and Union Pacific Railroad Company on Spill Response.

The Team provided valuable information regarding future development in the Tahoe Reno Industrial Center (TRIC), including:

- Development is a possibility in any area throughout TRIC that is zoned for industrial, regardless of slope.
    - 9,000-acres is currently considered developable; however, it is likely that estimate will increase.
    - Both Switch and Tesla purchased large swaths of land to ensure privacy and isolation.
- Well 1 and Well 2 are located near the oldest developments in TRIC and are potentially at the greatest risk.
- Asia Union and Trivium both have discharge permits with TRI-GID.
- The Team agreed to review and consider multiple approaches to delineate “capture zones”: the fixed radius, the WhAEM model, and watershed areas of interest for SWPAs.

Next Steps / To Do List

Next Team Meeting: March 14, from 2:00PM – 3:00PM.

RCI:

- Continue to build the GIS based Potential Contaminant Source Inventory for Team review.
- Draft separate Action Plans for Team review.
- Simulate Time-of-Travel capture zones and draft Fixed Radius SWPAs for TRI-GID, Emergency Management, and Team review.
- Draft CSWP Plan Management Strategies that support the CSWP Plan Vision and Goals for Team review.

Team

- Provide input and review as requested.
- Continue to think about Source Water Protection County-Wide Management Strategies.

Nevada Integrated SourceWater Protection Program

https://ndep.nv.gov/water/source-water-protection

NDEP

Bureau of Safe Drinking Water

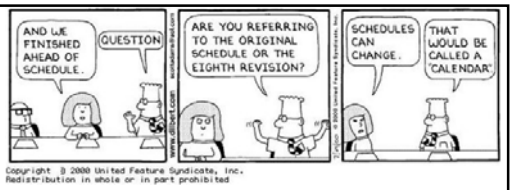
Ethan Mason
e.mason@ndep.nv.gov
775-687-9311

RCI Resource Concepts Inc

Jill Sutherland, PE - Jill@RCI-NV.com
Alison Cramer, EIT - Alison@RCI-NV.com
Erin Smith – Erin@RCI-NV.com
340 N. Minnesota Street
Carson City, Nevada
775-883-1600

Contractor for the Nevada Integrated Source Water Protection Program

Draft Schedule



February 2024 – Water Characterization, Potential Contaminant Source Inventory, Source Water Protection Areas

Week of February 26 – Finalize Source Water Protection Areas

March 14, 2024 – Strategies, Action Plan - Schedule End of March Meeting?

April 2024 – Review Final Documents and Provide Feedback – Schedule April Meetings

May 2024 – Present to Boards for Approval

June 2024 – Final Document

Developing a Community Plan….

- ✓ Develop a local Planning Team
- ✓ Drinking Water Source Inventory
- Potential Contaminant Source Inventory
- Preliminary Watershed Areas and Capture Zones
- Source Water Protection Areas

Community Source Water Protection Plan for Public Water Systems in Storey County – DRAFT Outline

CSWP Plan Main Body – *Set the Scene*

Appendix A – All Water Systems	Source Water Protection Area Maps
Appendix B – All Water Systems	Action Plan
Appendix C – All Water Systems	Education Plan
Appendix D – All Water Systems	Meeting Notes

Appendix E Canyon GID WHPP	Appendix F Storey County CSWP Plan	Appendix G TRI-GID WHPP	Appendix H Privately Owned Public Water Systems WHPP

Community Source Water Protection Plan Vision:

Ensure safe and sustainable drinking water for all residents and businesses.

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Ensure safe and sustainable drinking water for all residents and businesses.

Community Source Water Protection Plan Goals:

1. Protect the quality of present and future drinking water sources.

Community Source Water Protection Plan Vision:

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Community Source Water Protection Plan Goals:

1. ***Protect the quality of present and future drinking water sources.***
2. **Preserve the quality and quantity of water sources for existing and proposed development.**

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Community Source Water Protection Plan Goals:

1. ***Protect the quality of present and future drinking water sources.***
2. **Preserve the quality and quantity of water sources for existing and proposed development.**

3. **Consider risks to drinking water sources in Emergency Planning.**

Community Source Water Protection Plan Vision:

Ensure safe and sustainable drinking water for all residents and businesses.

Community Source Water Protection Plan Goal Four:

Engage the public, including the community, stakeholders, and businesses about actions to protect source water.

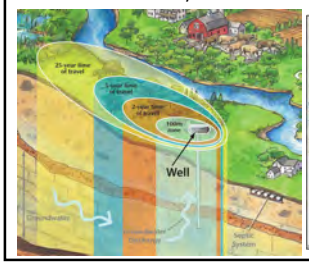
Educate the public, water users, and stakeholders for source water protection and taking action.

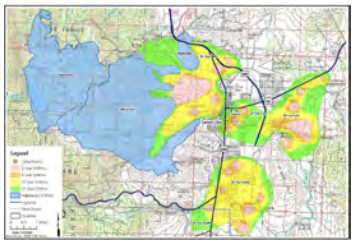
Provide water users, stakeholders, and businesses about source water protection education and means for action.

Engage water users, stakeholders, and businesses about source water protection and participation.

What is a Source Water/Wellhead Protection Area?

An area of land that contributes water to the drinking water supply
An area where man-made pollution poses a threat to a water source
Community-established boundary to protect a water source





Potential Sources of Contamination

Current and prospective activities that have the potential to release contaminants to the environment

- Hazardous Material
- Storage Handling
- Disposal
- Vandalism

- Controls:
  - ❖Potential for release?
  - ❖Risk to drinking water?
  - ❖Communication?

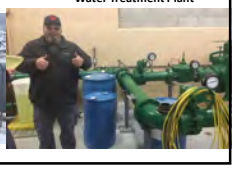
Drinking Water Sources in Storey County

Water System No.	Water System Name	Type	Status	Principal County Served	Primary Source Water Type	Number of Sources
NV0000879	ASIA UNION ELECTRONIC CHEMICALS RENO	NTNC	A	STOREY	GW	1 Well
NV0005056	CANYON GID	C	A	STOREY	GW	Well: 2 Active 1 Inactive
NV0003075	EP MINERALS LLC CLARK	NTNC	A	STOREY	GW	1 Well
NV0000878	MARS PETCARE US INC	NTNC	A	STOREY	GW	1 Well
NV0000240	STOREY COUNTY WATER DISTRICT	C	A	STOREY	SW	1 SW intake
NV0000913	TRI GENERAL IMPROVEMENT DISTRICT	NTNC	A	STOREY	GW	8 Well

Marlette Lake

Five Mile Reservoir

Water Treatment Plant



Community Source Water Protection Plan

For Public Water Systems in Carson City, Nevada

Marlette Lake Watershed Source Water Protection Area

Watershed Boundary

Storey County DRAFT Source Water Protection Areas & Potential Contaminant Sources

- 1,100 Foot SWPA around Five-Mile Reservoir
- One Potential Contaminant Source
  - Increased Security/Reduce Vandalism
  - Fence Repairs
- Management Strategies
  - Education and Outreach
  - Interagency Collaboration

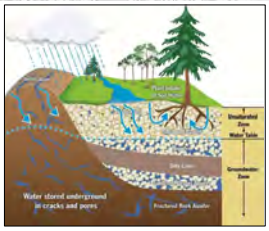
Storey County DRAFT Source Water Protection Areas –

Storey County DRAFT Source Water Protection Areas & Potential Contaminant Sources

- 650 Foot SWPA around Water Treatment Plant
- Three Potential Contaminant Sources
  - Increased Security/Reduce Vandalism
  - Inactive RCRA – Nevada Bell
  - Closed UST – Diesel - Release
- Management Strategies
  - Education and Outreach
  - Interagency Collaboration
  - Spill Response and Cleanup

Groundwater in Storey County

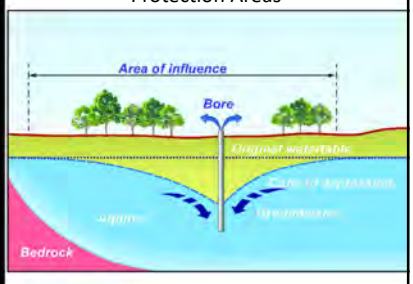
Water System No.	Water System Name	Type	Status	Principal County Served	Primary Source Water Type	Number of Sources
NV0000879	ASIA UNION ELECTRONIC CHEMICALS RENO	NTNC	A	STOREY	GW	1 Well
NV0005056	CANYON GID	C	A	STOREY	GW	Well: 2 Active 1 Inactive
NV0003075	EP MINERALS LLC CLARK	NTNC	A	STOREY	GW	1 Well
NV0000832	MARS PET CARE US INC	NTNC	A	STOREY	GW	1 Well
NV0000913	TRI GENERAL IMPROVEMENT DISTRICT	NTNC	A	STOREY	GW	8 Well



Capture Zone

- Region from which water is drawn from a well

Delineating Source Water/Wellhead Protection Areas



Delineating Source Water/Wellhead Protection Areas

Capture Zone

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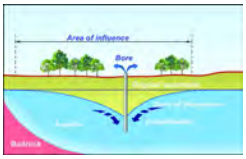
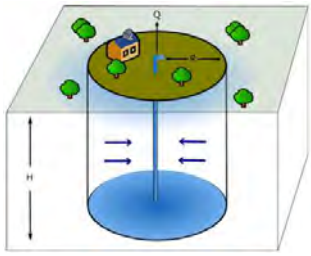
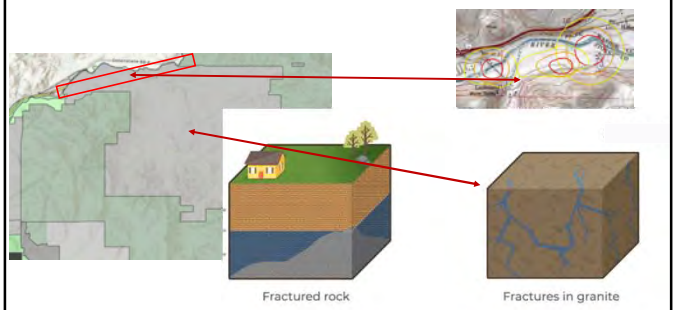


Capture Zone

- Fixed Radius (Vulnerability Assessment Report)
- Calculated Fixed Radius (Time of Travel)
- Uniform Flow Equation (Time of Travel)



TRI-Center Source Water Protection Area Development



Preserve the quality and quantity of water sources for existing and proposed development.

Protect the quality of present and future drinking water sources.

Ensure safe and sustainable drinking water for all residents and businesses.

Vision and Goals: "WHAT"

Strategy: "HOW" & "WHO"

Consider risks to drinking water sources in Emergency Planning.

Educate/Engage water users, businesses, stakeholder about source water protection and actions.

Achievable Realistic/Simple

Preserve the quality and quantity of water sources for existing and proposed development.

Protect the quality of present and future drinking water sources.

Ensure safe and sustainable drinking water for all residents and businesses.

Strategy: "HOW" & "WHO"

Consider risks to drinking water sources in Emergency Planning.

Educate/Engage water users, businesses, stakeholder about source water protection and actions.

Interagency Collaboration

Planning Agency Collaboration

Education & Outreach

Preserve the quality and quantity of water sources for existing and proposed development.

Protect the quality of present and future drinking water sources.

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Strategy: "HOW" & "WHO"

Consider risks to drinking water sources in Emergency Planning.

Educate/Engage water users, businesses, stakeholder about source water protection and actions.

Interagency Collaboration

Planning Agency Collaboration

Emerging Contaminants?

Education & Outreach

Draft Schedule

February 2024 – Water Characterization, Potential Contaminant Source Inventory, Source Water Protection Areas

Week of February 26 – Finalize Potential Contaminant Source Inventory, Source Water Protection Areas

March 2024 – Strategies, Action Plan

April 2024 – Review Final Documents and Provide Feedback

May 2024 – Present to Boards for Approval

June 2024 – Final Document

DRAFT Agenda

Source Water Protection (SWP) Program

Source Water Protection Program

Community Source Water Protection (CSWP) Plan Team Meeting #4

Date: March 14, 2024
Time: 2:00 – 3:00 PM
Where: Virtual on Teams

1. **Welcome**
2. **Discuss Source Water Protection Areas**
   - Capture Zone Analysis for TRI-GID
     - Discuss SWPA Delineations
     - Potential Contaminant Source Inventory within SWPAs
   - Canyon GID Watershed Areas of Interest
3. **Team Brainstorm – Management Strategies**
   - Management strategies to protect YOUR sources of drinking water are locally driven. Get CREATIVE!
   - What strategies can easily be put into action to implement YOUR Plan Vision and Goals?
4. **Schedule and Next Steps**

   Storey County Pictures!

Draft Meeting Notes

TRI-GID, Canyon GID, Storey County, U.S. Silica, NDEP, & RCI

Thursday, March 14, 2024
2:00pm-3:00pm (Pacific)
Virtual Meeting on Teams

Attending

NAME	CONTACT INFORMATION		AFFILIATION
Shari Whalen	775-636-6126	swhalen@tri-gid.org	General Manager, TRI-GID
Kathy Canfield	775-847-1144	kcanfield@storeycounty.org	Planning Manager, Storey County
Jason Wierzbicki	775-847-0958	jwierzbicki@storeycounty.org	Public Works Director, Storey County
Mitch Andreini	775-342-2850	canyongid@att.net	General Manager, Canyon GID
Scott Peterson	702-283-0296	Scott.peterson@effem.com	Health, Safety, and Environmental Manager, Mars Pet Nutrition
Ethan Mason	775-687-9311	e.mason@ndep.nv.gov	Coordinator, NDEP Integrated Source Water Protection Program (ISWPP)
Erin Smith	775-883-1600	erin@rci-nv.com	Resource Concepts, Inc. (RCI)
Alison Cramer	775-883-1600	alison@rci-nv.com	Resource Concepts, Inc. (RCI)
Jill Sutherland	775-883-1600	jill@rci-nv.com	Resource Concepts, Inc. (RCI)

Purpose & Overview

The purpose of this meeting was to discuss additions to Canyon GID Source Water Protection Areas (SWPAs) and develop management strategies for the County-Wide Community Source Water Protection (CSWP) Plan.

Discussion

1. Welcome

The meeting began with a tentative schedule discussion. The Team agreed to tentatively commit to the following meetings:

- April 25, 2024, Final In-Person Meeting (TBD using a Doodle Poll).
- May 16, 2024, Planning Commission Meeting.
- May 21, 2024, Canyon GID Board Meeting.
- May 21, June 4, or June 18, 2024, Board of Commissioners Meeting.
- June 3, 2024, TRI-GID Board Meeting (TBD by TRI-GID).

2. Discuss Source Water Protection Areas (SWPAs)

The Team reviewed the new Canyon GID watershed based "Areas of Interest" (AOIs). Reasons for adding these new areas include:

- The risk of emerging contaminants to Canyon GIDs water sources from various recharge areas,
- Potential development in the Taheo-Reno Industrial Center (TRIC) within the Lower Long valley Creek HUC-12.
- Management Strategies for these new AOIs may include:
    - Interagency Collaboration,
    - Planning Agency Coordination, and
    - Education and Outreach.

3. Team Brainstorm – Management Strategies

The Team discussed and agreed that the county-wide management strategies should be achievable, realistic, and simple. Several management strategies agreed upon during the meeting include:

- Education and Outreach – supports Goals 3 & 4.
- Interagency Collaboration – supports Goals 1, 2, & 3.
- Planning Agency Coordination – supports Goal 2, among others.

The Team agreed to revisit these strategies in the next Team meeting upon viewing the SWPAs for TRI-GID.

Next Steps / To Do List

Next Team Meeting: April 4, from 9:00-10:00AM (PST)

RCI:

- Draft separate Action Plans for Team review.
- Draft SWPAs for TRI-GID, Emergency Management, and Team review.
- Draft CSWP Plan Management Strategies that support the CSWP Plan Vision and Goals for Team review.
- Send a Doodle Poll for final Team In-Person Meeting

Team

- Provide input and review as requested.
- Continue to think about Source Water Protection County-Wide Management Strategies.

Nevada Integrated SourceWater Protection Program
https://ndep.nv.gov/water/source-water-protection

NDEP
Bureau of Safe Drinking Water

Ethan Mason
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Carson City, Nevada
775-883-1600
Contractor for the Nevada Integrated Source Water Protection Program

1

Draft Schedule

March 14, 2024 – Strategies, Action Plan

April 2024 – Review Final Documents and Provide Feedback – April 25 Meeting In-Person (Doodle Poll…)

May 2024 – Present to Boards for Approval –
Planning Commission Meeting May 16th, 2024
TRI-GID Board Meeting June 3, 2024
Canyon GID Board Meeting May 21st, 2024 @ 6pm
Board of Commissioners Meeting May 21st, 2024 (6/4/24 or 6/18/24)

End of June 2024 – Final Document

2

Developing a Community Plan….

- ✓ Develop a local Planning Team
- ✓ Drinking Water Source Inventory
- Potential Contaminant Source Inventory
- ✓ Preliminary Watershed Areas and Capture Zones
- Source Water Protection Areas

3

Community Source Water Protection Plan for Public Water Systems in Storey County – DRAFT Outline

CSWP Plan Main Body – *Set the Scene*

Appendix A – All Water Systems	Source Water Protection Area Maps
Appendix B – All Water Systems	Action Plan
Appendix C – All Water Systems	Education Plan
Appendix D – All Water Systems	Meeting Notes

Appendix E Canyon GID WHPP	Appendix F Storey County CSWP Plan	Appendix G TRI-GID WHPP	Appendix H Privately Owned Public Water Systems WHPP

4

Community Source Water Protection Plan Vision

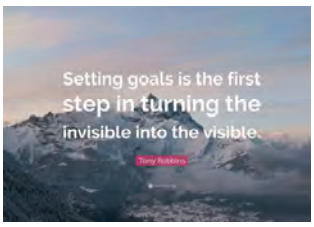
The WHAT
The PURPOSE

5

Community Source Water Protection Plan Vision

Ensure safe and sustainable drinking water for all residents and businesses.

6



Community Source Water Protection Plan Goals

The AIM
The RESULT

7

Community Source Water Protection Plan Goals

The AIM
The RESULT

1. ***Protect the quality of present and future drinking water sources.***

8

Community Source Water Protection Plan Goals

The AIM
The RESULT

1. ***Protect the quality of present and future drinking water sources.***
2. **Preserve the quality and quantity of water sources for existing and proposed development.**

9

Community Source Water Protection Plan Goals

The AIM
The RESULT

1. ***Protect the quality of present and future drinking water sources.***
2. **Preserve the quality and quantity of water sources for existing and proposed development.**
3. **Consider risks to drinking water sources in Emergency Planning.**

10

Community Source Water Protection Plan Goals

The AIM
The RESULT

1. ***Protect the quality of present and future drinking water sources.***
2. **Preserve the quality and quantity of water sources for existing and proposed development.**
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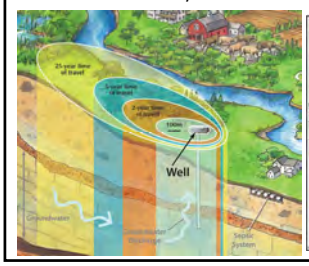
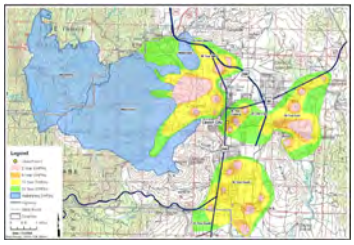
11

What is a Source Water/Wellhead Protection Area?

An area of land that contributes water to the drinking water supply
An area where man-made pollution poses a threat to a water source
Community-established boundary to protect a water source





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Potential Sources of Contamination

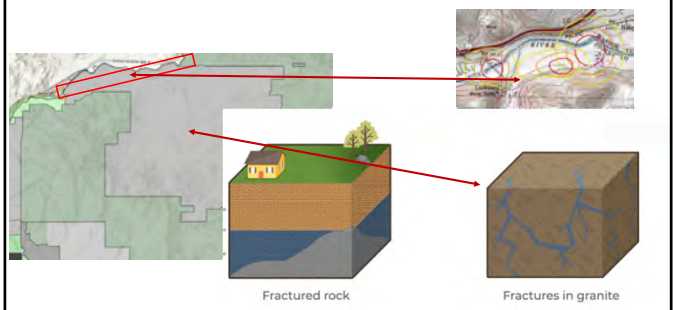
Current and prospective activities that have the potential to release contaminants to the environment

- Hazardous Material
- Storage Handling
- Disposal
- Vandalism

- Controls:
  - ❖Potential for release?
  - ❖Risk to drinking water?
  - ❖Communication?

13

TRI-Center Source Water Protection Area Development



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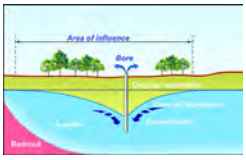
Delineating Source Water/Wellhead Protection Areas

Capture Zone

- Region from which water is drawn from a well



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- Calculated Fixed Radius (Time of Travel)
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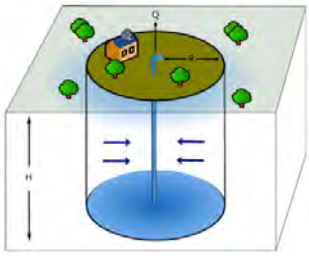

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Community Source Water Protection Plan Vision

Ensure safe and sustainable drinking water for all residents and businesses.

16

Community Source Water Protection Plan Goals

1. ***Protect the quality of present and future drinking water sources.***
2. **Preserve the quality and quantity of water sources for existing and proposed development.**
3. **Consider risks to drinking water sources in Emergency Planning.**
4. ***Engage water users, stakeholders, and businesses about source water protection and participation.***

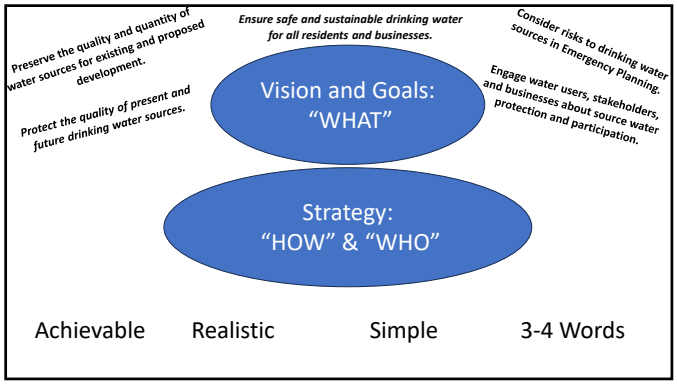
The AIM
The RESULT

17

Community Source Water Protection Plan Management Strategies

The HOW
The WHO

18



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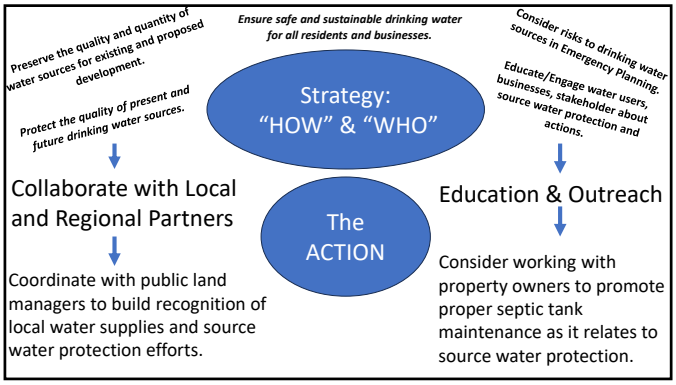

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Goal 1:

Protect the quality of present and future drinking water sources.

Protect the quality of present and future water resources. – Chpt. 10, Goal 6 (SC MP)

Provide ongoing protection for current and future drinking water sources. – Goal 4 (C GID)

Safeguard Shared Drinking Water Sources

Interagency Coordination

Collaborate with Local and Regional Partners

21

Goal 2:

Preserve the quality and quantity of water sources for existing and proposed development.

Support Storey County in protecting wellhead and source water protection areas and municipal watersheds from undue degradation. – Chpt. 4, Policy 15-3 (SC MP)

Guide and support land use decisions regarding wellhead and source water protection areas and future well sites. – Goal 7 (C GID)

Planning Agency Coordination

Interagency Coordination

22

Goal 3:

Consider risks to drinking water sources in Emergency Planning.

Spill Response and Cleanup

Physical Improvements

Water Quality Best Management Practices

23

Goal 4:

Engage water users, businesses, and stakeholders about source water protection and participation.

Engage the community through public activities, information, and education regarding source water protection. (Strategy E – CGID)

Education & Outreach

24

Draft Schedule

March 14, 2024 – Strategies, Action Plan

April 2024 – Review Final Documents and Provide Feedback – April 25 Meeting In-Person?

May 2024 – Present to Boards for Approval –
Planning Commission Meeting May 23, 2024
TRI-GID Board Meeting June 3, 2024
Canyon GID Board Meeting??
Board of Commissioners Meeting June 18, 2024

End of June 2024 – Final Document

25

Source Water Protection Program

DRAFT Agenda

Source Water Protection (SWP) Program

Community Source Water Protection (CSWP) Plan Team Meeting #5

Date: April 4, 2024
Time: 9:00 – 10:00 AM
Where: Virtual on Teams

1. **Welcome**

2. **Review Management Strategies and Actions**
   - Review and finalize the management strategies and actions which protect your sources of drinking water.
   - Do these CSWP Plan strategies implement YOUR community goals, and can they be easily put into action?

3. **Bonus - Public Education and Outreach**
   Review and discuss public education and outreach activities to be completed during and/or following CSWP Plan development.

4. **Schedule and Next Steps**
   Storey County Pictures!

Draft Meeting Notes

TRI-GID, Canyon GID, Storey County, U.S. Silica, NDEP, & RCI

Thursday, April 4, 2024
9:00pm – 10:00pm (Pacific)
Virtual Meeting on Teams

Attending

NAME	CONTACT INFORMATION		AFFILIATION
Kathy Canfield	775-847-1144	kcanfield@storeycounty.org	Planning Manager, Storey County
Jason Wierzbicki	775-847-0958	jwierzbicki@storeycounty.org	Public Works Director, Storey County
Mitch Andreini	775-342-2850	canyongid@att.net	General Manager, Canyon GID
Adam Wilson	775-634-7443	awilson@storeycounty.org	Emergency Management Director
Connor Welsh	775-560-4119	Connor.welsh@ussilica.com	Regional Environmental Manager US Silica
Ethan Mason	775-687-9311	e.mason@ndep.nv.gov	Coordinator, NDEP Integrated Source Water Protection Program (ISWPP)
Erin Smith	775-883-1600	erin@rci-nv.com	Resource Concepts, Inc. (RCI)
Alison Cramer	775-883-1600	alison@rci-nv.com	Resource Concepts, Inc. (RCI)
Jill Sutherland	775-883-1600	jill@rci-nv.com	Resource Concepts, Inc. (RCI)

Purpose & Overview

The purpose of this meeting was to finalize management strategies and discuss actions to be included in the Action Plan.

Discussion

1. Welcome

The meeting began with a tentative schedule discussion. Meeting planned for April 25 in-person, but may need to be moved – doodle poll is out to the Team.

2. Review Management Strategies and Actions

The Team reviewed the Management Strategies that were compiled by RCI and discussed in the previous Team meetings. The Team then reviewed several examples of Actions and Strategies, including a proposed Action Plan format. Also discussed was how the Action Plan relates to implementation of the CSWP Plan. The Team understands they will be receiving draft Action Plans to review next week. Management strategies include:

- Interagency Collaboration,
- Planning Agency Coordination,
- Spill Response and Cleanup,
- Physical Improvements,
- Water Quality Best Management Practices, and
- Education and Outreach.

The Team also discussed **Emerging Contaminants** and potentially adding a strategy to increase awareness about upcoming demands on public water systems (PWSs).

Per- and Polyfluoroalkyl Substances (PFAS)

It is important to use "emergency contaminants", rather than only "PFAS" language to encompass all potential regulatory developments and new funding opportunities.

- PFAS can enter water sources through wastewater, leachates, runoff, and more.
- Health effects are still being researched, but are known to have implications for liver function, cancers, pregnancy difficulties, and more.
- PWSs get information from BSDW about requirements and opportunities.
    - Canyon GID has a pilot plan delivered to use and evaluate for the next 6 months that will treat drinking water for PFAS. One inch diameter feed line will process water continuously through the treatment system.
    - DEXSORB Cyclopure – filtration system is based out of Chicago, IL. Filters are sent back to the company and they refurbish the filter for reuse.
    - There are disposal concerns with the spent filter media contaminated with PFAS.
- On-going Emerging Contaminant testing results are available PFAS in Nevada | NDEP (nv.gov).
    - WTR_NDEP PFAS_QAPP_Final_09292023.pdf (nv.gov)
    - Drinking_Water_2-6-2024.xlsx (live.com)
    - Surface_water_1-29-2024.xlsx (live.com)
    - Wastewater_1-29-2024.xlsx (live.com)

Lead and Copper Rule

- Takes a lot of time to test for lead and copper and is dependent on the willingness of a private homeowner to allow for testing.

The Team discussed potential additions to their Action Plans. The Team wants to know where PFAS that is detected in source water comes from. Actions could include:

- Develop an inventory of emerging contaminants by working with Emergency Managers and other agencies.
- Engage in conversations about Truckee River water quality.
- Understand how PFAS travels through different substrates and groundwater.
    - Consider participating in a wide scale fate and transport study.
- Participate in an emerging contaminant working group learn about the evolving research, treatment technology, funding opportunities, and regulations.

3. Bonus – Public Education and Outreach

The Team discussed public education and outreach needs for emerging contaminants.

- Interested in public education and materials to hand out or hang on doors.
- The Team agreed that it is important to be upfront with the public.

Next Steps / To Do List

Next Team Meeting: TBD

RCI:

- RCI will provide links to Emerging Contaminant testing results.
- Send Team individual Action Plans the week of 4/8 for their review and comment.
- Provide other draft text for review.

Team

- Review draft documents provided.

Nevada Integrated SourceWater Protection Program

https://ndep.nv.gov/water/source-water-protection

NDEP

Bureau of Safe Drinking Water
Ethan Mason
e.mason@ndep.nv.gov
775-687-9311

RCI Resource Concepts, Inc.
Jill Sutherland, PE, Jill@RCI-NV.com
Alison Cramer, EIT, Alison@RCI-NV.com
Erin Smith, Erin@RCI-NV.com
340 N. Minnesota Street
Carson City, Nevada
775-883-1600

Contractor for the Nevada Integrated Source Water Protection Program

1

Draft Schedule

March 14, 2024 – Strategies, Action Plan

April 2024 – Review Documents and Provide Feedback – April 25 Meeting In-Person

May 2024 – Present to Boards for Approval –
Planning Commission Meeting May 16th, 2024
TRI-GID Board Meeting May 20, 2024 - tentative
Canyon GID Board Meeting May 21st, 2024 @ 6pm
Board of Commissioners Meeting May 21st, 2024 (6/4/24 or 6/18/24)

End of June 2024 – Final Document

2

1. ***Protect the quality of present and future drinking water sources.***
2. **Preserve the quality and quantity of water sources for existing and proposed development.**
3. **Consider risks to drinking water sources in Emergency Planning.**
4. ***Engage water users, stakeholders, and businesses about source water protection and participation.***

Community Source Water Protection Plan Goals

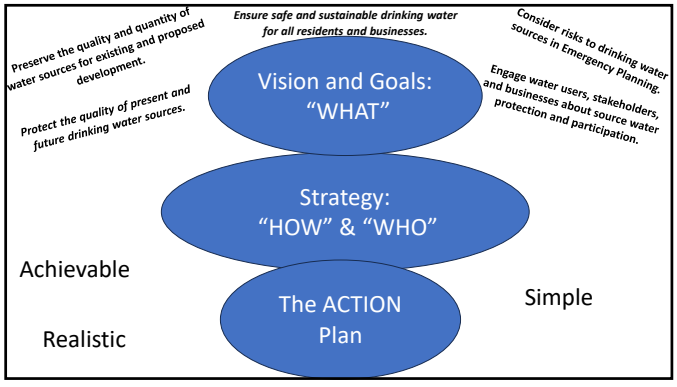
The AIM
The RESULT

3

Community Source Water Protection Plan Management Strategies

The HOW
The WHO

4



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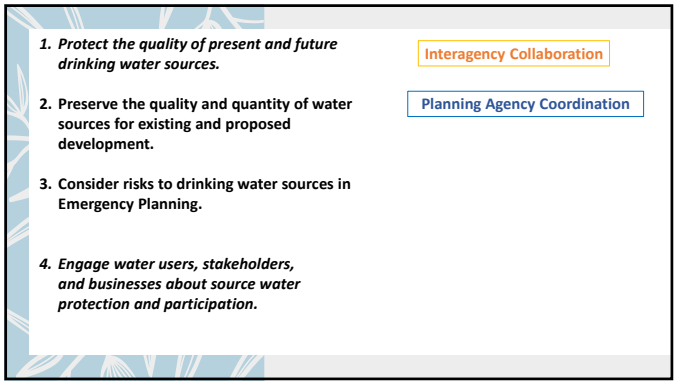
Interagency Collaboration

6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Interagency Collaboration
Planning Agency Coordination

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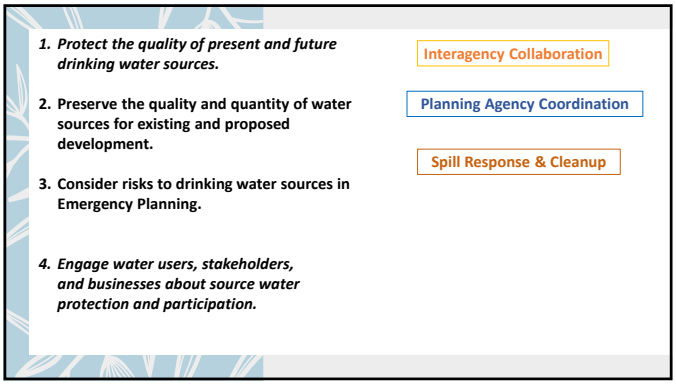
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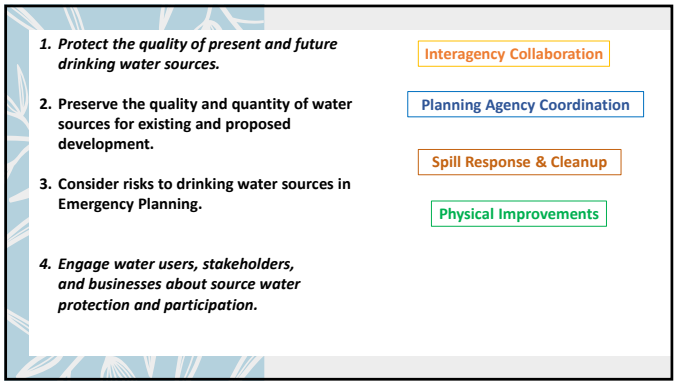
Interagency Collaboration
Planning Agency Coordination
Spill Response & Cleanup

8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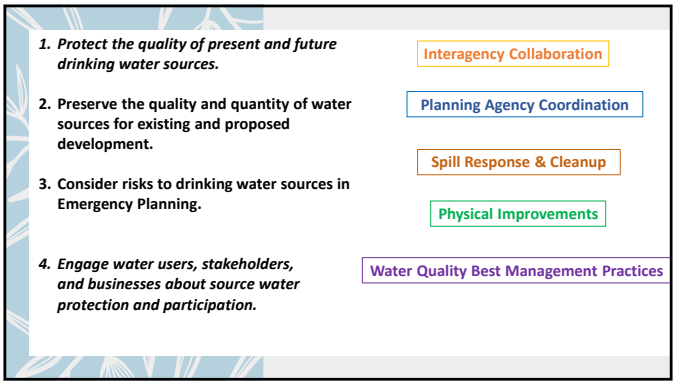
Interagency Collaboration
Planning Agency Coordination
Spill Response & Cleanup
Physical Improvements

9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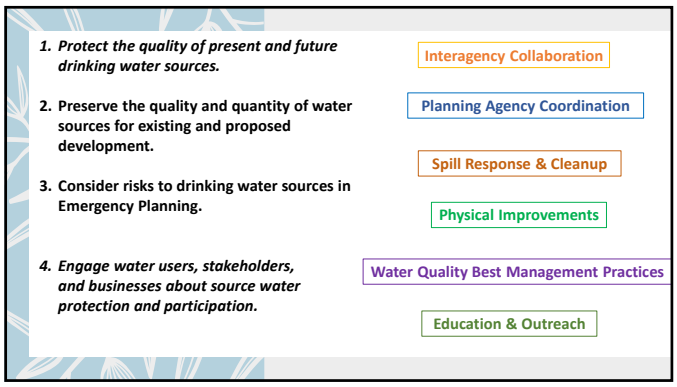
Interagency Collaboration
Planning Agency Coordination
Spill Response & Cleanup
Physical Improvements
Water Quality Best Management Practices

10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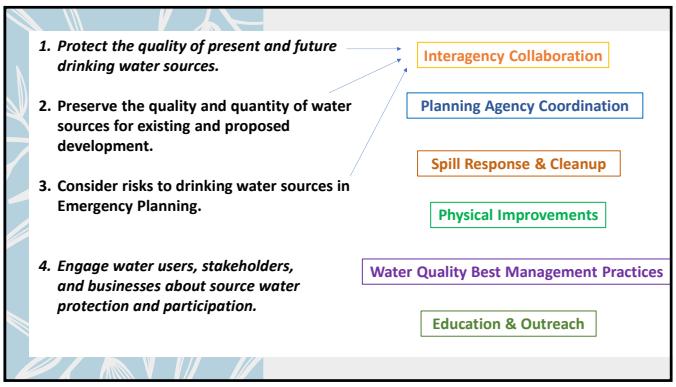
Interagency Collaboration
Planning Agency Coordination
Spill Response & Cleanup
Physical Improvements
Water Quality Best Management Practices
Education & Outreach

11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Interagency Collaboration
Planning Agency Coordination
Spill Response & Cleanup
Physical Improvements
Water Quality Best Management Practices
Education & Outreach

12

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Interagency Collaboration
Planning Agency Coordination
Spill Response & Cleanup
Physical Improvements
Water Quality Best Management Practices
Education & Outreach

13

Appendix B

Management Strategy	Community Source Water Protection – Storey County Action Plan

Management Strategy	Community Source Water Protection – Canyon GID Action Plan

Management Strategy	Community Source Water Protection – TRI-GID Action Plan

Management Strategy	Community Source Water Protection – Private Water Systems Action Plan

14

Management Strategy	Action Description	Priority and Cost	Project Lead	Type of Assistance Needed	Expected Implementation Year
Education and Outreach	Consider working with property owners to promote proper septic tank and residential well maintenance as it relates to source water protection. For example, work with the ISWPP technical assistance provider to host an informational booth/presentation at community events or Homeowner's Association meetings.	High Staff Time $500	Storey County Planning Department	Technical Assistance or materials	2024 & Ongoing
Planning Agency Coordination	Facilitate the exchange and maintenance of map layer updates between Storey County, TRI-GID, and Canyon Gid. For example, a shared Environmental Systems Research Institute (ESRI) viewer could include the most current SWPAs, well locations, and PCSs.	High Staff Time	Storey County Water District, Emergency Management, and Planning Department	Technical Assistance	2024-2026

Community Source Water Protection – Storey County Action Plan

15

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16

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Emerging Contaminants

Interagency Collaboration
Planning Agency Coordination
Spill Response & Cleanup
Physical Improvements
Water Quality Best Management Practices
Education & Outreach

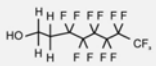
17

What are PFAS??

PFAS: Per- & Polyfluoroalkyl Substances (~4700)

Perfluorinated

Polyfluorinated



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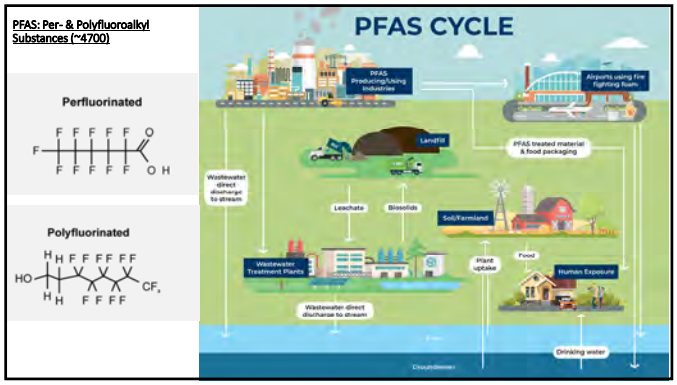

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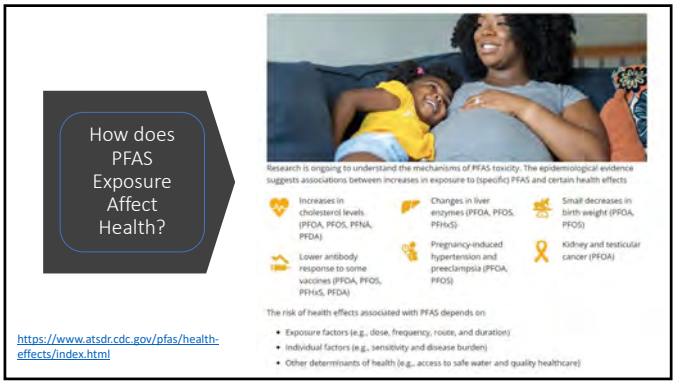

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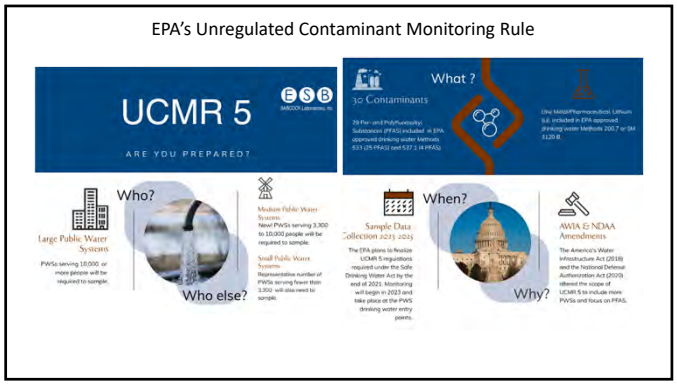


21

UCMR 5 Nevada Results as of January/February 2024

https://ndep.nv.gov/water/pfas-in-nevada

Abbreviated Data Summary - Represents a portion of the total data EPA expects to receive over the next three years. Data is released quarterly through 2026.

UCMR 5 Compounds	Tested	Detections ≥ Reporting Limit	Percentage (%) ≥ Reporting Limit
Public Water Systems	32	8	25%
Waste Water Treatment Plants	15 (5-Influent & 10-Effluent)	14	93%
Surface Water	43 (Alum and Chalk Creek above confluence with Truckee; Upstream of Derby Dam)	18	42%

**To analyze for all 30 contaminants, UCMR 5 requires three EPA validated test methods. Both EPA Test Methods 537.1 and 533 are required to analyze for the 29 PFAS compounds. EPA Test Method 200.7 is required to analyze for lithium.

https://www.epa.gov/pfas/epa-pfas-drinking-water-laboratory-methods

22

Emerging Contaminants

Community Source Water Protection Action Plan

Management Strategy	Action Description	Priority and Cost	Project Lead	Type of Assistance Needed	Expected Implementation Year
Emerging Contaminants	Coordinate with NDEP on availability of, and eligibility for, funding to address emerging contaminants.	High Staff Time	All	Technical Assistance	2024 & Ongoing

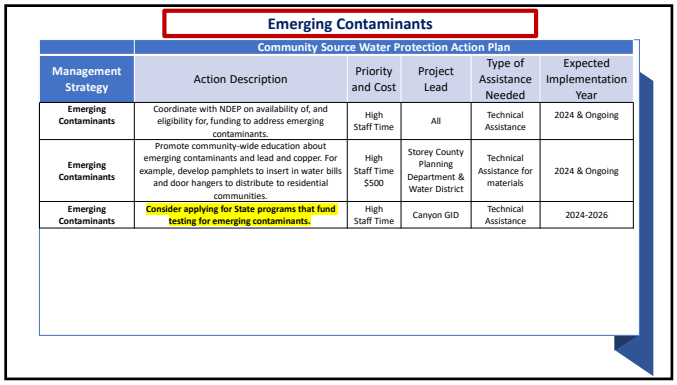
23

Emerging Contaminants

Community Source Water Protection Action Plan

Management Strategy	Action Description	Priority and Cost	Project Lead	Type of Assistance Needed	Expected Implementation Year
Emerging Contaminants	Coordinate with NDEP on availability of, and eligibility for, funding to address emerging contaminants.	High Staff Time	All	Technical Assistance	2024 & Ongoing
Emerging Contaminants	Promote community-wide education about emerging contaminants and lead and copper. For example, develop pamphlets to insert in water bills and door hangers to distribute to residential communities.– for CGID make specific to ECs	High Staff Time $500	Storey County Planning Department & Water District	Technical Assistance for materials	2024 & Ongoing
	Education about Ecs at a LEPC Meeting and general education to the public.				

24



Emerging Contaminants

Community Source Water Protection Action Plan

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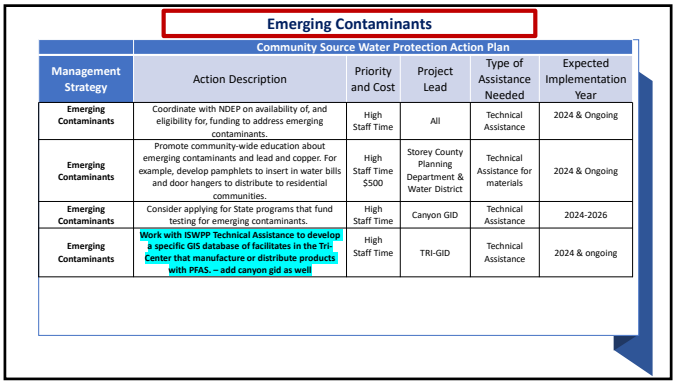
Emerging Contaminants	Promote community-wide education about emerging contaminants and lead and copper. For example, develop pamphlets to insert in water bills and door hangers to distribute to residential communities.	High Staff Time $500	Storey County Planning Department & Water District	Technical Assistance for materials	2024 & Ongoing
Emerging Contaminants	Consider applying for State programs that fund testing for emerging contaminants.	High Staff Time	Canyon GID	Technical Assistance	2024-2026

25



Emerging Contaminants

Community Source Water Protection Action Plan

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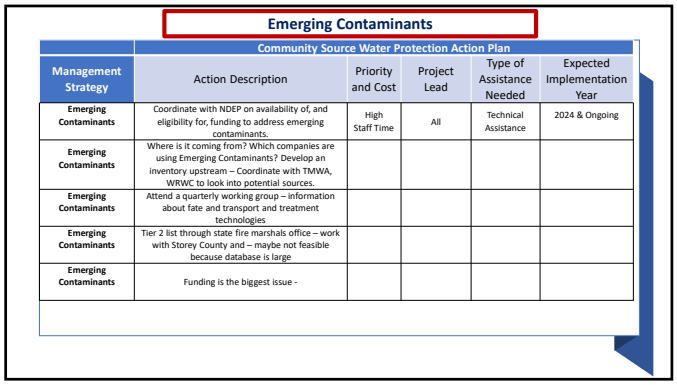
Emerging Contaminants	Promote community-wide education about emerging contaminants and lead and copper. For example, develop pamphlets to insert in water bills and door hangers to distribute to residential communities.	High Staff Time $500	Storey County Planning Department & Water District	Technical Assistance for materials	2024 & Ongoing
Emerging Contaminants	Consider applying for State programs that fund testing for emerging contaminants.	High Staff Time	Canyon GID	Technical Assistance	2024-2026
Emerging Contaminants	Work with ISWPP Technical Assistance to develop a specific GIS database of facilitates in the Tri-Center that manufacture or distribute products with PFAS. – add canyon gid as well	High Staff Time	TRI-GID	Technical Assistance	2024 & ongoing

26



Emerging Contaminants

Community Source Water Protection Action Plan

Management Strategy	Action Description	Priority and Cost	Project Lead	Type of Assistance Needed	Expected Implementation Year
Emerging Contaminants	Coordinate with NDEP on availability of, and eligibility for, funding to address emerging contaminants.	High Staff Time	All	Technical Assistance	2024 & Ongoing
Emerging Contaminants	Where is it coming from? Which companies are using Emerging Contaminants? Develop an inventory upstream – Coordinate with TMWA, WRWC to look into potential sources.				
Emerging Contaminants	Attend a quarterly working group – information about fate and transport and treatment technologies				
Emerging Contaminants	Tier 2 list through state fire marshals office – work with Storey County and – maybe not feasible because database is large				
Emerging Contaminants	Funding is the biggest issue -				

27

Appendix D
Meeting Notes

Storey County & Public Water System
Approval & Endorsement

Appendix D
Meeting Notes

Nevada Division of Environmental Protection
Endorsement

Appendix E

Storey County Water District
Source Water Protection Plan

Contact the Storey County Planning Department, or the Storey County Water District for review.

Executive Summary

The Storey County Source Water Protection Plan outlines measures that the community has identified to safeguard public drinking water sources. Source water in Nevada is defined as untreated water from streams, rivers, lakes, springs, or underground aquifers that is used for public drinking water supplies. Source water protection is a community's first line of defense to ensure safe and sustainable drinking water supplies for all its residents and businesses.

The Nevada Division of Environmental Protection, Bureau of Safe Drinking Water, administers the Integrated Source Water Protection Program (ISWPP). The ISWPP is a voluntary, non-regulatory program that assists communities in developing a local plan to prevent the contamination of public drinking water supplies. In 2023, the Storey County Board of Commissioners authorized participation in the program. Storey County's public water systems, local governments, and local stakeholders came together to complete the Community Source Water Protection Plan for the Public Water Systems in Storey County (County-Wide Plan). The planning team agreed that each public water system in Storey County would create a source water protection plan under the umbrella of the County-Wide Plan to address their specific source water protection needs and to outline their commitments to implementation.

Marlette Lake, located in the Carson Range to the west of Storey County, is the only source of water for Virginia City, Gold Hill, and Silver City. The raw water is piped to Storey County through an inverted siphon piping system that runs water into Five-Mile Reservoir, where it's gravity-fed to the water treatment plant in Virginia City.

An assessment of potential contaminant sources, activities that could pose a risk to water quality, was conducted and reviewed by the local planning team. The information was mapped and utilized to delineate Source Water Protection Areas (Appendix A of the County-Wide Plan). Subsequently, strategies to accomplish source water protection in the communities of Virginia City, Gold Hill, and Silver City were developed:

- Interagency Collaboration,
- Planning and Coordination,
- Spill Response and Cleanup,
- Physical Improvements,
- Education and Outreach, and
- Emerging Contaminants.

To guide implementation of these strategies, specific activities are outlined in the Action Plan (Attachment A of this Storey County Water District [SCWD] Plan, and Appendix B of the County-Wide Plan) and in a County-wide Education Plan (Appendix C of the County-Wide Plan). These voluntary actions can be implemented as technical and financial resources become available.

To ensure continued effectiveness, this SCWD Plan should be reviewed periodically to address changing conditions. This document serves the community as a tool to foster collaboration between water purveyors, local and regional partners, and community members to protect the quality of present and future drinking water sources in Storey County.

Table of Contents

Tables

Figures

Attachments

Acronyms

Acronym	Definition
GIS	geographic information system
ISWPP	Integrated Source Water Protection Program
NDEP	Nevada Division of Environmental Protection
SCWD Plan	Storey County Water District Plan
SWPA	source water protection area

File doc: 2024-05-23 Admin draft Apx E SCWD 20-158.B5-S L4-30 jls-jm.docx

1.0 Introduction

1.1 Source Water Protection

Source water protection in Nevada is a voluntary program aimed at building local partnerships to safeguard community drinking water sources. This Source Water Protection Plan for the Storey County Water District (SCWD Plan) serves as a planning tool to mitigate impacts to drinking water that may be imposed from potential sources of contamination. This SCWD Plan supports the County-wide source water protection planning effort in which Storey County's public water systems, the emergency manager, the planning manager, and various stakeholders have come together to ensure the sustainability of public drinking water supplies. This SCWD Plan was developed to assist the Storey County Water District as they work to implement one collective, County-wide vision:

Ensure safe and sustainable drinking water sources for all residents and businesses.

Source water protection is crucial to prevent potential contaminants from reaching drinking water sources. A source water protection area establishes a precautionary boundary around a drinking water source where a community aims to minimize the risk of potential contamination. The source water protection areas for the Storey County Water District were delineated by the local planning team to fulfill community-specific source water protection achievements. The source water protection area maps are included in Appendix A of the Community Source Water Protection Plan for Public Water Systems in Storey County (County-Wide Plan) and discussed in Section 2.4.

The Nevada Integrated Source Water Protection Program (ISWPP), established by the Nevada Division of Environmental Protection (NDEP), provides the framework for local plan development and outlines criteria for state endorsement. By obtaining NDEP endorsement, the Storey County Water District may receive additional technical assistance to implement actions and County-wide education and outreach outlined in the Action Plan (Attachment A of this SCWD Plan). This Source Water Protection Plan for the Storey County Water District was developed to meet NDEP endorsement criteria.

1.2 Plan Goals

The County-Wide Plan fosters collaboration among the water purveyors, agencies, industries, community leaders, and citizens in Storey County and represents a coordinated effort to guard source water protection areas and key local watersheds from undue degradation. The Team has established four goals to guide the development and implementation of this community-specific Plan that aim to protect drinking water sources for the residents and businesses of Storey County. The goals are:

PROTECT THE QUALITY OF PRESENT AND FUTURE DRINKING WATER SOURCES.

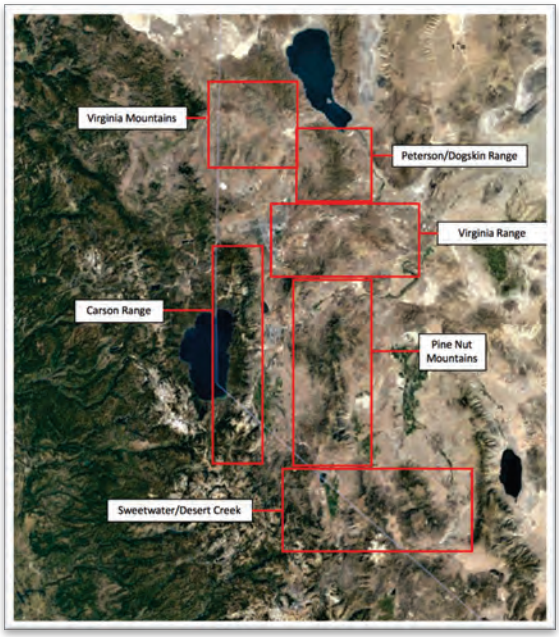
PRESERVE THE QUALITY AND QUANTITY OF WATER RESOURCES FOR EXISTING AND PROPOSED DEVELOPMENT.

CONSIDER RISKS TO DRINKING WATER SOURCES IN EMERGENCY PLANNING.

ENGAGE WATER USERS, STAKEHOLDERS, AND BUSINESSES ABOUT SOURCE WATER PROTECTION AND PARTICIPATION.

1.3 Description of Planning Area

Virginia City is located at an elevation of approximately 6,200 feet amsl, on the eastern side of the Virginia Range. The Virginia Range is a mountain range nearly entirely in Storey County, Nevada, tucked between the Truckee River (north) and the Carson River (south). Truckee Meadows and the Washoe Valley are to the west and the Lahontan Valley is to the east. The Carson Range sits on the shoulder of the Sierra Nevada Range to the east and is important to Virginia City as their source of drinking water.

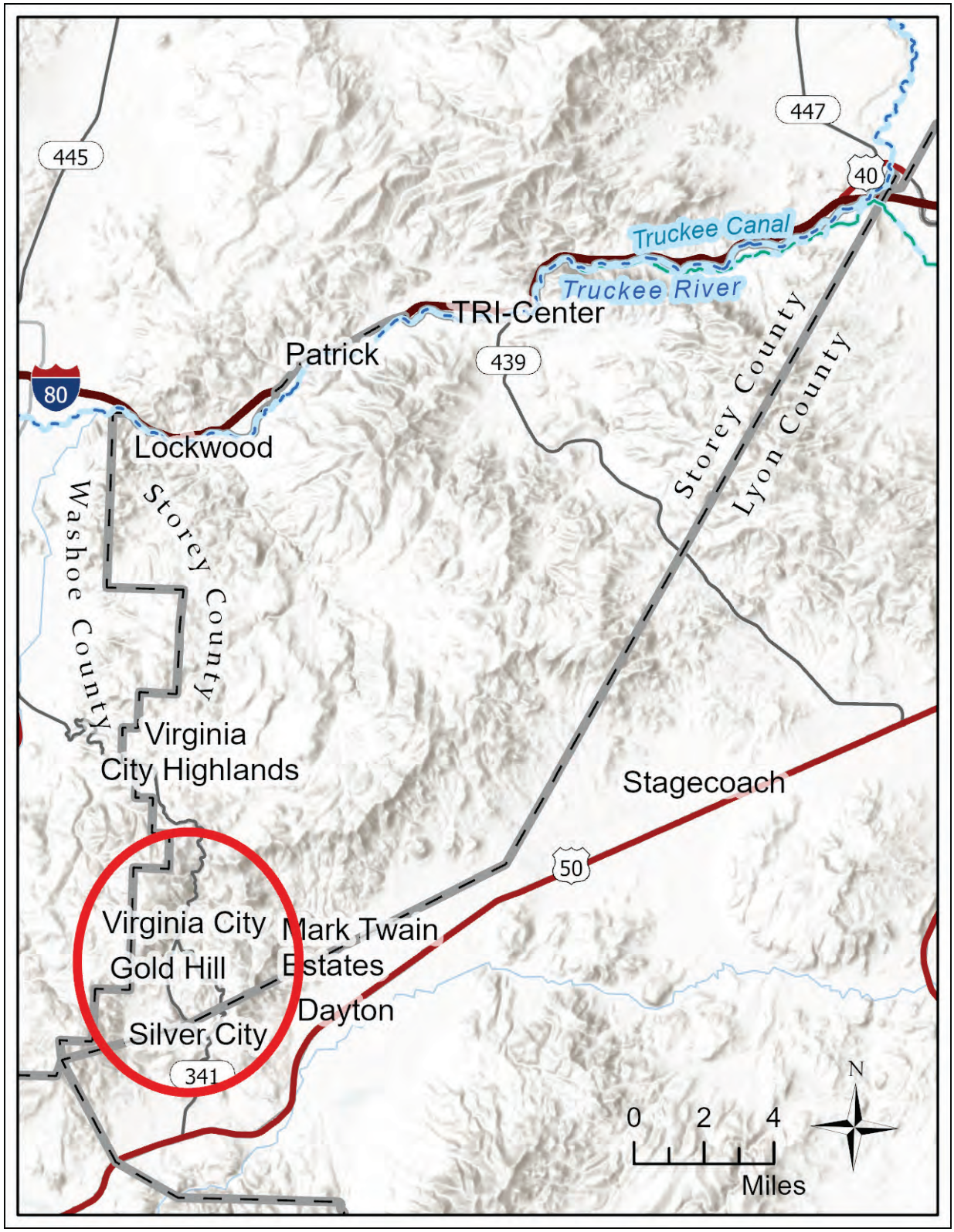


Mountain Ranges in and around Storey County

In 1850, gold was discovered in Western Nevada, and in early 1859, James Finney and a small group of prospectors discovered silver ore in what is present-day Virginia City. Henry Comstock claimed the ledge of a major gold lode, and the strike became known as the Comstock Lode (Straka, 2007). At its peak, Virginia City was a thriving, vibrant metropolis of 25,000 residents. Men and women traveled from around the world to live and work, and miners pulled millions of dollars' worth of silver and gold from shafts and tunnels 3,000 feet beneath the town (Storey County, 2023).

Today, Virginia City is the County seat with a population of 1,000 (U.S. Census, 2022) residents and is one of two economic centers in Storey County. The Storey County Water District supplies potable water and wastewater treatment services to Virginia City, Gold Hill, and Silver City (Figure 1).

Figure 1. Virginia City, Gold Hill, and Silver City, Storey County, Nevada



1.4 Storey County Water District Local Contacts

The Storey County Water District local contacts were part of the broader Storey County Planning Team: a dedicated assembly of local voices who came together with unwavering commitment to craft a County-Wide Plan that works to protect the quality of present and future drinking water sources in Storey County.

Contact the Storey County Water District or the Storey County Planning Department (Table 1) for information about the Source Water Protection Plan for the Storey County Water District.

Table 1. Storey County Water District Source Water Protection Contact

Team Member	Jurisdiction/Title	Contact Information
Kathy Canfield	Planning Manager, Storey County	kcanfield@storeycounty.org
Jason Wierzbicki	Public Works Director, Storey County	jwierzbicki@storeycounty.org
Adam Wilson	Emergency Management Director	awilson@storeycounty.org

2.0 Source Water Protection Area Delineation

Source water protection involves managing human activities to prevent contaminants from entering drinking water sources. Source water protection areas are designated boundaries established by communities to safeguard the quality of their drinking water sources. Within source water protection areas, education, monitoring, and physical improvements play vital roles in protecting water quality for the residents and businesses in Storey County.

The delineation of source water protection areas in this SCWD Plan was informed by watershed boundaries and input from the Storey County Water District. These areas serve as a planning tool to protect and preserve the quality of drinking water sources managed by the Storey County Water District. The final source water protection area maps are provided in Appendix A of the County-Wide Plan. A comprehensive description of delineation methods is detailed in Section 2.3 of this SCWD Plan.

2.1 Source Water Description

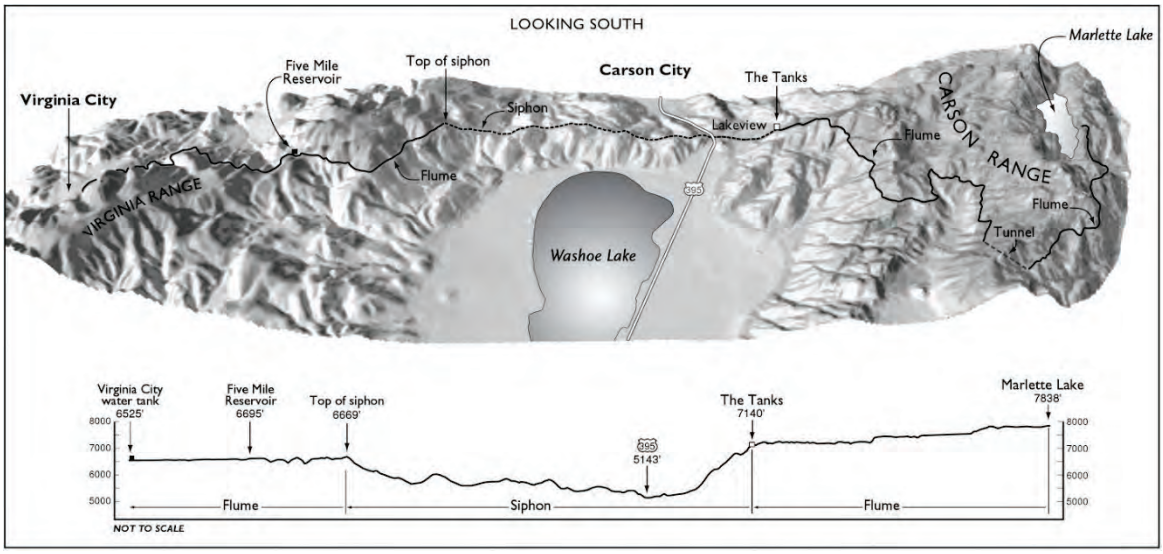
In Nevada, source water is defined as untreated water originating from rivers, lakes, streams, springs, or underground aquifers, serving both public drinking water systems and private wells.

The Storey County Water District utilizes surface water from the Marlette Lake Water System to provide potable water to Virginia City, Gold Hill, and Silver City. The Marlette Lake Water System was constructed in 1873 when a small earthen dam was erected at the outlet of a broad glaciated basin that drained into Lake Tahoe (NDOW, 2023). The intended purpose of the Marlette Lake Water System was to provide domestic and mining water (State of Nevada, 2021). Originally, water was conveyed via a wooden flume from Marlette Lake into Hobart Reservoir, and the first major water supply project was the development of a transmission line, constructed in 1873, delivering water from Hobart Reservoir to Virginia City.

Today, Marlette Lake is the only source of raw water for Virginia City, Gold Hill, and Silver City. The raw water is piped to Storey County through an inverted siphon piping system that runs down from the storage tanks on the East Slope of the Sierra Nevada, under the 395/I-580 freeway, up the east side of Washoe Valley to Five-Mile Reservoir, where it's gravity-fed to the water treatment plant in Virginia City (Figure 2). The Marlette Lake Water Systems also provides raw water to Carson City.

The system for the Storey County Water District consists of Five-Mile Reservoir (5-million gallons), five treated water tanks throughout Virgina City and Gold Hill, and two raw water tanks. Storey County Water District also manages two wastewater treatment plants: Gold Hill and Six Mile. At the time of this SCWD Plan Development, there were no new anticipated water sources.

Figure 2. Marlette Lake Water System



Geologic and Natural History Tours in the Reno Area,
by Joseph V. Tingley, Nevada Bureau of Mines & Geology, 2005, Page 73

2.2 Potential Contaminant Source Inventory and Evaluation

Human activities that can lead to the contamination of drinking water sources generally originate from urban, industrial, and agricultural endeavors. Potential sources of contaminants encompass both current and prospective activities with the capacity to discharge pollutants into the environment. Should these activities release contaminants that seep into ground or surface water, they could jeopardize a community's drinking water source.

Given that the Storey County Water District relies on two surface water source reservoirs and one water treatment plant, the potential contaminant source inventory relied upon discussions with the Storey County Water District Public Works Director. The high priority potential sources of drinking water pollution include:

- Vandalism at Five-Mile Reservoir, and
- Vandalism at the Water Treatment Plant ponds.

The Storey County Water District is interested in expanding their potential contaminant source inventory to include a geographic information system (GIS) database of the active and abandoned mines in and around the communities of Virigina City, Gold Hill, and Silver City. The Storey County Water District Action Plan (Attachment A) includes further details regarding the potential contaminant source inventory expansion.

2.3 Watershed and Fixed Radius Delineations

The Marlette Lake Reservoir directly supplies the Storey County Water District with raw surface water for Virginia City, Gold Hill, and Silver City. The protection of water quality in the Marlette Lake Reservoir was added to the 2023 (2014) Community Source Water Protection Plan for Public Water Systems in

Carson City. The watersheds above Marlette Lake and the open ditch sections of the Marlette Lake Water System were added to the Carson City's Plan as management area, Watershed 2 (see Figure 3). A watershed delineation is the process of identifying the boundary of a watershed, sometimes referred to as a catchment, drainage basin, or river basin. The Storey County Planning Team chose to acknowledge and include Watershed 2 as part of their County-Wide source water protection effort and will continue to support both Carson City and the State of Nevada in implementing source water protection in the watersheds above Marlette Lake. The State of Nevada's Action Plan for the Marlette Lake Water System is provided in Appendix B of the County-Wide Plan.

The Arbitrary Fixed radius method sets a fixed radius from a well, spring, or reservoir, circumscribing a zone of equal distance around a water source. Fixed Radius delineations for Five-Mile Reservoir and the Virginia City Water Treatment Plant were based off NDEP's Vulnerability Assessment Reports and specific concerns regarding potential water quality threats (Section 2.2) to drinking water sources. Upon review of the 1,200-foot fixed radius, which represents a two-year time-of-travel around a wellhead, the Team delineated two source water protection areas:

- 1,100-foot boundary as the Five-Mile Reservoir Source Water Protection Area (Figure 4).
- 650-foot boundary as the Water Treatment Plant Source Water Protection Area (Figure 5).
    - The Team requested to clip the area, so land-use planned for Mixed-Use Commercial Residential or Single Family Residential were not included.

2.4 Source Water Protection Area Description

Protecting source water is about ensuring that drinking water remains clean and safe from harmful contaminants and involves managing human activities to prevent potential pollutants from entering drinking water sources. Community established source water protection areas assist in safeguarding the quality of a community's most vital resource: their drinking water. Within these areas, education, monitoring, and thoughtful land use planning take center stage.

The delineation of source water protection areas in this SCWD Plan was informed by watershed boundaries, the arbitrary fixed radius method, the potential contaminant source inventory, and Team input. Through mapping exercises and Team discussions, suitable source water protection areas were established to align with the goals described in Section 1.2. The source water protection areas support implementation of the Storey County Master Plan (Chapter 10, Goal 6, Objective 1), and the State of Nevada's 2023 Action Plan for the Marlette Lake Water System. In addition, increased County-wide source water protection education will ensure that clean and safe drinking water is available for the future of Storey County's economy, and its residents.

Storey County Water District's final source water protection areas are presented as Figure 4 and Figure 5, and associated characteristics and relative management needs are outlined in Table 2. The source water protection areas are included as maps in Appendix A of the County-Wide Plan.

Figure 3. Watershed 2

Figure 4. Five-Mile Reservoir SWPA

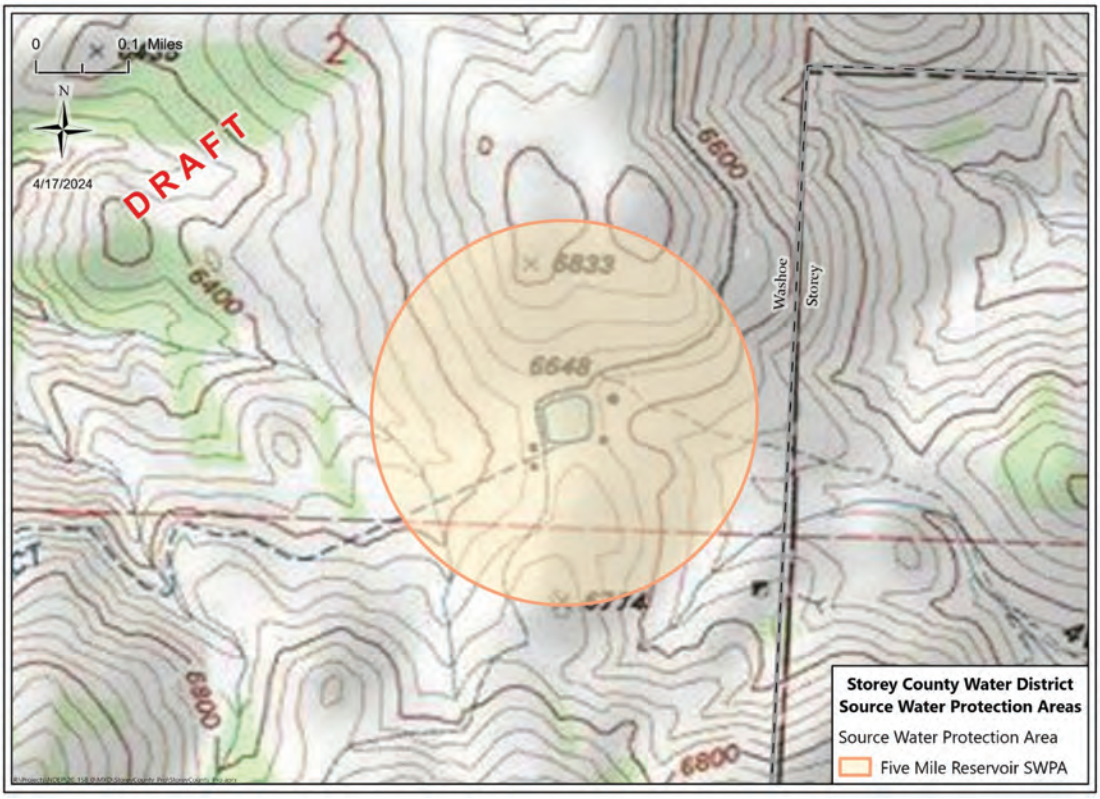


Figure 5. Water Treatment Plant SWPA

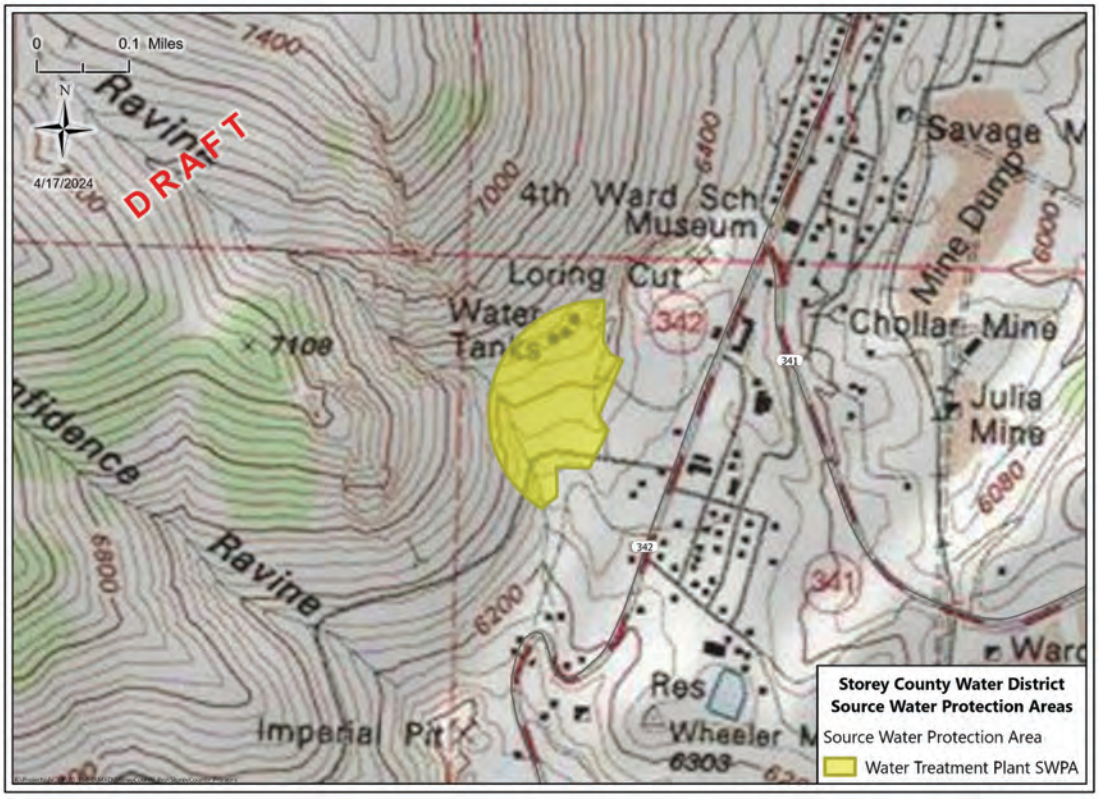


Table 2. Storey County Water District Source Water Protection Area Descriptions

Source Water Protection Area Name	Description
CC-2014 Watershed 2	Interviews with Hobart Marlette System operators, Carson City Public Works, and Carson City Parks, Recreation, and Open Space staff, regarding existing and planned activities in watersheds along the Sierra Front that supply drinking water from surface water. Objectives include: coordinate water quality objectives within Carson City Departments, with State and Federal land managers, and with Marlette-Hobart System operators. [1/]
Five Mile Reservoir SWPA Water Treatment Plant SWPA	Activities in the Five-Mile Reservoir and Water Treatment Plant Source Water Protection Areas (SWPAs) represent the need for regional and community-wide education and outreach and physical improvements, such as increased security. Increased security and additional education will assist the County as they manage potential vandalism in and around their sole drinking water sources.

[1/] 2023 Community Source Water Protection Plan for Public Water Systems in Carson City, Appendix D

2.4.1 *Potential Contaminant Sources within Source Water Protection Areas*

The following section includes the potential contaminant source inventory within the Storey County Water District's source water protection areas, displayed on Figure 6 and Figure 7. The points reflect the high priority concerns outlined by the Public Works Director, as discussed in Section 2.2.

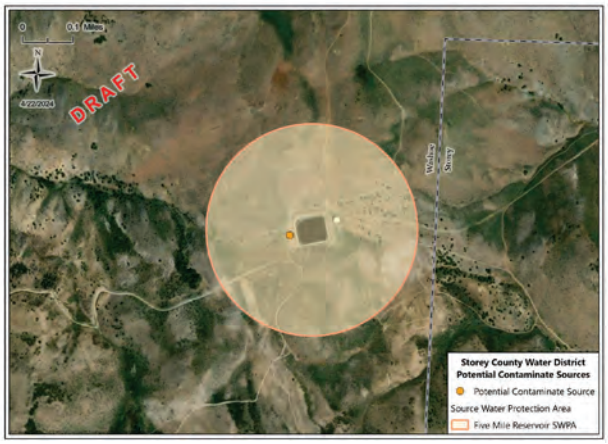


Figure 6. Five Mile PCSs

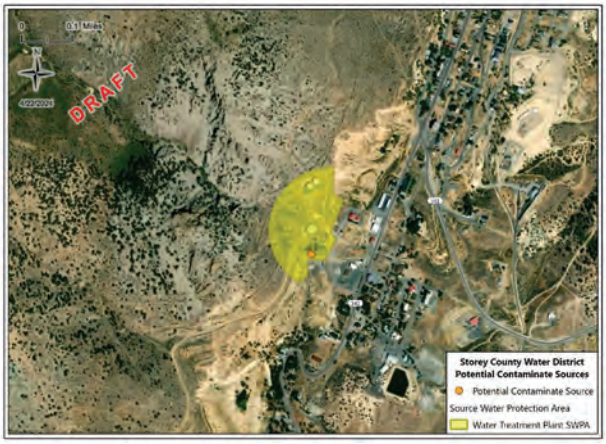


Figure 7. Water Treatment Plan PCSs

2.4.2 *Contingency Measures*

Contingency measures are crucial for preparing a public water system to manage potential long-term water contamination events or disruptions in supply. The main goal of contingency measures is to protect the public water supply system immediately and in the long term. This involves identifying critical personnel, equipment, procedures, and materials needed to address environmental emergencies swiftly. Plans typically include rapid response protocols, notification procedures, and containment strategies for incidents directly impacting the water source. Nevada's regulations require both short- and long-term contingency plans to effectively manage water quality and quantity

impacts. These plans provide interim relief for public water systems during emergencies until permanent solutions are implemented. Storey County Water District's contingency plans are listed in Table 3.

Table 3. Storey County Water District Contingency Plans

Storey County Water District Contingency Plans	
Emergency Response Plan for Storey County Sewer System (January 2024)	Storey County Water Resource Plan (January 2023)
Storey County Water District Operations and Maintenance Manual	Storey County Water District NV 0000240 Water Conservation Plan (2021)

2.4.2 *Management Strategies*

Source water protection management strategies encompass various measures aimed at supporting the goals outlined in Section 1.2. Source water protection goals can be considered what Storey County is striving to achieve, and the management strategies support and divide the goals into simple and manageable approaches that lead to implementation. The management strategies were developed and prioritized by the County-Wide Team to mitigate the risk of contamination to Storey County's drinking water sources. Storey County Water District's management strategies, outlined in Table 4 consider Storey County Water District's source water protection area delineations and the potential contaminant source inventory and evaluation. Storey County's management strategies will be enacted through Action Plan implementation (Section 3.1).

Table 4. Management Strategies for the Storey County Water District

Planning and Coordination
Supports consistency in County- and community-wide policies that consider future growth and potential new threats to source water.
Spill Response and Cleanup
Storey County Water District will continue to work with Storey County Emergency Mangement to ensure that County-wide emergency actions are well-coordinated and that resources are mobilized promptly to protect water quality and public health.
Education And Outreach
The Storey Count Water District understands that source water protection can only thrive when commnity members are on board, which starts with education. Empowerment through knowledge can give community members the tools they need to implement to support Storey County protect their most important resource, their drinking water.
Emerging Contaminants
Emerging contaminants represent a significant concern for source water due to the potential impacts on human health and the environment. Storey County Water District is working proactively to implement solutions that address emerging contaminant concerns to ensure safe and sustainable drinking water for generations to come.

3.0 Plan Implementation

3.1 Action Plan

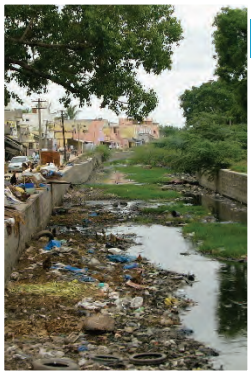
The implementation of a source water protection plan is realized through the Action Plan (Attachment A), which outlines the actions set forth to achieve the goals. Storey County Water District's actions are categorized according to management strategy, and they were designed based on source water protection area delineations, the potential contaminant source inventory and evaluation, and the commitment to regional cooperation and community education. Each project is detailed with regard to its description, prioritization, designated lead, type of required support, and projected timeline for execution.

The implementation of each Action Plan is contingent upon the availability of resources, prioritization of projects, and access to necessary funding. Projects will progress as financial and temporal resources permit. To achieve these ends, the Storey County Water District anticipates leveraging technical support from the ISWPP and through diverse partnerships. County-wide action plan Information regarding potential funding avenues to support these initiatives is listed in Appendix B of the County-Wide Plan.

3.2 Public Education and Participation

Public education and participation for the Virginia City, Gold Hill, Silver City, and surrounding communities is an integral component of source water protection implementation. The ISWPP program emphasizes a voluntary, community-based approach that involves local stakeholders, community leaders, public water systems, residents, and businesses. By actively targeting specific source water protection education to Story County Water District's customers, this SCWD Plan aims to promote community-driven best management practices to protect water quality in perpetuity.

The Education Plan, Appendix C of the County-Wide Plan, includes various messages that highlight the importance of source water protection, and the actions individuals can take to safeguard drinking water sources. These messages serve as key communication points to empower the public to contribute to source water protection efforts that engage water users, stakeholders, and businesses about source water protection and participation. The following key messages highlight the education focus for the Storey County Water District:



What contaminates the water we drink?

There are numerous pollutants that can contaminate both surface and groundwater. Some contaminants result from the improper disposal of common household products, such as cleaning products, waste oil, pet waste, fertilizers, and pesticides – when improperly used, stored, or disposed of, they can pose a risk to your drinking water. Emerging contaminants include a wide range of chemical compounds, industrial pollutants, and human by-products that have been making their way into our water ways for generations. Recent studies have shown that measurable quantities of these contaminants exist within our sources of drinking water, making local industries, businesses, and residents important participants in source water protection efforts.

What can I do to protect my drinking water?

Protecting your drinking water from contamination is a huge challenge, but one we can overcome if we band together as a community. Safeguarding your drinking water sources begins with awareness and education. We can take everything we've learned home with us, educate our friends and families, and change our behaviors to minimize our impact on our water resources. All the water in the world won't be enough if it's contaminated.

3.3 Source Water Protection Plan Updates

This SCWD Plan prioritizes flexibility and community involvement, and encourages not only jurisdictional, but regional- and county-wide efforts to protect water quality. It originates from a shared commitment to unite Storey County around the vision of *ensuring safe and sustainable drinking water for all residents and businesses*. With achievable goals and strategies, it seamlessly integrates source water protection into local and County-wide planning efforts. Regular updates to this Plan, scheduled annually or as new information arises, reflect Storey County Water District's dedication to a sustainable water future, to secure the economic growth of Storey County.

4.0 References

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Attachment A

Storey County Water District Action Plan

The Action Plan for this SCWD Plan was crafted to fulfill the goals outlined in the Community Source Water Protection Plan for Public Water Systems in Storey County (County-Wide Plan). The management strategies, detailed in Section 2.4.2 of this SCWD Plan, were formulated by the Team to align with the source water protection goals. The Action Plan, created to outline how the source water protection goals might be achieved, includes actionable and realistic measures organized by management strategy, such as education and outreach. The actions are designed for practical implementation to help ensure safe and sustainable drinking water for Storey County's residents and businesses.

Storey County Water District's Action Plan evolved throughout the development of the County-Wide Plan. Each action includes a description, priority, project lead, type of assistance needed, and expected implementation year. Implementation is dependent upon resource availability and the actions will be carried out as funding and time allows. Potential funding sources can be used to assist in Action Plan implementation, and a list of potential funding sources is outlined in Appendix B of the County-Wide Plan.

The Storey County Water District benefits from building relationships and leveraging resources with various entities, both regionally and throughout the County. Several actions in the County-Wide Action Plan enlist the Storey County Water District as a key collaborator to help ensure source water protection is implemented across all jurisdictions. Recognizing that clean drinking water is the foundation of any community, the Action Plans in Appendix E of the County-Wide Plan highlight all of Storey County's public water system jurisdictions commitment to protecting and preserving drinking water quality.

	Community Source Water Protection – Storey County Water District Action Plan					
Action Item	**Management Strategy**	**Action Description**	**Priority**	**Project Lead**	**Type of Assistance Needed**	**Expected Implementation Year**
1.1.SCWD	*Interagency Collaboration*	Continue to improve communication and collaboration with State Buildings and Grounds to protect and preserve the quality of water delivered from the Watershed 2 Carson City Source Water Protection Area.	High Staff Time	Storey County Water District	Technical Assistance	2024-2026
2.1.SCWD	*Planning and Coordination*	Develop a GIS-based potential contaminant source inventory near Storey County Water District facilities and interests.	High Staff Time	Storey County Water District	Technical Assistance	2024-2026
2.2.SCWD	*Planning and Coordination*	Continue participation in a source water protection team.	High Staff Time	Storey County Water District	Technical Assistance	
3.1.SCWD	*Spill Response and Cleanup*	Continue to support Storey County Emergency Management by attending the Local Emergency Planning Committee meetings. Consider participating in source water protection education as a bi-annual topic and consider discussing emerging contaminants.	Medium Staff Time	Storey County Water District	Technical Assistance	2024 and Ongoing
4.1.SCWD	*Physical Improvements*	Explore funding for physical improvements related to source water security. For example, consider installing a camera system similar to the Water Treatment Plant cameras at Five Mile Reservoir and at water storage tanks to deter vandalism or terrorism.	High	Storey County Water District	Technical Assistance	2023-2025
5.1.SCWD	*Education and Outreach*	Consider adding source water protection signage around Five Mile Reservoir and the Storey County Water Treatment Plant. For example, post Source Water Protection Area signage on all sides of the fences surrounding the water sources.	High	Storey County Water District	Technical Assistance	2024-2026
5.2.SCWD	*Education and Outreach*	Consider adding source water protection signage on the fencing around the water storage tanks throughout Virgina City and the surrounding communities (Gold Hill and Silver City).	High	Storey County Water District	Technical Assistance	2024-2026
6.1.SCWD	*Emerging Contaminants*	Coordinate with NDEP on the availability of, and eligibility for, funding to address emerging contaminants.	High Staff Time	Storey County Water District	Technical Assistance	Ongoing
6.2.SCWD	*Emerging Contaminants*	Promote community-wide education about emerging contaminants. For example, develop pamphlets to insert in water bills and door hangers to distribute to residential communities.	Medium Staff Time	Storey County Water District	Technical Assistance	2024-2026
6.3.SCWD	*Emerging Contaminants*	Consider attending a State-wide working group focused on emerging contaminant education for public water systems and their operators.	High Staff Time	Storey County Water District	Technical Assistance	2024-2026
6.4.SCWD	*Emerging Contaminants*	Secure funding and distribute water quality testing kits for residents.	High Staff Time	Storey County Water District	Technical Assistance	2024-2026

Appendix F

Canyon General Improvement District
Source Water Protection Plan

Contact Canyon General Improvement District for review.

Executive Summary

A Wellhead Protection Plan (WHPP) for the Canyon General Improvement District (CGID) was completed on December 29, 2004, by Farr West Engineering and was approved by the Nevada Division of Environmental Protection (NDEP). In October 2021, the CGID requested a review of the Wellhead Protection Areas in the original WHPP and related data to assist the Nevada Rural Water Association (NvRWA) in updating the CGID's WHPP. In June 2023, revisions to CGID's WHPP were completed, which included updated pumping information for CPW-2 and revised capture zone modeling. A full description of the 2023 updates to the WHPP is provided in the Capture Zone Report (Attachment A, CGID Plan).

The original WHPP from 2004 was developed under the State of Nevada's "Comprehensive State Ground Water Protection Program" (updated in March 1998) and was part of what was known as the State Wellhead Protection Program. Since March 2010, significant modifications have been made to the State Wellhead Protection Program, leading to the development of the Integrated Source Water Protection Program (ISWPP). The ISWPP expands upon the original State Wellhead Protection Program by integrating the protection of both groundwater and surface water sources. It also includes coordination with existing protection programs, such as the original WHPP from 2004.

In 2024, CGID participated in the development of a Storey County Community Source Water Protection Plan (County-Wide Plan), that included participation in a Storey County Source Water Protection Local Planning Team (Team). Through the county-wide source water protection planning efforts, significant modifications were made to CGID's source water protection planning document. An individual CGID Source Water Protection Plan (CGID Plan) was developed to exist within the larger framework of the County-Wide Plan, as well as individual plans for each public water system in Storey County. The following CGID Plan is intended to address the unique desires of the Lockwood community and to specifically address source water protection for CGID's drinking water sources.

Table of Contents

Tables

Figures

Attachments

Attachment A CGID Capture Zone Report*
Attachment B CGID Potential Contaminant Source Inventory*

**Contains Sensitive Information*
Contact Canyon General Improvement District for review.

Acronyms & Abbreviations

Acronym/ Abbreviation	Definition
bgl	below ground level
BSDW	Bureau of Safe Drinking Water
CGID	Canyon General Improvement District
County-Wide Plan	Storey County Community Source Water Protection Plan
EPA	Federal Environmental Protection Agency
FEMA	Federal Emergency Management Agency
ISWPP	Integrated Source Water Protection Program
NvRWA	Nevada Rural Water Association
NDEP	Nevada Division of Environmental Protection
NDWR	Nevada Division of Water Resources
PCSs	potential contaminant sources
SWPAs	source water protection areas
Team	Storey County Source Water Protection Local Planning Team
USGS	United States Geological Survey
WHPP	Wellhead Protection Plan

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1.0 Introduction

1.1 Source Water Protection

The Safe Drinking Water Act mandates that each state implements a program to protect the water quality of all drinking water sources through a "multi-barrier approach." This approach considers all potential threats to water sources and establishes plans to mitigate or eliminate their impacts. The sources of drinking water, referred to as "source water," include both surface water (rivers, streams, lakes, and reservoirs) and groundwater (springs and aquifers). The guiding principle behind "source water protection" is the acknowledgment that the cost of cleaning up contamination significantly exceeds the cost of preventing it.

The Integrated Source Water Protection Program (ISWPP) is funded by the Federal Environmental Protection Agency (EPA) and administered by the Nevada Division of Environmental Protection (NDEP), specifically within the Bureau of Safe Drinking Water (BSDW). The State advocates for the belief that an effective source water protection plan is best developed and managed at the local level.

1.2 Plan Purpose and Goals

This Canyon General Improvement District (CGID) Source Water Protection Plan serves as an active tool to be utilized by CGID for the coordinated protection of their public drinking water resources. Operated voluntarily under local jurisdiction and control, this CGID Plan utilizes guidance and criteria from both the U.S. Environmental Protection Agency and the NDEP to seek State endorsement. Once endorsed by NDEP, utilities may additionally benefit from State funding and assistance. Some of the variety of benefits include support for source water protection implementation, contaminant source management, assistance to address emerging contaminants, and the development of public education materials.

The CGID is a participating member of the Storey County Source Water Protection Local Planning Team (Team) and has assisted with the development of the Storey County Community Source Water Protection Plan (County-Wide Plan) Goals. Table 1 provides additional goals, established by CGID that are more specific to the needs of the Lockwood community.

Table 1. CGID Source Water Protection Plan Goals and Implementation Approach

CGID Plan Goals	Roles
Goal 1 – Provide a single reference and guide for protecting drinking water resources.	Participate in a county-wide planning effort to protect source water.
Goal 2 – Identify and evaluate threats to drinking water resources.	Delineate Source Water Protection Areas and maintain an inventory of potential contaminant sources.
Goal 3 – Provide management tools to address potential sources of contamination.	Identify management strategies and actions that address potential contaminant source.
Goal 4 – Provide ongoing protection for current and future drinking water resources.	Maintain an active record of activities that assist source water protection.
Goal 5 – Provide documentation to support proposed monitoring waivers.	Involve the Lockwood community through public activities, information, and education regarding source water protection topics.

1.3 Description of Planning Areas

The CGID is a small, community public water system, defined by the Nevada Revised Statutes (NRS) 445A.235 as "a system, regardless of ownership, which provides the public with water for human consumption through pipes or other constructed conveyances, if the system has 15 or more service connections, as defined in NRS 445A.843, or regularly services 25 or more persons."

CGID serves the Lockwood community, which is situated along the Truckee River at the northwest boundary of Storey County (Figure 1). Lockwood is less than 5 miles downstream on the Truckee River from the Reno-Sparks metropolitan area. Bisecting the Lockwood community is Long Valley Creek, which originates south of Lockwood near the Virginia Highlands and empties into the Truckee River. Lockwood is bordered by Washoe County to the north and west, the Virginia Highlands to the south, and the Tahoe-Reno Industrial Center to the east.

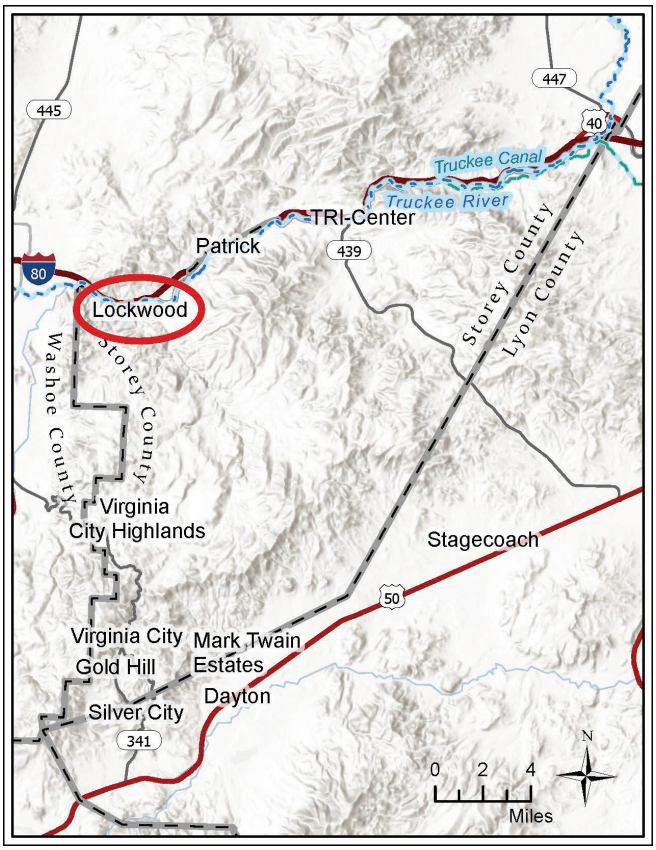

Figure 1. Location Map

1.4 Canyon GID Local Contacts

A successful source water protection plan requires the participation and support of all jurisdictional authorities that affect land use practices in or around the designated Source Water Protection Areas (SWPAs). These entities may be participating members of the Team and involved in source water protection planning and implementation across the county and for other public water systems.

Due to the active and ongoing nature of the ISWPP, the local contact and membership of the Team is expected to change over time. Table 2 lists the current local contact information of individuals participating in source water protection in the Lockwood community. Included in the table are the identities, contact information, and corresponding roles and responsibilities of each individual.

Table 2. Canyon General Improvement District Local Contact Information

Name/Position	Organization	Contact Information	Source Water Protection Role
Mitch Andreini *Water System General Manager*	Canyon General Improvement District	800 Peri Ranch Rd., Ste. 103 Sparks, NV 89434 (775) 342-2850 canyongid@att.net	Implementation of, and updates to, the CGID Plan. Coordinating member of the County-Wide Source Water Protection Local Planning Team.
Dave Hart *Chairman of the Board*	Canyon General Improvement District Water Board	225 Rue de la Divoire Sparks, NV 89434 (775) 342-2850 canyongid@att.net	Provide input and assistance with public education and CGID Plan implementation.
Austin Osborne *Manager*	Storey County	26 South B Street P.O. Box 176 Virginia City, NV 89440 (775) 847-0968 aosborne@storeycounty.org	Provide county level planning, input, and support for source water protection.
Kathy Canfield *Planning Manager*	Storey County	Storey County Courthouse 26 South B Street Virginia City, NV 89440 (775) 847-1144 kcanfield@storeycounty.org	Provide county level planning, input, and support for source water protection.
Ethan Mason *ISWPP Coordinator*	NDEP, Bureau of Safe Drinking Water – Integrated Source Water Protection Program	901 S. Stewart Street, Ste. 4001 Carson City, NV 89701 (775) 687-9311 e.mason@ndep.nv.gov	Guidance and assistance with funding and implementation of source water protection measures.
Jill Sutherland, PE Alison Cramer, EIT Erin Smith *ISWPP Technical Assistance*	Resource Concepts, Inc.	340 N. Minnesota Street Carson City, NV 89703 (775) 883-1600 jill@rci-nv.com alison@rci-nv.com erin@rci-nv.com	Provide assistance on behalf of NDEP to implement source water protection measures.

2.0 Source Water Protection Area Delineation

2.1 Source Water Description

CGID's drinking water comes from groundwater sources. These include four production wells: two wells, L02 (West) and L03 (East), are inactive, and W01 and W02 (CPW-2) have an active status. However, well CPW-2 is used as the primary water supply source for the community. A fifth well, the Peri Brothers Ranch well, had been a supply for the mobile home park, but has since been disconnected from the distribution system. Design details of the four wells connected to the CGID system are provided in Table 3, copies of the well driller's reports may be found in Attachment A of this CGID Plan.

Table 3. Canyon GID Drinking Water Well Sources

Well Name or Designation	W01	W02 (CPW-2) Primary Source [1/]	L02 (West well)	L03 (East well)
Date Drilled	January, 1986	April, 2003	March, 1997	December, 1981
Aquifer Type	Semi-confined	Confined	Unconfined	Unconfined
Well Status	Active	Active	Inactive	Inactive
Total Depth (Sanitary seal depth) (ft.)	143 (102)	920 (100)	160 [2/] (52)	150 [2/] (52)
Wellhead Elevation [1/] (approx. ft.)	4345	4340	4370	4370
Depth to Static Water (ft.)	20	15.8	28	29
Casing, Outside Diameter at surface (approx. in.)	8 5/8	20	8 5/8	10 ¾
Combined Screened Interval Depth bgl (Cumulative ft. within interval)	123 to 143 (20)	102.47 to 482.91 (380.44)	59 to 159 (100)	80 to 150 (70)
Modeled Pumping Rate (gpm)	120	600	30	70
Driller of Record	Paul Williams & Sons	Lang Exploratory Drilling	McKay Drilling Inc.	Wayne Drilling Inc.

[1/] Extrapolated from USGS topographic map
[2/] Waiver number-338 See Attachment A

2.1.1 New Sources of Drinking Water

Currently, CGID does not have any plans to develop new sources of drinking water. If needed, a new well might be located on land already owned by CGID. In the event that CGID develops or acquires a new public water supply well, the proposed well(s) should consider the source water protection goals described in this CGID Plan as well as those established in the County-Wide Plan. In addition, the contingency plan will be modified to include new wells. Management practices being implemented at existing wells may be utilized for new wells or modified where appropriate.

All new water wells and related drilling are regulated by the Nevada Division of Water Resources (NDWR) as specified in the Nevada Administrative Code (NAC) 534.010-500. A notice of intent to drill must be filed with the NDWR prior to drilling. In addition, a permit must be obtained to drill or replace a water well within a water basin designated by the State Engineer.

2.2 Capture Zone Calculations

Capture zones are important for delineating and visualizing the portion of an aquifer that contributes water to a well within a certain period of time. In the 2004 CGID WHPP, the US EPA's WhAEM2000 (Wellhead Analytic Element Model, version 3.1.1) computer model was used to estimate the 2-, 5-, and 10-year time-of-travel for a contaminant to reach a well. The time-of-travel capture zones represent the average time that particles of water are expected to travel in the aquifer from a given point to a constantly pumping well. The model approach was reviewed in 2023 as part of the update, because assumptions approved in the original approach appeared to be reasonable, no conceptual changes were made to the capture zone calculation.

It is important to note that the application of the WhAEM2000 computer model represents the conceptual analysis of local groundwater hydrology and is not intended to "simulate" the more complex dynamics of an aquifer. Detailed model development and capture zone maps are contained in the Capture Zone Report found in Attachment A of this CGID Plan.

2.2.1 Methods

The aquifer modeling program W*h*AEM200 focuses on three important sets of data for estimating capture zones: 1) groundwater gradients, 2) magnitude (hydraulic conductivity or transmissivity) and 3) direction of groundwater flow (*Working with* W*h*AEM, EPA/600/R-00/022). Several calculation methods may be employed, these include fixed and calculated fixed radius methods, uniform flow solutions, and geohydrologic modeling, also referred to as the analytic element method.

Other considerations include the fact that actual well production flow rates vary seasonally and by location. Additionally, numerous physical and geologic factors may affect the rate of contaminant movement. Factors that are not addressed in the model and assumed to be negligible or conservatively addressed include:

1) *Retardation* (inhibition of contaminant flow by adsorption to porous medium or other particles)
2) *Diffusion* (influence of molecular or ionic concentration gradients)
3) *Dispersion* (mechanical lateral distribution of a contaminant plume)
4) *Fracture Flow*
5) *Heterogeneous* (distribution of porosity or hydraulic conductivity)
6) *Flow Barriers* (such as faults)

2.2.2 *Results*

Modeling results identified three separate well fields, that include the 2-, 5-, and 10-year time-of-travel capture zones, covering an area of approximately 127 acres. The specific well and aquifer data used in the WhAEM2000 modeling is provided in Table 4 and includes updated information regarding the 2023 Revised WHPP. A detailed description of each wellfield's capture zone modeling and final capture zone maps is provided in Attachment A of this CGID Plan.

Table 4. WhAEM2000 Data Entry Values for CGID Capture Zone Models

Parameters	W01 Well	Lockwood Wells (West & East)	W02 (CPW-2) Well (***2023 Revised WHPP***)
Transmissivity (ft^2/day)	401	401 & 8,500	2,674
Hydraulic Conductivity (ft/day)	20.1	4.96 & 100	3.57
Porosity (dimensionless)	0.25 [1/]	0.25 [1/]	0.25 [1/]
Pump Rate (ft^3/day)	23,100	5,775 & 13,475	28,875 ***(115,500)***
Aquifer Base Elevations (feet)	4,155	4,155	3,420
Aquifer thickness (feet)	123 [1/]	150 [1/]	750 [1/] ***(380)***

[1/] Values estimated from driller's well logs and profile information, (See Attachment A).

The lack of consistent and adequate data regarding the aquifers in the study area further justifies the conservative modeling approach. Final modeling represents pump rates under year-round production with no appreciable recharge from precipitation added to the model, this is due to the arid nature of the region. The average annual precipitation is about 8 to 12 inches (USDA, 1983). Recharge for the area is from upgradient watersheds in the Virginia and Pah Rah Mountain Ranges and from the Truckee Meadows.

There is insufficient data to determine the extent of any hydraulic connection between the river and the aquifer supporting W01. However, three factors suggest this connection is probably limited (leaky aquitard). High metals content (i.e., iron, magnesium, and arsenic), well log lithology and limited production potentials as measured by Nimbus Engineering indicate that the well is not directly connected to the Truckee River (Nimbus and Farr West Engineering, December 2004). Also, United States Geological Survey (USGS) gage data for this reach of the river (Vista to Tracy) reflects an increasing stream flow or a gaining reach (USGS tables, 2004). For these reasons, this aquifer is believed to be semi-confined.

Capture zone maps for CGID drinking water wells, both active and inactive, are available in Attachment A of this CGID Plan.

2.3 Potential Contaminant Source Inventory and Evaluation

The identification of potential contaminant sources (PCSs) in the vicinity of existing wells is a critical component of this program. An accurate knowledge of the potential threats to groundwater quality will allow CGID to create the best plan to protect their drinking water resources. There are many types of human activities that have the potential to release contaminants into the environment which can travel to a drinking water source. An inventory of PCSs was developed for the CGID and greater Lockwood area in order to assist the Team in developing SWPAs and management strategies.

The Nevada Bureau of Safe Drinking Water has conducted Vulnerability Assessments for CGID drinking water sources (August 2018); these materials, provided by NDEP, were used as a starting point for the PCS investigation. Additionally, State and Federal databases were queried and mapped using GIS, then reviewed by CGID. A windshield survey of the area was conducted in January 2022 and again in September 2023, to further investigate possible PCSs that were not identified in the various digital databases; a summary of these results is available in the Potential Contaminant Source Inventory (Attachment B, CGID Plan).

The PCS inventory should be updated every five years or with significant changes to the PCSs in the Lockwood community or surrounding area. The completion of this review will be implemented by the Manager of CGID and coordinated with the Team.

2.3.1 Source Water Protection Priorities

There are several PCS categories within the designated SWPAs that are of concern to CGID, these include:

Transportation/Utilities Corridor

The proximity of Lockwood to the Truckee River, and to the transportation corridor containing U.S. Interstate 80 and the Union Pacific Railroad, presents some unique challenges, especially regarding contingency planning. The capture zones for well (W01) and primary well (CPW-2) are closely bordered to the north by a petroleum pipeline operated by Kinder Morgan; efforts should be made to contact Kinder Morgan to facilitate communications in the event of an emergency. Notification to Storey and Washoe Counties, the Nevada Department of Transportation, the Union Pacific Railroad, and utility providers, is also recommended. This notification should include information about the locations of CGID's Source Water Protection Areas. In addition, CGID should request immediate notification of any spills that may affect CGID's SWPAs.

Private Wells

There is historical evidence of private well development in the area. Even small wells, if improperly installed, maintained, or abandoned, can become a direct route for surface contamination to enter an aquifer. It is recommended that the office of the State Engineer and the Nevada Bureau of Safe Drinking Water be contacted with any suspected issues. CGID should request assistance to review the status of unsealed wells within or near CGID's capture zones, to assess whether any hazards exist and to ensure that all wells are properly abandoned.

Wastewater Treatment Operations

Operation of CGID's small-scale wastewater treatment plant, approximately 50 feet from the primary well, increases the risk of groundwater contamination via the wells themselves. An effluent leach

field and associated monitoring wellfield represent additional PCSs if poorly maintained. Potassium permanganate, manganese greensand, and chlorine **(**Sodium Hypochlorite Solution**)** are present on site in significant quantities. All these substances can cause substantial harm if improperly managed.

Flood-Prone Areas and Upstream Uses

Additionally, the Federal Emergency Management Agency (FEMA) 100-year flood zone maps of Long Valley Creek and the Truckee River impact portions of the SWPAs for all wells in the Lockwood area. Historical flooding and flash-flooding has impacted the Lockwood community, causing mudslides, damaging infrastructure and homes, impacting water quality, and threatening source water. Flooding is a serious concern; the Lockwood community should expect and prepare for future flood events. A map of the FEMA 100-year flood zone is provided in Attachment B of this CGID Plan.

Upstream of both Long Valley Creek and the Truckee River are numerous operations that may have a potential impact on the CGID wells that are located downgradient. These uses include historic mining and the Lockwood Landfill, which are both located within the Long Valley Creek drainage area. Approximately three miles upstream of Lockwood on the Truckee River is the Truckee Meadows Water Reclamation Facility which treats wastewater throughout the Truckee Meadows, depositing the treated effluent into the Truckee River.

Emerging Contaminants

To address new drinking water requirements for emerging contaminants, CGID will likely require ongoing infrastructure improvements as well as evolving public outreach and education. Many aspects of emerging contaminants are not fully understood, such as transport, new forms of treatment, and sources; as these become more well known, CGID's needs may change.

2.3.2 *Watershed Discussion*

Integrated source water protection identifies belowground and aboveground components to source water protection planning (i.e., geologic, hydrogeologic, and watershed information) (NDEP ISWPP, 2010). Since 2014, the approach to source water protection incorporates watershed considerations when developing SWPAs. The watersheds of greatest influence on the CGID, Lockwood community, and source water resources are the Lower Long Valley Creek watershed (HUC 12 ID: 160501020603) and the western portion of the Giants Throne Canyon-Truckee River watershed (HUC 12 ID: 160501020607).

Long Valley Creek drains from mountains in the Virginia Range in the southern portion of Storey County, north through Lagomarsino Canyon, through the Lockwood and Rainbow Bend housing development, to empty into the Truckee River, encompassing 19,933 acres of Storey County. Lockwood and Rainbow Bend are located near the confluence of Long Valley Creek and the Truckee River, approximately 6 miles east of Sparks, Nevada.

The western portion of the Giants Throne Canyon-Truckee River watershed, upstream of the Lockwood community, captures runoff from the US Highway 80 corridor and crosses into the eastern boundary of Washoe County. The Truckee River conveys water and potentially any contaminants directly past the Lockwood community, crossing through designated SWPAs.

Portions of Lockwood and Rainbow Bend community are located within the 100-year flood zone designated by the FEMA. Additionally, this flood zone area overlaps with the SWPAs demarcated in

this report; a map is provided in Attachment B of this CGID Plan. The Storey County Hazard Mitigation Plan (2020) acknowledges several historic flood events in and around Lockwood that resulted in damage to several bridges and property and recognizes a likely potential for repeat flood events in the future.

Movement of materials by overland flow poses a potential threat to source water quality and drinking water infrastructure when large quantities of sediment become mobilized during flood events causing destructive down-gradient mudslides, erosion, and sediment deposition. Additionally, hazardous materials within a watershed can infiltrate into the subsoil, potentially leaching into aquifers used for drinking water supply.

A Comprehensive Flood Control Plan (2011), developed for Storey County by Farr West Engineering, identifies frequent flooding in the greater Lockwood area primarily attributed to flooding of the Truckee River causing backwatering into Long Valley Creek. The flooding often results from abnormally high temperatures and/or heavy rain events causing accelerated snowmelt. Provided in the 2011 Comprehensive Flood Control Plan are recommendations for county-wide improvements to mitigate flood risk. The Board of County Commissioners approved the Long Valley Creek Flood Hazard Mitigation Plan prepared by JUB Engineering in March 2024. This effort identifies risks for flooding of Long Valley Creek, to evaluate the costs and benefits of mitigation efforts, and establish future efforts and avenues for grant funding.

2.3.3 Management Strategies

Several management strategies were developed by the Team that were the results of the PCS inventory, specific Lockwood community needs, and the goals of the CGID Plan and County-Wide Plan. These management strategies are used as a foundation of the Action Plan for CGID, which addresses source water protection concerns specific to CGID and the Lockwood community, see Section 3.1 of this CGID Plan, and Appendix B of the County-Wide Plan.

Storey County Source Water Protection Management Strategies

Planning and Coordination

Integrated source water protection means using the existing county and local planning framework as a foundation for enhancing development standards and policies to recognize source water protection planning. CGID is an integral part of the Team and a participant in the County-Wide Plan. Effective communication between policy makers, public water systems, and the public is crucial for promoting source water protection awareness and the successful implementation of source water protection measures.

Spill Response and Cleanup

The Lockwood community is located in a unique physical setting at the intersection of two canyons (i.e., the Lagomarsino Canyon and the Tracy segment of the Truckee River corridor), next to U.S. Highway 80, the Union Pacific Railroad, the Truckee River, and Long Valley Creek. Planning and coordination for spill response and reporting within the highly active transportation corridor surrounding the Lockwood community and CGID's SWPAs is of great importance.

Physical Improvements

Ongoing water system infrastructure improvements are necessary to continue providing the Lockwood community with clean drinking water. Additional improvements within the floodplain and Source Water Protection Areas are needed as preventative measures to safeguard drinking water sources.

Education and Outreach

CGID is committed to keeping their community members updated with all important drinking water information. In order to have these ongoing discussions, it is important to provide the Lockwood community with relevant educational materials on key topics such as household hazardous waste, private well maintenance, potential sources of contamination, flood awareness, and emerging contaminants.

Emerging Contaminants

It is the responsibility of CGID to provide clean and safe drinking water to the community. In order to meet the most current drinking water requirements, it is important to address the issues surrounding emerging contaminants, which include contaminant sources, coordination, treatment, and education. CGID is committed to providing safe and sustainable drinking water for all residents and businesses within the Lockwood community.

2.4 Source Water Protection Area Description

The final Source Water Protection Areas (SWPAs) for CGID were delineated using a combination of WhAEM2000 geohydrologic modeling for steady pumping wells and calculated fixed radius, and upgradient watershed area. The SWPAs represent the land surface overlying that portion of the aquifer(s) from which a well is expected to draw water within a specified ten-year period. Delineations are purposely conservative and intended to assist the utility in 1) prioritizing risks to water quality from potential sources of contamination, 2) responding appropriately to events such as accidental spills of hazardous chemicals, and 3) developing land use strategies for the community as adjacent properties develop.

Two types of management areas were developed for source water protection for CGID and the Lockwood community:

1) **Source Water Protection Areas** represent the 10-year time-of-travel modeled capture zone surrounding each active and inactive CGID wellhead.

2) **Areas of Interest** include two HUC-12 watershed areas upgradient of the Lockwood community. The Lower Long Valley Creek watershed and a western portion of the Giants Throne Canyon-Truckee River watershed above the CGID SWPAs.

The mapped SWPAs for CGID and Lockwood community are found in Appendix A – SWPA Maps of the County-Wide Plan and in Attachment B of this CGID Plan.

2.5 Contingency Measures

Contingency planning means being prepared to act in response to a threat to the quality or quantity of CGID's drinking water supply. Contingency planning considers factors such as the time frames required for a public water system to transition to an alternative water source, the quantity and quality of available alternate water sources, and the utilization of local resources.

In addition to the Contingency Plan, there may be several other plans in existence that provide useful information relative to drinking water supply and protection. Copies of these documents may be on file in the CGID Office. During an emergency water supply event or suspected event, notification should follow an established chain of command, provided in Table 5.

Table 5. Spill and Emergency Chain-of-Command

Organization	Contact Person	Work Phone	Other Phone
CGID	General Manager	(775) 342-2850	--
Storey County	Dispatch	(775) 847-0950	911
Storey County	Sheriff	(775) 847-0959	911
Northern Nevada Public Health	Main Number	(775) 328-2300	(775) 328-2434 Environmental Health Services After Hours: (775) 328-2436
Nevada Division of Environmental Protection	Main Number	(775) 687-4670 Carson City Office	(775) 687-9368 Bureau of Corrective Actions

2.5.1 Contingency Measures for Drinking Water Sources

Contingency measures may encompass a range of actions designed to address different scenarios, but first an assessment of the water supply problem should be performed. Solutions may vary depending on the type and extent of the problem and may include an alternate supply of water – these alternative sources should be considered prior to an emergency. Following any changes in service, notification to residents and regulatory officials should be made as soon as possible. In some cases, Northern Nevada Public Health may require notification as well.

Water Conservation Plan

Water meters have been installed by the CGID to encourage water conservation, as well as manage supply. The Canyon General Improvement District Water Conservation Plan (August 2024) also provides for enforcement measures.

Emergency Water Supply Options

Emergency water supply options are not meant to be long-term solutions to supply shortages. They merely provide relief until a permanent solution can be found. The following is a list of alternative supply options for public drinking water:

- Boiled Water: Boiled water may be ordered at the discretion of the Manager of CGID or as directed by Northern Nevada Public Health.

- Bottled Water: Available in the immediate area at local stores. Potable water could also be trucked in from Reno or Sparks.
- Water Rationing: In the event that demand cannot be met, rationing orders may be given by CGID.
- Backup Generators: In the event of an extended power failure in the Lockwood area, CGID has backup generators for at least one well (CPW-2).

Water Supply Contamination

In the event of a contamination incident affecting the public water system, the appropriate course(s) of action will be determined. The nature of the contaminant will dictate specific actions. Contingency Measures and Emergency Water Supply Options will be evaluated and implemented until remedial action can be taken.

Emergency Response

In the event of an emergency, the Quick Contact Sheet on the following page should be used to involve the proper authorities. The community is fortunate to be served by a fire station. Fire station personnel are trained first responders.

Restoration of Services

In the event of a contamination incident, the appropriate course of action will be determined. The nature of the contaminant will dictate specific actions. Upon successful completion of remedial activities, water service will be restored to the community as soon as possible.

Table 6. Quick Contact Sheet

Organization	Contact Person	Phone	Other Phone
Union Pacific Railroad	Response Management Communication Center	(888) 877-7267	--
Kinder Morgan Pipeline	Emergency Contact Numbers 24/7	(866) 762-8442	(713) 369-9000 Corporate Headquarters
Nevada Department of Transportation	24/7 Hotline – Report an Illicit Discharge	(888) 331-6337	(775) 888-7000 Main Number
Nevada State Police Highway Patrol	Dispatch	(775) 687-0400	911
Lockwood Landfill	Main Number	(775) 342-0401	--
CGID	Mitch Andreini	(775) 342-2850	--
Lockwood Community Center	Edna Cudworth	(775) 342-0829	(775) 342-6001
Storey County	Dispatch/Sheriff's Office	(775) 847-0950	911
Northern Nevada Public Health	Reno, Sparks, and Washoe County	(775) 328-2434	911
City of Sparks	Environmental Control	(775) 691-9227	--
Northern Nevada Public Health	Main Number	(775) 328-2003	(775) 328-2434 Environmental Health Services After Hours: (775) 328-2436
Nevada Division of Emergency Management/Homeland Security	Duty Officer 24/7 Emergency Line	(775) 687-0498	(775) 687-0300 Main Line (Mon.-Fri. 8AM-5PM)

3.0 Plan Implementation

3.1 Action Plan

The Action Plan for CGID is included in Appendix B - Action Plans of the County-Wide Plan and was developed by CGID to support the protection of the Lockwood community's drinking water sources. The Action Plan includes specific action items that should be accomplished in order to meet the objectives of the CGID Plan. It considers a multitude of local and regional factors such as land use, future development, hazard mitigation and planning, regional collaboration, and public education and outreach.

Each action item includes the following elements:

1) Management Strategy – Describes the approach for implementing the action item.
2) Action Description – Provides a detailed description of the action item.
3) Priority – Assigns a level of relative importance to each action item.
4) Project Partners – Identifies the stakeholders and organizations involved in implementing each action item.
5) Type of Assistance Needed – Specifies the type of support or assistance needed to carry out the action item (i.e., technical expertise, funding, or other resources).

The CGID Plan is intended to be a dynamic, "living" document that should change and adapt with the needs of the public water system and Lockwood community. Regular updates to the CGID Plan will be coordinated with the update of the County-Wide Plan. The Team has agreed to meet annually to revisit the plan, assess the need for updates, and follow up on the Action Plan implementation.

For technical assistance with plan updates and implementation of the Action Plan, contact the NDEP, Bureau of Safe Drinking Water, Integrated Source Water Protection Coordinator at (775) 687-9503.

3.2 Public Education and Participation

The primary goal regarding public education and participation is to raise the awareness of local citizens to wellhead protection issues and enlist their support and involvement. The ISWPP emphasizes a voluntary, community-based approach that actively involves the public to promote community awareness, education, and collaboration in source water protection efforts across the Lockwood community.

3.2.1 Stakeholder Participation

During the development of the County-Wide Plan, presentations were made to public water systems and the County Board of Commissioners to bring awareness to source water protection. Additionally, regular meetings were held with the county-wide source water protection Team throughout the development process of the County-Wide Plan and the CGID Plan. Meeting notes, agendas, and other presentation materials are included in Appendix D – Meeting Notes of the County-Wide Plan.

3.2.2 *Source Water Protection Education Strategy*

Public education and outreach are vital to achieving the goals of this CGID Plan. The Education and Outreach Management Strategy was developed by the county-wide source water protection Team to promote both local and county-wide awareness about the protection of drinking water sources through action items described in the CGID Action Plan (Appendix B, County-Wide Plan).

The Public Education and Outreach Plan is provided in Appendix C of the County-Wide Plan and includes various messages that highlight the importance of source water protection, actions that community members can take to help, and informational pamphlets and other materials that can be distributed to the public.

The following tasks will be completed in an effort to enlighten the public and encourage participation:

- The County-Wide Plan and incorporated Canyon General Improvement District Source Water Protection Plan will be presented to the CGID Board prior to State endorsement.
- Flyers may be sent to customers providing information on various topics, such as household hazardous wastes, emerging contaminants, proper maintenance of private wells, and flood hazard awareness.
- Source water protection messages will be developed and included in water billings.

4.0 References

DOWL Engineering. (March 2024) *Canyon General Improvement District Water Conservation Plan.*

Lumos and Associates, Inc. (October 2000) Preliminary Engineering Report for Canyon General Improvement District Water Systems.

Nevada Division of Environmental Protection, Bureau of Safe Drinking Water, 2018 Vulnerability Assessment Program (VAP) Public Water System Report.

Nimbus Engineers. (December 2002) *Letter on Groundwater Assessment Survey.*

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Resource Concepts, Inc. (January 18, 2022) *Memorandum on Update to WHPP*.

State of Nevada Division of Environmental Protection, Bureau of Water Pollution Control (January 2002) Nevada Integrated Source Water Protection Program.

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USEPA (2018). Wellhead Analytical Element Model (WhAEM Version 3.3.2) [Computer Software].

USEPA Washington D.C. (April 2000) (Pub# EPA/600/R-00/002), Working with WhAEM2000.

USEPA Washington D.C. (June 2018) (Pub# EPA/600/B-1/089), Working with WhAEM2000.

USEPA Washington, D.C. (April 1989) (Pub# EPA/440/6-89-002), Wellhead Protection Programs: Tools for Local Governments.

Appendix G

TRI General Improvement District
Source Water Protection Plan

Contact TRI-General Improvement District for review.

Executive Summary

The TRI-General Improvement District Source Water Protection Plan (TRI-GID Plan) outlines ways in which the community plans to safeguard public drinking water sources. Source water in Nevada is defined as untreated water from streams, rivers, lakes, springs, or underground aquifers that is used for public drinking water supplies. Protecting source water in Storey County is a long-standing practice, and this TRI-GID Plan was developed to support the County-wide efforts that ensure safe and sustainable drinking water supplies for all Storey County's residents and businesses.

The Nevada Division of Environmental Protection, Bureau of Safe Drinking Water, administers the Integrated Source Water Protection Program (ISWPP). The ISWPP is a voluntary, non-regulatory program that assists communities in developing a local plan to prevent the contamination of public drinking water supplies. In 2023, the TRI-GID Board of Trustees and the Storey County Board of Commissioners authorized participation in the program. Storey County's public water systems, local governments, and local stakeholders came together to complete the Community Source Water Protection Plan for the Public Water Systems in Storey County (County-Wide Plan). This TRI-GID Plan fits under the umbrella of the County-Wide Plan to address specific source water protection needs in the Tahoe Reno Industrial Center and adjacent areas.

Groundwater is the only source of public drinking water currently being utilized by TRI-GID. A combination of groundwater modeling and an assessment of potential contaminant sources, activities that could pose a risk to water quality, was conducted and reviewed by the Team. The information was mapped and utilized to delineate Source Water Protection Areas (Appendix A of the County-Wide Plan). Subsequently, strategies to accomplish source water protection within the community were developed:

- Interagency Collaboration,
- Planning and Coordination,
- Spill Response and Cleanup,
- Education and Outreach, and
- Emerging Contaminants.

To guide implementation of these strategies, specific activities are outlined in the Action Plan (Attachment A of this TRI-GID Plan, and Appendix B of the County-Wide Plan). A County-wide Education Plan (Appendix C of the County-Wide Plan) outlines County-wide and TRI-GID specific source water protection education. These voluntary actions can be implemented as technical and financial resources become available.

To ensure continued effectiveness, this TRI-GID Plan should be reviewed bi-annually, or as needed to address changing conditions. This document serves the community as a tool to foster collaboration between water purveyors, local and regional partners, and community members to protect the quality of present and future drinking water sources in Storey County.

Table of Contents

Tables

Figures

Chart

Attachments

Attachment A	TRI-GID Action Plan
Attachment B	TRI-GID Capture Zone Report*
Attachment C	TRI-GID Water Source Worksheets*
Attachment D	TRI-GID Potential Contaminant Source Report*
Attachment E	TRI-GID Potential Contaminant Source Inventory*

**Contains Sensitive Information, contact TRI-GID for review.*

Acronyms & Abbreviations

Acronym/ Abbreviation	Definition
BSDW	Bureau of Safe Drinking Water
County-Wide Plan	Storey County Community Source Water Protection Plan
EPA	United States Environmental Protection Agency
ISWPP	Integrated Source Water Protection Program
NDEP	Nevada Division of Environmental Protection
PCSs	potential contaminant sources
SWPAs	source water protection areas
Team	Storey County Local Planning Team
TRI-GID Plan	TRI-General Improvement District Plan
USGS	US Geological Survey

1.0 Introduction

1.1 Source Water Protection

Source water protection is a community's way of safeguarding all present and potential future drinking water sources, including groundwater, wellheads, and watersheds. Source water protection is centered around collaboration, where State and federal agencies and programs, drinking water utilities, communities, businesses, landowners, and stakeholders can work together to develop strategies to protect drinking water sources on the ground, at the local level.

In the State of Nevada, source water is untreated water originating from rivers, lakes, streams, springs, or underground aquifers, serving both public drinking water systems and private wells. Nevada's Integrated Source Water Protection Program (ISWPP) is funded by the United States Environmental Protection Agency (EPA) and administered by the Nevada Division of Environmental Protection (NDEP), Bureau of Safe Drinking Water (BSDW). Nevada's ISWPP is a voluntary program aimed at building local partnerships to safeguard community drinking water sources, and the State advocates for the belief that an effective source water protection plan is best developed and managed at the local level.

1.2 Plan Vision and Goals

This TRI-GID Source Water Protection Plan (TRI-GID Plan) serves as an active tool for the coordinated protection of TRI-GID's public drinking water sources. Operated voluntarily under local jurisdiction and control, this TRI-GID Plan utilizes guidance and criteria from both the EPA and NDEP to seek State endorsement. Once endorsed by NDEP, TRI-GID may benefit from State funding and assistance for projects outlined in the Action Plan (Attachment A).

TRI-GID is a participating member of the Storey County Source Water Protection Local Planning Team (Team). To ensure coherence in County-wide efforts to protect and preserve water quality, one Source Water Protection Plan Vision and several Goals were created by the Team. The Goals, described in Table 1, signify a collaboration among Storey County's water purveyors, agencies, industries, and community leaders that will serve to guide the County- and community-wide implementation of TRI-GID's Source Water Protection Plan.

Table 1. Plan Vision and Goals

County-Wide Community Source Water Protection Plan Vision	
Ensure safe and sustainable drinking water sources for all residents and businesses.	
County-Wide Community Source Water Protection Plan Goals	
Goal 1 – Protect the quality of present and future drinking water sources.	**Goal 2** – Preserve the quality and quantity of water sources for existing and proposed development.
Goal 3 – Consider risks to drinking water sources in Emergency Planning.	**Goal 4** – Engage water users, stakeholders, and businesses about source water protection and participation.

1.3 Description of Planning Area

In Nevada, the U.S. Geological Survey (USGS) and the Nevada Division of Water Resources have divided the State into 232 Hydrographic Areas within 14 major Hydrographic Regions for water planning and management purposes. These areas facilitate the understanding and management of water resources throughout the State. The majority of the TRI-GID service area is located in the Tracy Segment, which is bounded by the Virginia Range to the south and the Pah Rah Range to the north. (Figure 1).

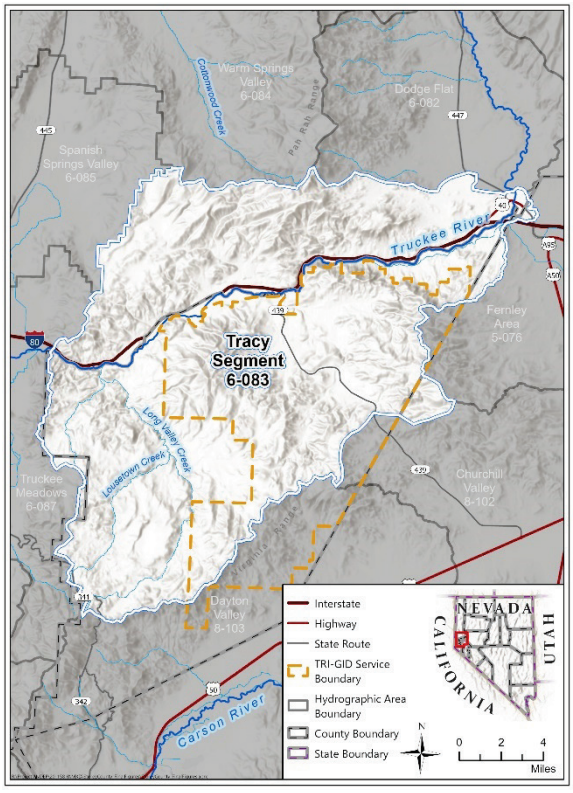


Figure 1. TRI-GID Service Area in Tracy

The Tahoe Reno Industrial Center is currently the largest industrial park in the world, encompassing approximately 70,000 acres of existing development and land use designation, with a total land ownership of 107,000 acres (Storey County, 2023). TRI-GID provides potable water, reclaimed water, and wastewater services to its customers in the industrial area (TRI GID, 2023). In addition, there are three privately owned public water systems, where each facility supplies its own drinking water (SDWIS, 2023):

- Asia Union Electric Chemicals Reno,
- EP Minerals LLC Clark, and
- Mars Petcare US Inc.

Asia Union Electric Chemicals Reno, Mars Petcare US Inc., and EP Minerals were included in the source water protection area delineation methods for this TRI-GID Plan (Section 2.0) due to their proximity to TRI-GID facilities and water sources.

1.4 TRI-GID Local Contacts

A successful source water protection plan requires the participation and support of all jurisdictional authorities that affect land use practices in or around drinking water sources. Due to the active and ongoing nature of the ISWPP, the local contacts and membership of the Team are expected to change over time. Table 2 lists the current local contact information for this TRI-GID Plan.

Table 2. TRI-GID Local Planning Team

Team Member	Jurisdiction/Title	Roles
Kathy Canfield	Planning Manager, Storey County	Source water protection planning, land use planning, and development review.
Jay Carmona	President, TRI-GID Board	Community liaison.
Ozwald Henke	Technical Services Manager, TRI-GID	TRI-GID operations and administration.
Ethan Mason	ISWPP Coordinator, NDEP, Bureau of Safe Drinking Water	Plan development guidance.
Shari Whalen	General Manager, TRI-GID	TRI-GID water system design, operations, and source water protection implementation.
Resource Concepts, Inc.	Integrated Source Water Protection Technical Assistance Contractor	Plan coordination and technical assistance.

2.0 Source Water Protection Area Delineation

A source water protection area is a community-established boundary around a drinking water source where the long-term sustainability and safety of a water supply is prioritized. These areas are typically established to prevent man-made contamination of the water source by implementing various measures, such as pollution prevention tactics, regional collaboration, and education. The following sections outline the source water protection area delineation for the TRI-GID Source Water Protection Plan. County-Wide Source Water Protection Area Maps are organized by jurisdiction and can be accessed in Appendix A of the County-Wide Plan.

2.1 Source Water Description

TRI-GID's drinking water is sourced from groundwater in the Tracy Segment, which is the result of 240 million years of tectonic, volcanic, and fluvial processes. These processes, discussed in detail in Attachment B, formed the aquifers that currently store the drinking water supply for the TRI-GID service area. The majority of groundwater in the Tracy Segment is found in the permeable bedrock (Thodal et al., 2006), and all of TRI-GID's wells are drilled into fractured rock, either of volcanic or granitic origin.

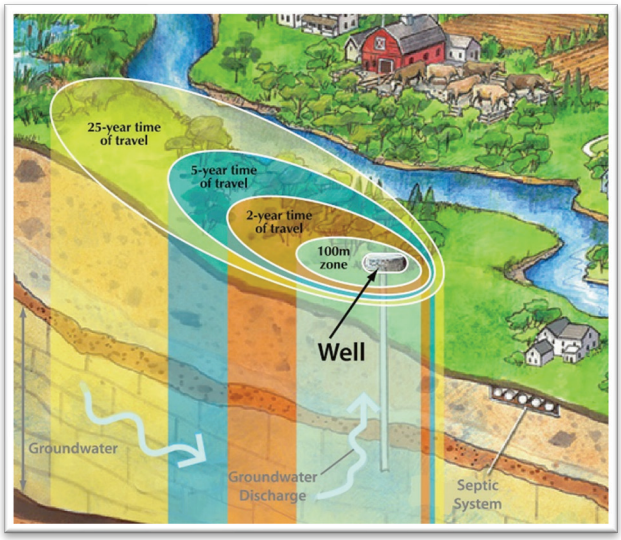
TRI-GID has eight active wells and two future wells that were considered during this planning effort. All existing public water system wells and anticipated future well locations were considered in the planning effort to ensure source water quality protection of public water sources. The water source inventory is briefly described in Table 3 and further details are included in the Water Source Worksheets as Attachment C. Attachment B and Attachment C contain sensitive information. Contact TRI-GID for review.

Table 3. TRI-GID Water Source Inventory

Modeling Area	Public Water System Name and Number	State ID / Local Water Source Name	Aquifer Type
Northwest	NV0000913 TRI-GID	W01 / Well 1 W02 / Well 2 W03 / Well 3	Permeable Basalt [1/]
	NV0000879 Asia Union Electronic Chemicals Reno	W01 / Well 1	
	NV0000878 Mars Petcare US Inc.	W01 / Well 1	
Southeast	NV0000913 TRI-GID	W04 / Well 4 W05 / Well 5 W06 / Well 6 W07 / Well7 W08 / Well 8 Denmark Drill Pad Switch Dill Pad	Permeable Bedrock [2/]

[1/] Permeable Basalt inferred from USGS Aquifer Tests less than one mile from water sources, well logs, and 0913W03 2020 short duration pump test (Farr West, 2020).
[2/] Permeable Bedrock inferred from well logs and 0913 W04, W05, and W06 short duration pump tests (Farr West, 2020)

2.2 Capture Zone Calculations



Capture zones are important for delineating and visualizing the portion of an aquifer that contributes water to a well within a given period of time. Groundwater protection involves modeling to establish time-of-travel capture zones around drinking water wells, which generally assume steady-state groundwater flow and average groundwater travel times.

The EPA's Wellhead Analytic Element Model (WhAEM version 3.3.2, 2018) is an open-source groundwater model designed to facilitate capture zone delineation and protection area mapping for public water supplies in the United States. WhAEM was used to estimate the 2-, 5-, and 10-year time-of-travel capture zones for the modeling areas described in Table 3. The time-of-travel capture zones represent the average time that particles are expected to travel in the aquifer from a given point to a pumping well.

It is important to note that the application of the WhAEM2000 computer model represents the conceptual analysis of local groundwater hydrology and is not intended to "simulate" the more complex dynamics of an aquifer. Detailed model development and capture zone maps are contained

in the Capture Zone Report found in Attachment B of this TRI-GID Plan. Attachment B contains sensitive information. Contact TRI-GID for review.

2.3 Potential Contaminant Source Inventory and Evaluation

The identification of potential contaminant sources (PCSs) in the vicinity of existing wells is a critical component of this program. Accurate knowledge of the potential threats to groundwater quality assisted TRI-GID in the development of strategies to reduce the risk of future contamination. An inventory of PCSs was compiled using online databases, meetings with water system operators and County planners, and field surveys of the surrounding area.

The Tahoe Reno Industrial Center is a newly expanding industrial center where residents adhere to high standards in design, operation, and environmental responsibility. Based on Team input and an inventory of current facilities, the potential contaminant source concerns in this community include:

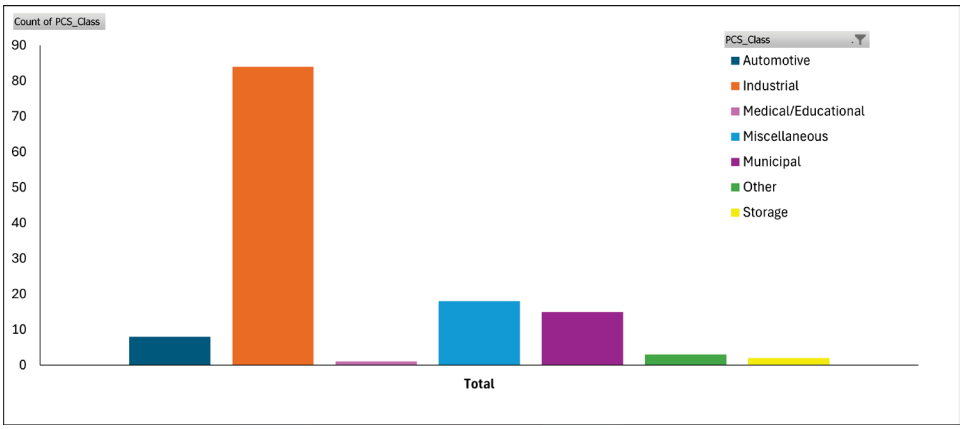
- Chemical Storage and Handling,
- Transportation Activities,
- Spill Response and Cleanup,
- Waste Management, and
- Stormwater Runoff and Infiltration.

Businesses in the area understand that environmental responsibility, particularly as it pertains to water resources in Nevada. TRI-GID works with its customers to promote an industrial culture that protects and preserves water resources for the future of economic development in Storey County.

A chart of PCSs in the community is presented as Chart 1. Chart 1 represents the PCSs at the time of Plan development, and the PCSs are organized by Class (Attachment D). A comprehensive description of the data sources, methods, and results of the inventory are presented as Attachment D and E. Attachment D and E contain sensitive information. Contact TRI-GID for review.

Given the dynamic nature of industrial development in the area, the PCS inventory should be updated annually, beginning one year after State endorsement of the County-Wide Plan. The completion of this review should be performed by the Manager of TRI-GID, with the assistance of the ISWPP.

Chart 1. Potential Contaminant Source Classes



2.4 Source Water Protection Area Description

Source water protection involves managing human activities to prevent contaminants from entering drinking water sources. Source Water Protection Areas (SWPAs) are designated boundaries established by communities to safeguard water quality. Within SWPAs, activities such as education around water quality protection through management practices, planning and coordination, and prompt spill response can help manage water resources effectively. The delineation of SWPAs for this TRI-GID Plan was driven by estimated time-of-travel capture zones, anticipated future development in the Tahoe Reno Industrial Center, and the potential contaminant source inventory. Two levels of management areas were developed for source water protection by the Team:

1) ***Time-of-Travel Source Water Protection Areas****: set by the community to protect the quality of present and future water sources for all residents and businesses served by public water systems in the area.*
2) ***Watershed Source Water Protection Areas****: aim to ensure that present and future development will have an adequate water supply that meets safe drinking water standards to secure the future of economic development in Storey County.*

TRI-GID's final SWPAs for each area are presented as Figure 2 and Figure 3, and associated characteristics and relative management needs are outlined in Table 4. The SWPAs are also included as maps in Appendix A of the County-Wide Plan.

Figure 2. TRI-GID Northwest Source Water Protection Areas

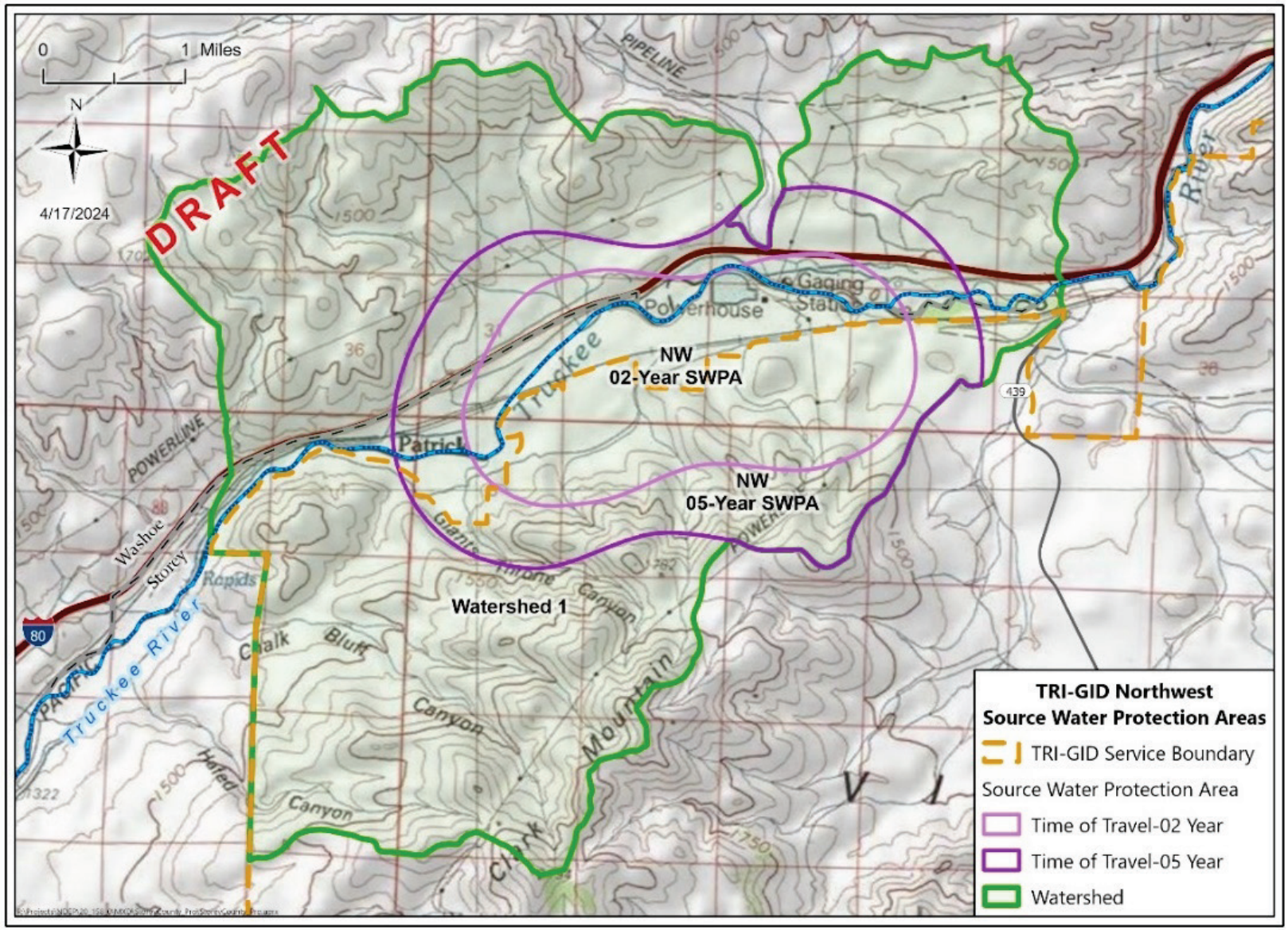


Figure 3. TRI-GID Southeast Source Water Protection Areas

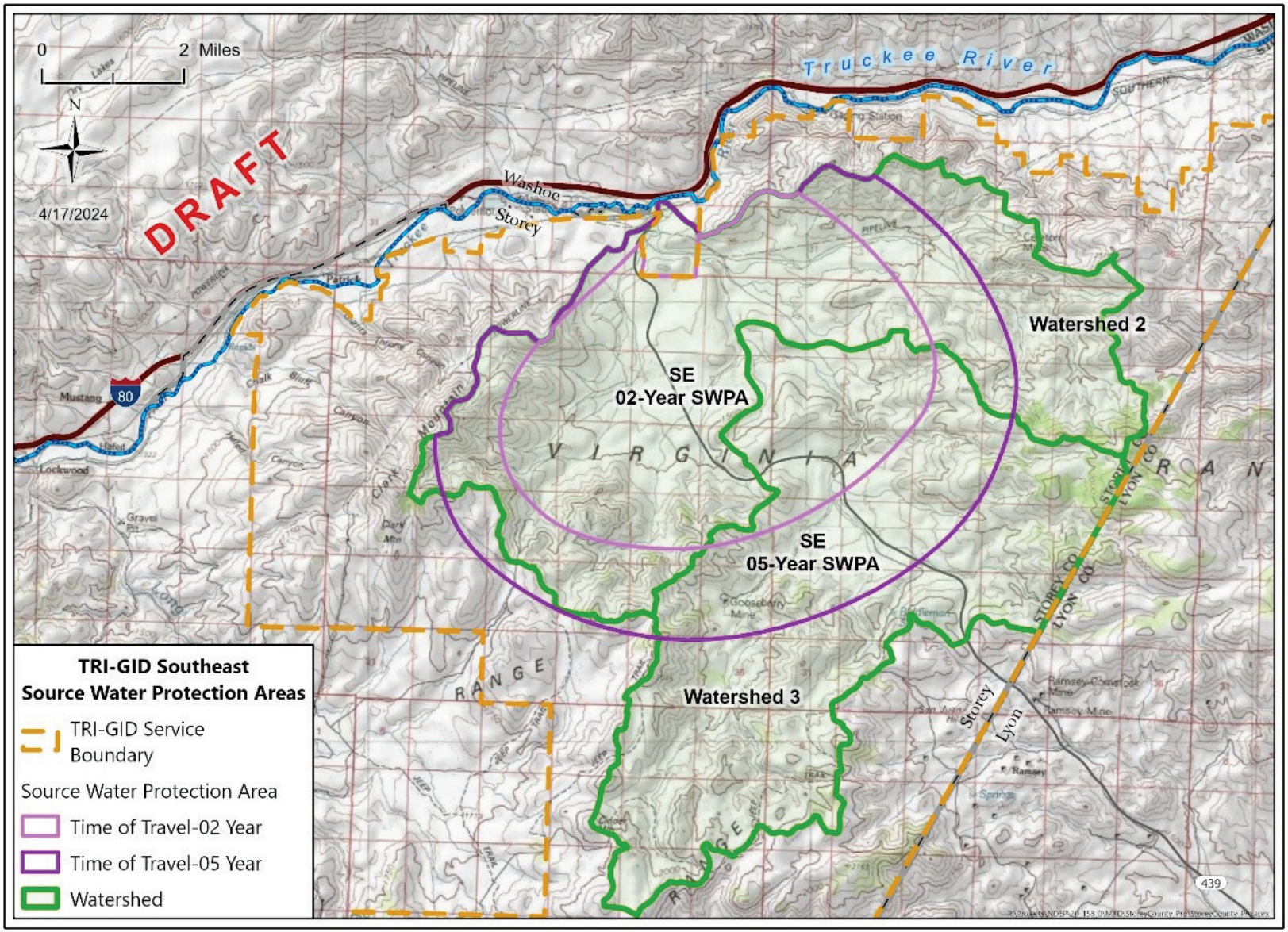


Table 4. TRI-GID Source Water Protection Area Descriptions

Source Water Protection Area Name	Description
NW 2-Year SWPA SE 2-Year SWPA	Within the calculated 2-year time-of travel to a public water system well, potential contaminant sources without regulatory oversight are a high priority for local source water protection implementation. The 2-Year SWPA includes existing and proposed activities where prompt spill response and cleanup communication is essential for protecting water quality. The 2-Year SWPA is an area where planning and coordination through proactive collaboration with the County and customers could ensure that potential contaminant sources are suitably managed to prevent releases to the environment and to protect water sources.
NW 5-Year SWPA SE 5-Year SWPA	The calculated 5-year time-of travel to a public water system well addresses risks to water quality and long-term sustainability goals. The 5-Year SWPA is an area where education for TRI-GID customers about water quality best management practices should be prioritized. The SWPA strikes a balance between short-term protection needs and long-term planning considerations, allowing for future updates to protection measures as needed.
Watershed 1 Watershed 2 Watershed 3	Activities within these watershed boundaries represent the potential for future industrial development in the area. The Tahoe Reno Industrial Center is zoned I-2 Heavy Industrial, and all utilities are built to sustain industrial capacity. Given the complexity of contaminant transport in a fractured rock aquifer, the broader watershed area boundaries can work to inform future customers about the long-term risks to water quality from releases on the ground surface. The areas can give the community and the County references to identify and manage potential contaminant sources within Storey County's local planning framework and support implementation of the Storey County Master Plan (Chapter 10, Goal 6, Objective 1). County-wide education will ensure that clean and safe drinking water is available for the benefit of a booming economy.

2.4.1 Contingency Measures

Contingency measures are crucial for preparing a public water system to manage potential long-term water contamination events or disruptions in supply. The main goal of contingency measures is to protect the public water supply system immediately and in the long term. This involves identifying critical personnel, equipment, procedures, and materials needed to address environmental emergencies swiftly. Plans typically include rapid response protocols, notification procedures, and containment strategies for incidents directly impacting the water source. Nevada's regulations require both short- and long-term contingency plans to effectively manage water quality and quantity impacts. These plans provide interim relief for public water systems during emergencies until permanent solutions are implemented. TRI-GID's Contingency Plans are listed in Table 5.

Table 5. TRI-GID Contingency Plans

TRI-GID Contingency Plans	
TRI-GID Conservation Plan (June 2024)	TRI-GID Water Resource Plan (June 2024)
TRI-GID Operations and Maintenance Manual	TRI-GID Emergency Response Plan (June 2024)
TRI-GID Cross Connection Control Policy (May 2020)	TRI-GID Reservoir Emergency Response Plan (2021)

2.4.2 *Management Strategies*

Source water protection management strategies encompass various measures aimed at supporting the goals outlined in Section 1.2. Source water protection goals can be considered what Storey County as a whole, and what TRI-GID as a community, are striving to achieve. The management strategies support and divide the goals into simple and practical approaches that lead to implementation. The management strategies were developed and prioritized by the Team to mitigate the risk of contamination to Storey County's drinking water sources. TRI-GID's management strategies, outlined in Table 6, bloomed from the County-Wide strategies, but specifically consider TRI-GID's source water protection area delineations, the potential contaminant source inventory and evaluation, and the potential for future industrial customers where service area expansion is possible. TRI-GID's management strategies will be enacted through Action Plan implementation (Section 3.1).

Table 6. TRI-GID Management Strategies

Interagency Collaboration
The cornerstone of effective source water protection and supports comprehensive water quality management of source water. TRI-GID will consider participating in a regional approach to water resource management with a focus on protecting and improving water quality.
Planning and Coordination
Supports consistency in county- and community-wide policies that consider future growth and potential new threats to source water. TRI-GID would continue to work with Storey County to preserve the quality of water sources for existing and proposed development in the area.
Spill Response and Cleanup
TRI-GID is interested in working with Storey County Emergency Mangement and customers to ensure that emergency actions are well-coordinated and that resources are mobilized promptly to protect TRI-GID's water quality and public health.
Water Quality Best Management Practices
Best management practices are a proactive approach to the protection of source water, outlining practical and effective methods to prevent ground and surface water contamination. TRI-GID is considering implementing several actions that could increase the implementation of BMPs across the industrial community.
Education And Outreach
TRI-GID understands that source water protection can only thrive when the community embraces the mission. Empowerment through knowledge can give TRI-GID's customers the tools they need to implement innovative solutions that work to protect their most important resource, their drinking water.
Emerging Contaminants
Emerging contaminants represent a significant concern for source water due to the potential impacts on human health and the environment. TRI-GID is workign proactively to implement solutions that address emerging contaminant concerns to ensure safe and sustainable drinking water for all its customers.

3.0 Plan Implementation

3.1 Action Plan

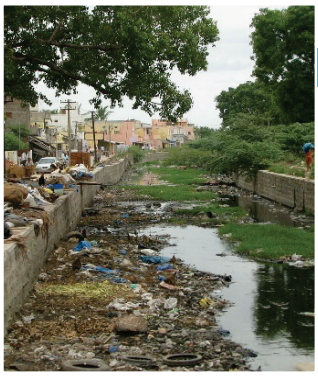
The implementation of a source water protection plan is realized through the Action Plan (Attachment A), which outlines the actions that TRI-GID has set forth to achieve its source water protection goals. TRI-GID's actions are categorized according to management strategy, and they were designed based on source water protection area delineations, the potential contaminant source inventory and evaluation, regional cooperation, education, and emergency spill response. Each project is detailed with regard to its description, prioritization, designated lead, type of required support, and projected timeline for execution.

The implementation of the Action Plan is contingent upon the availability of resources, prioritization of projects, and access to necessary funding. Projects will progress as financial and temporal resources permit. To achieve these ends, the TRI-GID anticipates leveraging support through diverse partnerships and technical assistance from the ISWPP. County-wide action plan Information regarding potential funding avenues to support these initiatives is listed in Appendix B of the County-Wide Plan.

3.2 Public Education and Participation

Public education and participation for TRI-GID's customers is an integral component of source water protection implementation. The ISWPP program emphasizes a voluntary, community-based approach that involves local stakeholders, community leaders, public water systems, residents, and businesses. By actively targeting specific source water protection education to TRI-GID's customers, this Plan aims to promote community-driven best management practices to protect water quality in perpetuity.

The Education Plan, Appendix C of the County-Wide Plan, includes various messages that highlight the importance of source water protection, and the actions individuals can take to safeguard drinking water sources. These messages serve as key communication points to empower the public to contribute to source water protection efforts to engage water users, stakeholders, and businesses about source water protection and participation. The following key messages highlight the education focus for TRI-GID:



What contaminates the water we drink?

There are numerous pollutants that can contaminate both surface and groundwater. Some contaminants result from the improper disposal of common household products, such as cleaning products, waste oil, pet waste, fertilizers, and pesticides – when improperly used, stored, or disposed of, they can pose a risk to your drinking water. Emerging contaminants include a wide range of chemical compounds, industrial pollutants, and human by-products that have been making their way into our water ways for generations. Recent studies have shown that measurable quantities of these contaminants exist within our sources of drinking water, making local industries, businesses, and residents important participants in source water protection efforts.

How can businesses participate in source water protection?

By actively participating in community-driven source water protection efforts, such as spill response and cleanup, communication regarding water quality best management practices etc., businesses can demonstrate environmental stewardship, enhance corporate social responsibility, and contribute to the long-term sustainability of water resources for present and future generations.

3.3 Source Water Protection Plan Updates

This TRI-GID Plan prioritizes flexibility and community involvement, and encourages not only jurisdictional, but county-wide efforts to protect water quality. It originates from a shared commitment to unite Storey County around the vision of *ensuring safe and sustainable drinking water for all residents and businesses*. With achievable goals and strategies, it seamlessly integrates source water protection into local and county-wide planning efforts. Regular updates to this Plan, scheduled annually or as new information arises, reflect TRI-GID's dedication to a sustainable water future to secure the economic future of Storey County.

4.0 References

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Attachment A

TRI-GID Action Plan

The Action Plan for this TRI-GID Plan was crafted to fulfill the goals outlined in the Community Source Water Protection Plan for Public Water Systems in Storey County (County-Wide Plan). The management strategies, detailed in Section 2.4.2 of this TRI-GID Plan, were formulated by the County-Wide Team to align with the source water protection goals. The Action Plan, created to outline how the source water protection goals might be achieved, includes actionable and realistic measures organized by management strategy, such as education and outreach. The actions are designed for practical implementation to preserve the quality of drinking water for existing and proposed development.

TRI-GID's Plan evolved throughout the development of the County-Wide Plan. Each action includes a description, priority, project lead, type of assistance needed, and expected implementation year. Implementation is dependent upon resource availability and the actions will be carried out as funding and time allows. Potential funding sources can be used to assist in Action Plan implementation, and a list of potential funding sources is outlined in Appendix B of the County-Wide Plan.

TRI-GID benefits from building relationships and leveraging resources regionally, within the TRI-Center, and throughout the County. Recognizing that clean drinking water is the foundation of any economy, the Action Plans in Appendix B of the County-Wide Plan highlight Storey County's commitment to protecting and preserving drinking water quality.

	Community Source Water Protection – TRI-GID Action Plan					
Action Item	**Management Strategy**	**Action Description**	**Priority**	**Project Lead**	**Type of Assistance Needed**	**Expected Implementation Year**
1.1.TRI	*Interagency Collaboration*	Explore and participate in regional programs dedicated to increasing the care of the Truckee River corridor through focused education, outreach, and development of partnerships.	Low	TRI-GID	Technical Assistance	2025 and Ongoing
2.1.TRI	*Planning and Coordination*	Consider a notification process with Storey County Planning to help TRI-GID highlight any concerns about new potential contaminants near drinking water sources without creating delay in the development review process. For example, new stormwater infiltration basins or exterior chemical storage within a specific source water protection area or certain radius of a well.	High	TRI-GID	Technical Assistance	2025 and Ongoing
2.2.TRI	*Planning and Coordination*	Review and update the TRI-GID Source Water Protection Plan as needed to include new information regarding source water locations, potential contaminant sources, future hydrogeologic studies, and recycled water as source water.	High	Tri-GID	Technical Assistance	Ongoing
2.3.TRI	*Planning and Coordination*	Refine the GIS-based potential contaminant source and TRI-Center facility inventory as needed.	High	TRI-GID	Technical Assistance	2024 and Ongoing
2.4.TRI	*Planning and Coordination*	Work with Storey County to reduce non-point source water pollution in the TRI-Center. For example, participate in the development of solutions to address illegal dumping in 2-year or Watershed Source Water Protection Areas.	High	TRI-GID	Technical Assistance	2025-2026
2.5.TRI	*Planning and Coordination*	Include source water protection and water quality considerations during TRI-GID routine review of civil engineering plans in the TRI-Center. For example, review stormwater infiltration/detention near drinking water sources and from parking lots, loading areas, and exterior chemical storage and handling areas, etc.	High	TRI-GID	Technical Assistance	2025-2026
2.6.TRI	*Planning and Coordination*	Continue participation in a source water protection team.	High	TRI-GID	Technical Assistance	2025-2026

	Community Source Water Protection – TRI-GID Action Plan					
Action Item	**Management Strategy**	**Action Description**	**Priority**	**Project Lead**	**Type of Assistance Needed**	**Expected Implementation Year**
3.1.TRI	*Spill Response and Cleanup*	Work with Storey County Emergency Management to develop an inventory of facilities with chemicals stored on site in the TRI-Center.	High	TRI-GID	Technical Assistance	2025-2026
3.2.TRI	*Spill Response and Cleanup*	Continue to support Storey County Emergency Management by attending the Local Emergency Planning Committee meetings. Consider discussing source water protection education as it pertains to the TRI-Center.	Low	TRI-GID	Technical Assistance	Ongoing
5.1.TRI	*Water Quality Best Management Practices*	Consider tools, such as the EPA's Industrial Stormwater Fact Sheet Series, to help inform the TRI-GID staff about proper secondary containment, waste containment, and/or fuel and chemical containment BMPs as it relates to source water protection.	Medium	TRI-GID	Technical Assistance	2025 and Ongoing
5.3.TRI	*Water Quality Best Management Practices*	Explore tools, such as the EPA's Fact Sheet series or the Small Business Guide Worksheets, as BMP or waste containment procedure checklists when conducting customer site visits. For example, TRI-GID staff could use the checklist on site or ask the customer to fill it out and return to TRI-GID.	High	TRI-GID	Technical Assistance	2024 and Ongoing
5.2.TRI	*Water Quality Best Management Practices*	Promote source water protection understanding with customers in close proximity of well locations and within source water protection areas. For example, coordinate a TRI-Center annual meeting to understand BMP implementation and maintenance at facilities as it relates to Article 10 of the TRI General Improvement District Sewer Rules, Regulations, and Rates.	Medium	TRI-GID	Technical Assistance	2024 and Ongoing
5.2.TRI	*Education and Outreach*	Increase knowledge of watershed importance to drinking water quality through local outreach efforts. For example, display source water protection program information in public locations with maps of local Watershed Source Water Protection Areas.	Low	TRI-GID	Technical Assistance	2025
5.3.TRI	*Education and Outreach*	Participate with Storey County Planning and Emergency Management to promote water quality best management practices at public events. For example, attend a school or community educational event with BMP information, and or invite TRI-GID customers who implement these practices to present.	Low	TRI-GID	Technical Assistance	2025-2026

	Community Source Water Protection – TRI-GID Action Plan					
Action Item	**Management Strategy**	**Action Description**	**Priority**	**Project Lead**	**Type of Assistance Needed**	**Expected Implementation Year**
5.5.TRI	*Education and Outreach*	Promote source water protection on the TRI-GID website. For example, a link to the Community Source Water Protection Plan for Public Water Systems in Storey County.,	High	TRI-GID	Technical Assistance	2025 and Ongoing
5.5.TRI	*Education and Outreach*	Make information/flyers available at TRI-GID about what customers can do to protect drinking water sources. For example, secondary containment for exterior material storage, prompt spill response and cleanup, and/or fix leaking vehicles or equipment.	High	TRI-GID	Technical Assistance	2025 and Ongoing
6.1.TRI	*Emerging Contaminants*	Coordinate with NDEP on the availability of, and eligibility for, funding to address emerging contaminants.	Low	TRI-GID	Technical Assistance	Ongoing
6.2.TRI	*Emerging Contaminants*	Consider attending a State-wide working group focused on emerging contaminant education for public water systems and their operators.	High	Tri-GID	Technical Assistance	Ongoing
6.3.TRI	*Emerging Contaminants*	Continue discussions about emerging contaminant concerns and treatment technologies with the community. For example, attend and discuss at Local Emergency Planning Committee meetings, Storey County Planning Commission, etc.	Low	TRI-GID	Technical Assistance	Ongoing
6.5.TRI	*Emerging Contaminants*	Expand TRI-GID's source water protection GIS database to include facilities that use, manufacture, or distribute products with emerging contaminants in the TRI-Center.	High	TRI-GID	Technical Assistance	Ongoing
6.6.TRI	*Emerging Contaminants*	Consider coordinating with Washoe County on developing an inventory of facilities that use, manufacture, or distribute products with emerging contaminants upstream of the Tracy Segment.	High	TRI-GID	Technical Assistance	Ongoing