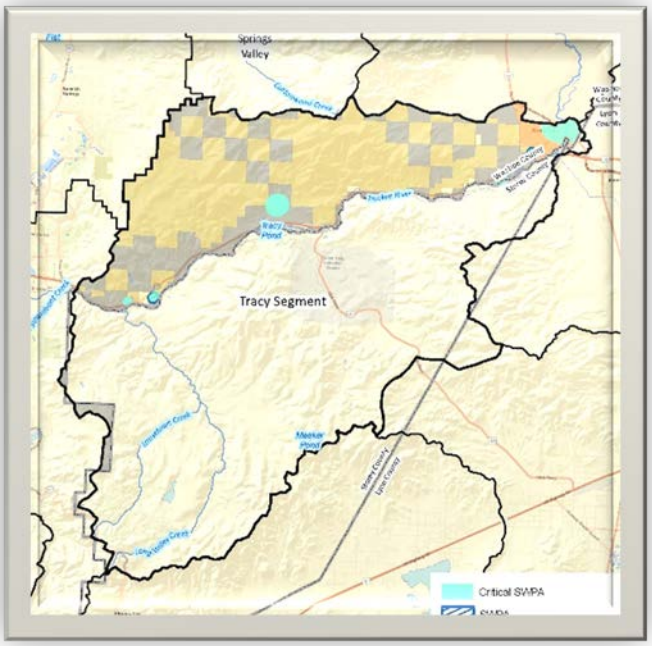
Tracy Segment

Groundwater Basin #083, Source Water Profile

Click here for the SWPA Map



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Introduction

The Tracy Segment source water profile is a component of the 2020 Integrated Source Water and 319(h) Watershed Protection Plan for Public Water Systems and the Truckee River in the Truckee Meadows (Plan). This document is a part of the on-line source water mapping tool.

This Source Water Protection Area (SWPA) description is intended to be a guide and resource for organizations working within the basin, and an educational tool for those interested in learning more about the drinking water source in the area where they live. This Plan can be used to support funding for water quality projects in the basin.

Summary

This profile focuses on protecting water quality for the sources of drinking water. This profile includes thirteen public water system wells that are regulated by the Nevada Division of Environmental Protection (NDEP), as well as seven other wells that are identified for Pyramid Lake Paiute Tribal communities in the *Well Head Protection Area Delineation and Drinking Source Water Evaluation* (Stetson Engineers, 2001). There are no surface waters used directly to supply public drinking water in this basin. This profile includes potential and existing groundwater quality concerns, types of land uses, management strategies and projects, and the involved stakeholders and their corresponding plans with water quality components.

The Tracy Segment Basin includes the Truckee River Canyon and adjacent uplands of the mountain ranges, the Virginia Range to the south and the Pah Rah Range to the north of the canyon, encompassing about 285 square miles. The Truckee River is incised through this narrow canyon that spans from the City of Sparks eastward to Wadsworth. At the northeast end near Wadsworth, the Truckee River begins to bend to the north, entering the adjacent Dodge Flat Groundwater Basin. Groundwater movement stems from upland recharge areas and flows through the volcanic rock and down to the Truckee River.

In the Tracy Segment Basin, the eight separate public water systems, regulated by NDEP, have SWPAs corresponding buffers around the 13 wells. The east end of the Tracy Segment basin also includes a portion of Pyramid Lake Paiute Reservation, the Pyramid Lake Paiute Tribe (PLPT) has developed well head protection measures for seven wells all in the Wadsworth area that have been incorporated in the plan.

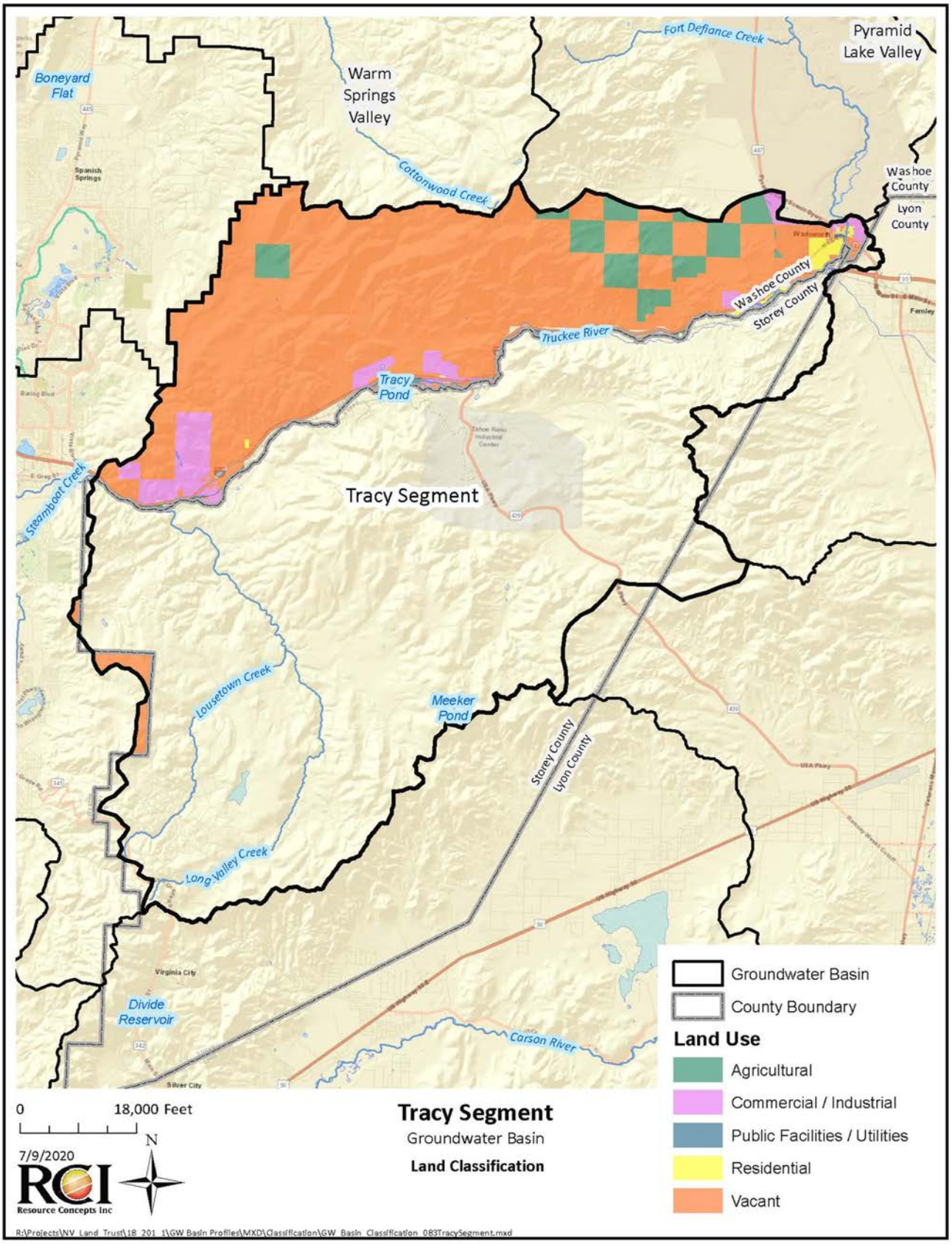
The following table summarizes key aspects of the SWPAs and Well Head Protection Areas (WHPAs) in this basin.

Basin Summary	
Basins	• Groundwater Basins: Tracy Segment #083 • HUC-12 Watershed: Giants Throne Canyon-Truckee River #160501020607 Derby Dam-Truckee River #160501020608 Dead Ox Wash-Truckee River #160501030304 Unnamed #160501020604
Source Water Protection Areas	• A SWPA provides a buffer around public water system wells, and it represents a precautionary indicator to safeguard the drinking water sources. • Critical SWPAs represent areas closer to public water system wells. • 13 wells, regulated by NDEP, are managed by eight individual public water systems that provide drinking water to multiple public businesses, including two industrial parks, and residential areas around the community of Wadsworth. SWPAs have been delineated around these wells. • There are seven wells identified by the Pyramid Lake Paiute Tribe, three that support the Tribal community, and four small public water systems with one well each that serve the smoke shop/mini mart/gas station, the Big Bend Ranch House, the Big Bend RV Park, and a potential municipal well. These existing WHPAs in the Wadsworth have been incorporated in this plan. • The Truckee Canyon and Stampmill water systems are currently operated by the Truckee Meadows Water Authority (TMWA).
Special Considerations & Issues	• No surface waters are used directly for public water supply. However, public water systems in the Tracy Segment Basin exclusively rely on groundwater. • The Truckee River has "designated" Beneficial Uses or water quality standards in three of the HUC-12s: Giants Throne Canyon-Truckee River, Derby Dam-Truckee River, and Dead Ox Wash- Truckee River. • The east end of the Tracy Segment basin near Wadsworth area extends into the Pyramid Lake Paiute Tribe Reservation. • Pyramid Lake Paiute Tribe has a Water Quality Control Plan (2015) for surface waters. • The Pyramid Lake Paiute Tribe has developed the *Well Head Protection Area Delineation and Drinking Source Water Evaluation* (Stetson Engineers Inc., 2001) to protect source water for tribal communities. The Pyramid Lake Public Utilities is dedicated to providing clean, safe drinking water for the Wadsworth community.

SWPA Acreage	Type	Acres
Land Jurisdiction	BIA:	1058
	Washoe County Non- Federal:	813
	BLM:	113
	BOR:	6
Land Use	Commercial/Industrial:	395
	Residential:	326
	Public facility/ Utilities:	23
	Vacant:	1057
	Undefined:	23
	Roads (Miles):	39

Land uses and jurisdictions in the SWPAs are summarized in the adjacent table and illustrated by the Land Classification Figure. Lands are privately owned or managed by one of the following federal agencies: Bureau of Indian Affairs (BIA), Bureau of Land Management (BLM), or Bureau of Reclamation (BOR).The Interstate 80 (I-80) corridor is managed by NDOT.

The public water systems, Granite Construction, Truckee Canyon Well, and the Reno Technology Park Water Company, and portions of the Wadsworth SWPAs, consist of industrial zoning. Potential water quality concerns are primarily due to chemical/fuel leaks or spills. Residential areas around the Stampmill and Wadsworth SWPAs are served by septic systems, therefore, nitrate is a potential groundwater contaminant. Agriculture is a potential contributary activity occurring along the river corridor near Wadsworth and the NDOT Wadsworth Rest Stop.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Pyramid Lake Valley
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Lyon County
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Tracy Pond
Tracy Segment
Steamboat Creek
Lousetown Creek
Meeker Pond
Storey County
Lyon County
Long Valley Creek
Divide Reservoir
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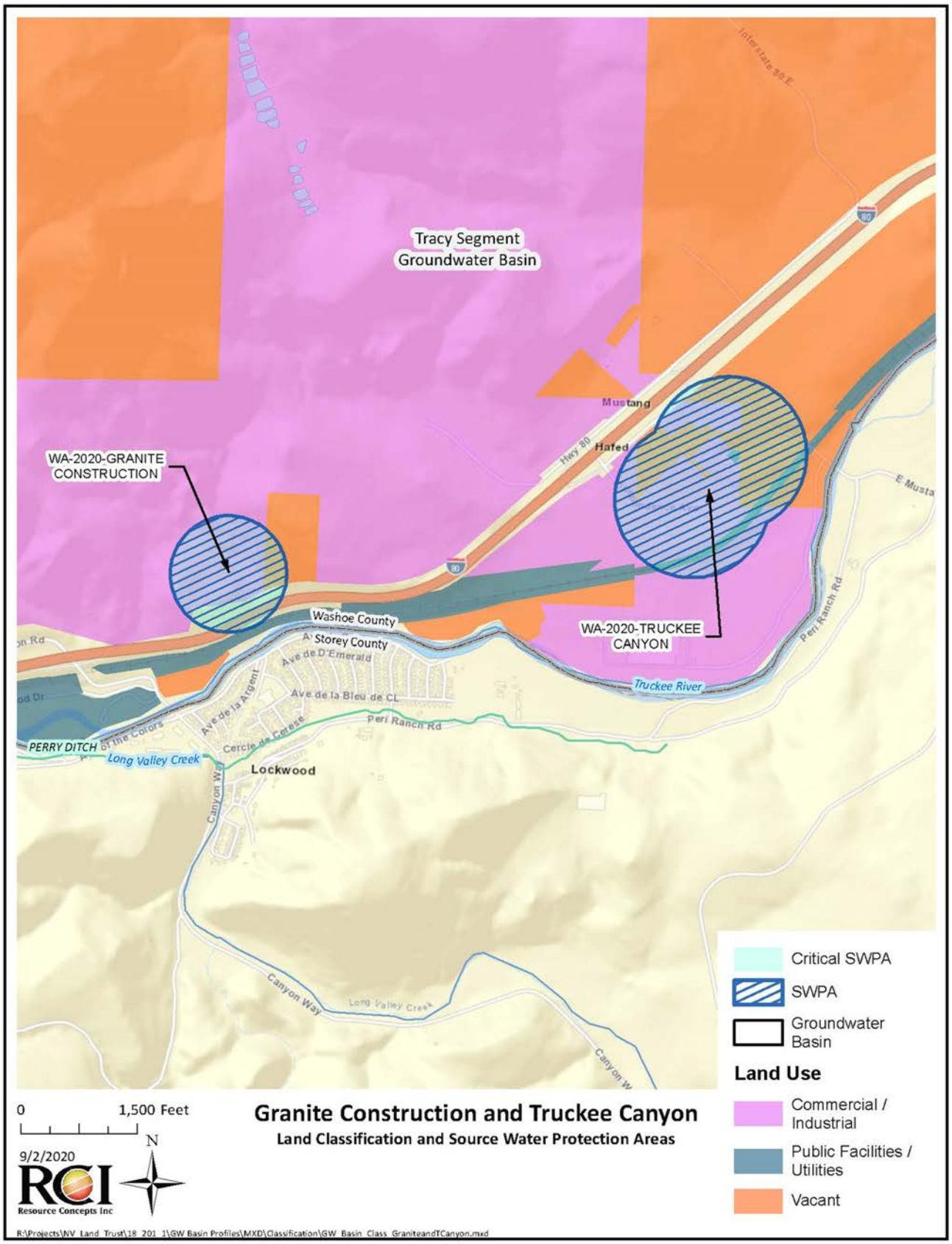
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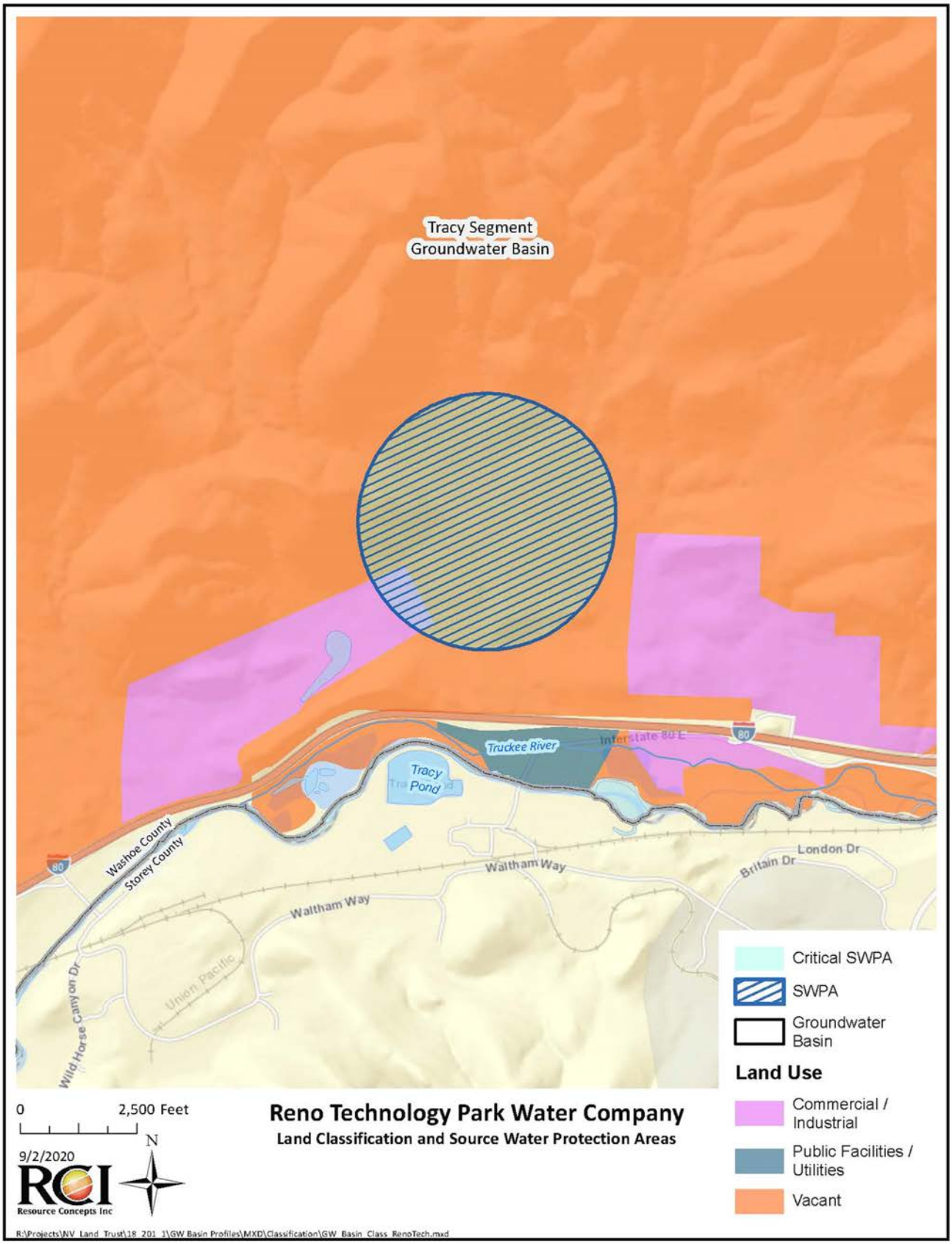
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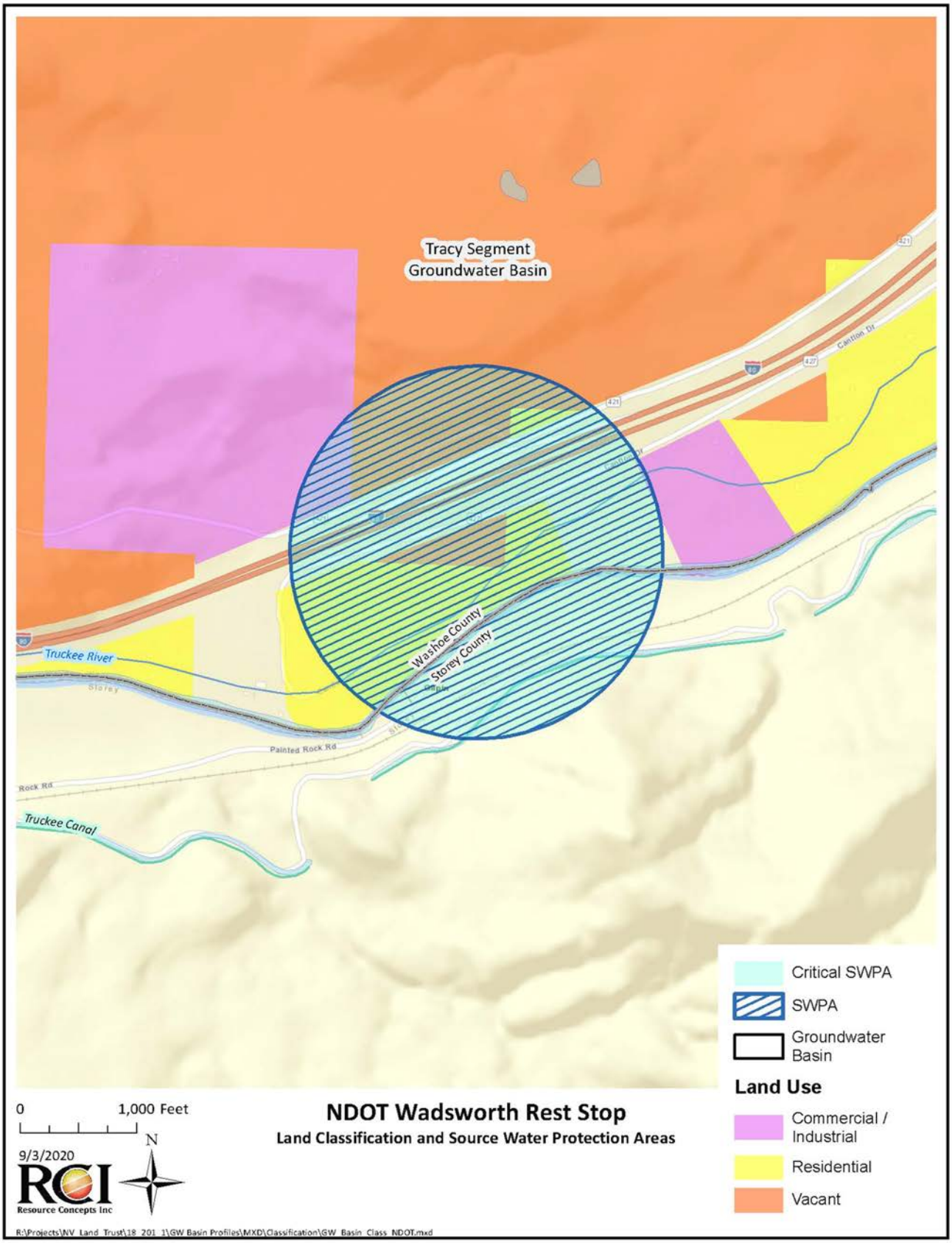
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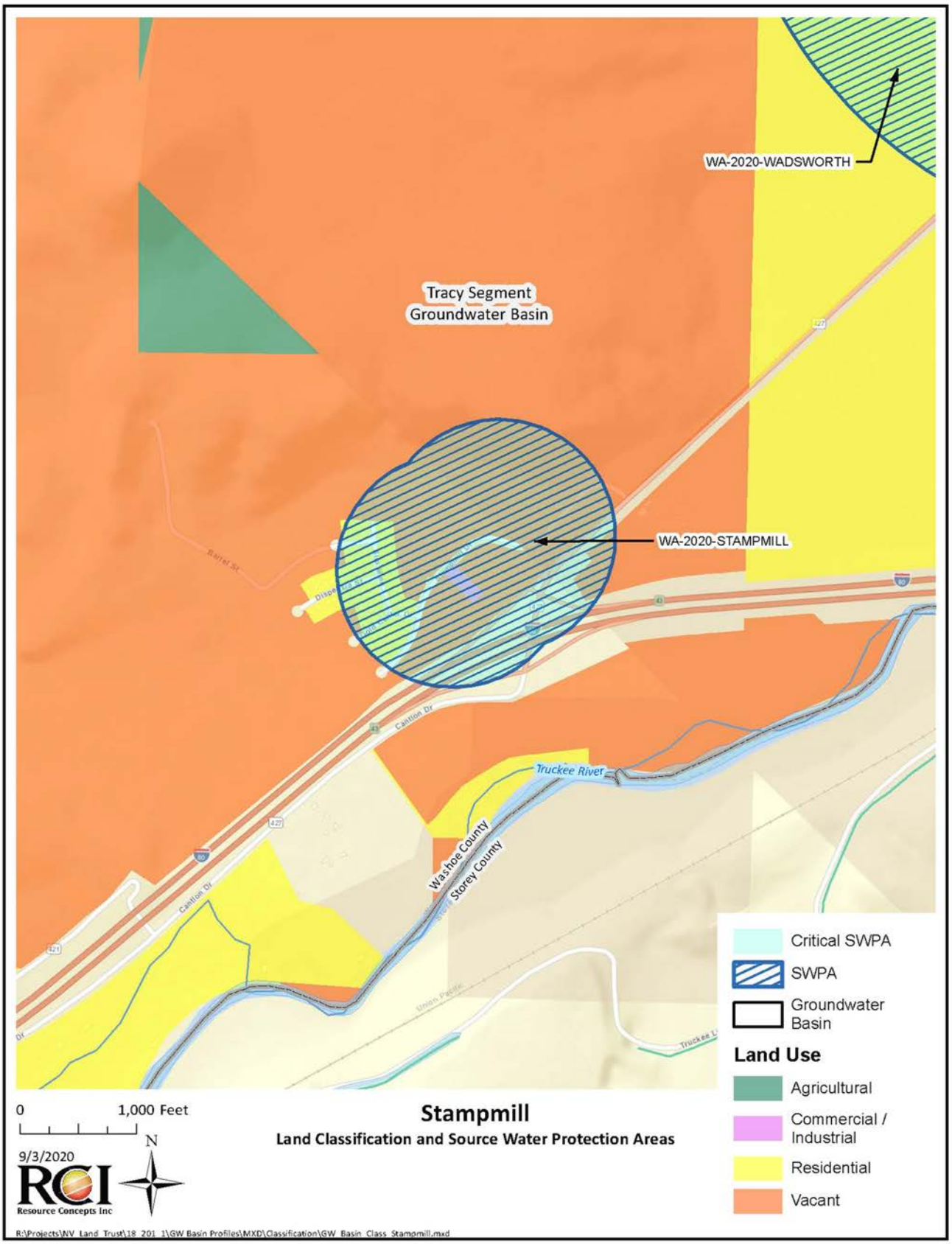
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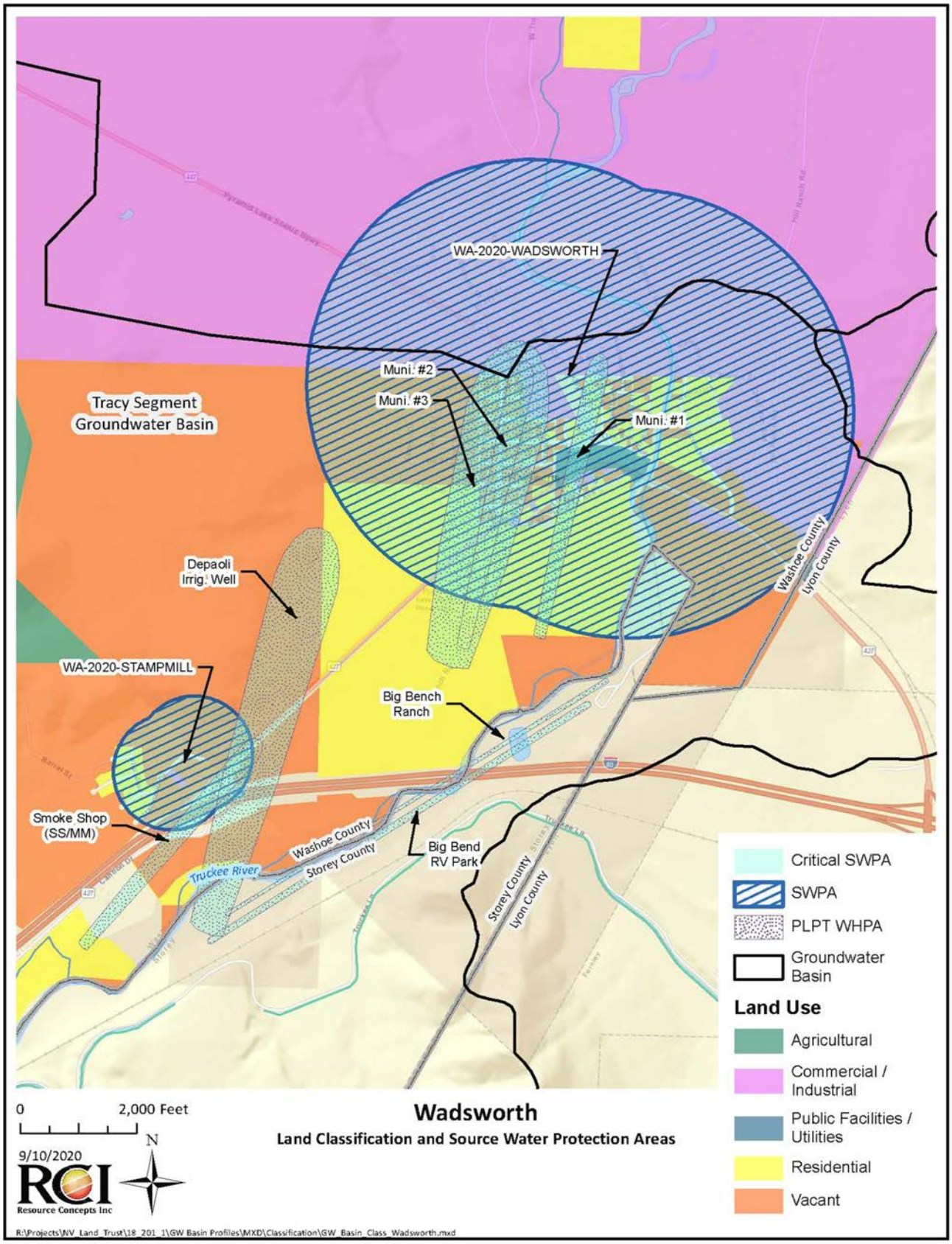


Wadsworth

Land Classification and Source Water Protection Areas

Water Quality Standards and Beneficial Uses

Water quality standards for surface water in the state of Nevada are established by Nevada Administrative Code (NAC) NAC 445A.11704 through NAC 445A.2234. The Tracy Segment is located within the "Truckee River Basin". Standards applicable to beneficial uses are generally described under NAC 445A.122. The Nevada Division of Environmental Protection (NDEP) Bureau of Water Quality Planning Nevada 2016-2018 Water Quality Integrated Report identifies the beneficial uses and the surface water quality standards for the Truckee River and Lagomarsino Creek within the Tracy Segment. Reaches of the river are impaired for "Aquatic Life" due to Temperature, and "Irrigation" due to Boron. In addition, the Truckee River is listed as not meeting the "Total Maximum Daily Load" from Lockwood to Wadsworth for the parameters Total Nitrogen and Total Phosphorus. All segments of the river fully support "Municipal and Domestic Supply" beneficial use. As the public water systems within the Tracy Segment are small and rely solely on groundwater, water quality protection for surface water is not further addressed in this planning effort.

Within the Pyramid Lake Paiute Tribe reservation Tribal communities evaluate drinking water quality with respect to compliance with EPA drinking water standards and other water quality criteria (Stetson Engineers, 2001). For groundwater, the State of Nevada's policy is to protect all groundwater against deterioration in quality in order to maintain supplies that are suitable for beneficial use.

Potential and Existing Water Quality Concerns

There are 13 wells used by eight small individual public water systems, regulated by NDEP, in the Tracy Segment groundwater basin. There are 7 existing or future water systems wells identified by the Pyramid Lake Paiute Tribe for well head protection (Stetson, 2011). These wells are highly valued because they are isolated water systems providing drinking water to the public in Washoe County and the tribal community in Wadsworth.

The primary potential and existing water quality concerns in this basin are listed below and described in the following paragraphs:

- Hazardous Materials from Spills or Leaks (industry/commercial, I-80 east)
- Pollution from Community Activities and Runoff
- Nitrate from Individual Sewage Disposal Systems

Hazardous Materials from Spills or Leaks

The SWPAs for wells associated with the Granite Construction, Truckee Canyon, and Reno Technology Park Water Company PWSs encompass lands that are currently zoned or planned for industrial uses. Industrial activities may result in accidental leaks and spills from the storage and use of chemicals. Similarly, leaking above and below ground fuel storage tanks or underground piping have routinely been found to cause groundwater contamination. The Truckee Canyon wells are in the immediate vicinity of several industrial facilities, including underground storage tanks. Wells for the Granite Construction or Reno Technology Park systems are more isolated, though surrounding land has potential for expanding industrial activity. All the SWPAs in the Tracy Segment reside along I-80 and the railroad. Hazardous materials or fuel from leaks and spills, if not properly cleaned in a timely manner, have the potential to contaminate groundwater.

Pollution from Community Activities and Runoff

Groundwater may be vulnerable to infiltration of polluted runoff from developed areas. Potential contaminants include:

- nutrients from fertilizers
- agricultural chemicals
- animal wastes
- pollution from household waste
- runoff from roads and parking lots

The SWPA formed around wells supplying the following water systems: the Natchez school, the Natchez gym, Conestoga Mobile Home Park, and Wadsworth Mobile Home Park, regulated by NDEP and the seven public water systems identified by the PLPT including three community wells, Big Bend Ranch House and RV Park, a mixed service smoke shop and irrigation well encompasses the community of Wadsworth. Some commercial/industrial activity has the potential for pollution of groundwater or runoff, for example: auto repair services, commercial storage of goods and vehicles, salvage yards, gas stations, schools, or the improper disposal of household wastes. Orphaned wells in agricultural and residential areas can also provide a direct conduit for pollution to reach groundwater.

There are agricultural activities surrounding the NDOT Wadsworth Rest Stop and Wadsworth SWPAs. In general, agriculture is likely to involve the use and storage of fertilizers and pesticides/herbicides that, depending on handling practices and irrigation, can contribute to groundwater quality issues.

Nitrates from Individual Sewage Disposal Systems

Individual Sewage Disposal Systems, or septic systems, are associated with nitrate contamination of groundwater if there are large numbers concentrated in a small area, for example, neighborhoods with lot sizes less than one-acre. The Stampmill and Big Bend Ranch House and RV Park in Wadsworth SWPAs both have residential areas with lot sizes less than one-acre served by septic systems. Susceptibility to contamination can depend on depth to groundwater, flow direction, well screen depth, and the soil types between the septic tank and the well screen.

Strategies to Protect and Improve Water Quality

The water quality concerns identified in this basin can be addressed through management strategies. Management strategies discussed in this section have been developed through a variety of efforts:

- County-wide source water protection efforts for public water systems
- The proposed projects detailed in the Project Profiles of the planning effort
- On-going water quality projects and programs described under Stakeholders and Plans.
- Well Head Protection Area Delineation and Drinking Water Source Evaluation for the Pyramid Lake Paiute Reservation.

Source Water Protection Area Identification and Management

A SWPA is a management area surrounding a surface water or groundwater resource that supplies water for public consumption. A Wellhead Protection Area (WHPA) is specific to the area surrounding a groundwater well. Activities in these buffer areas can affect the quality of water downstream or underground. These management strategies acknowledge the value of these management areas to prevent future contamination of sources of drinking water.

The buffers in this groundwater basin are based on the following groundwater time of travel methods : 20-year calculated fixed radius method for PWS wells regulated by NDEP, and 10-year WHPA Model evaluations for wells identified by existing 2001 Well Head Protection Plan. These areas are illustrated on the Jurisdiction and Source Water Protection Areas Figure. The following objectives are significant in both future and on-going SWPA management:

- Inform landowners in SWPAs about their proximity to a valuable drinking water source and how they can help protect their water quality.
- Encourage coordination between Public Water Systems, landowners, land managers, and local planners to consider the importance of SWPAs in project reviews.
- Explore collaborative funding for water quality improvements and support the resource investigations needed to develop viable projects.
- Prioritize physical improvements in SWPAs to protect and improve source water quality.

For additional information on the WHPAs on the Pyramid Lake Paiute Reservation refer to the Well Head Protection Area Delineation and Drinking Source Water Evaluation (Stetson Engineers, 2001).

Education and Outreach

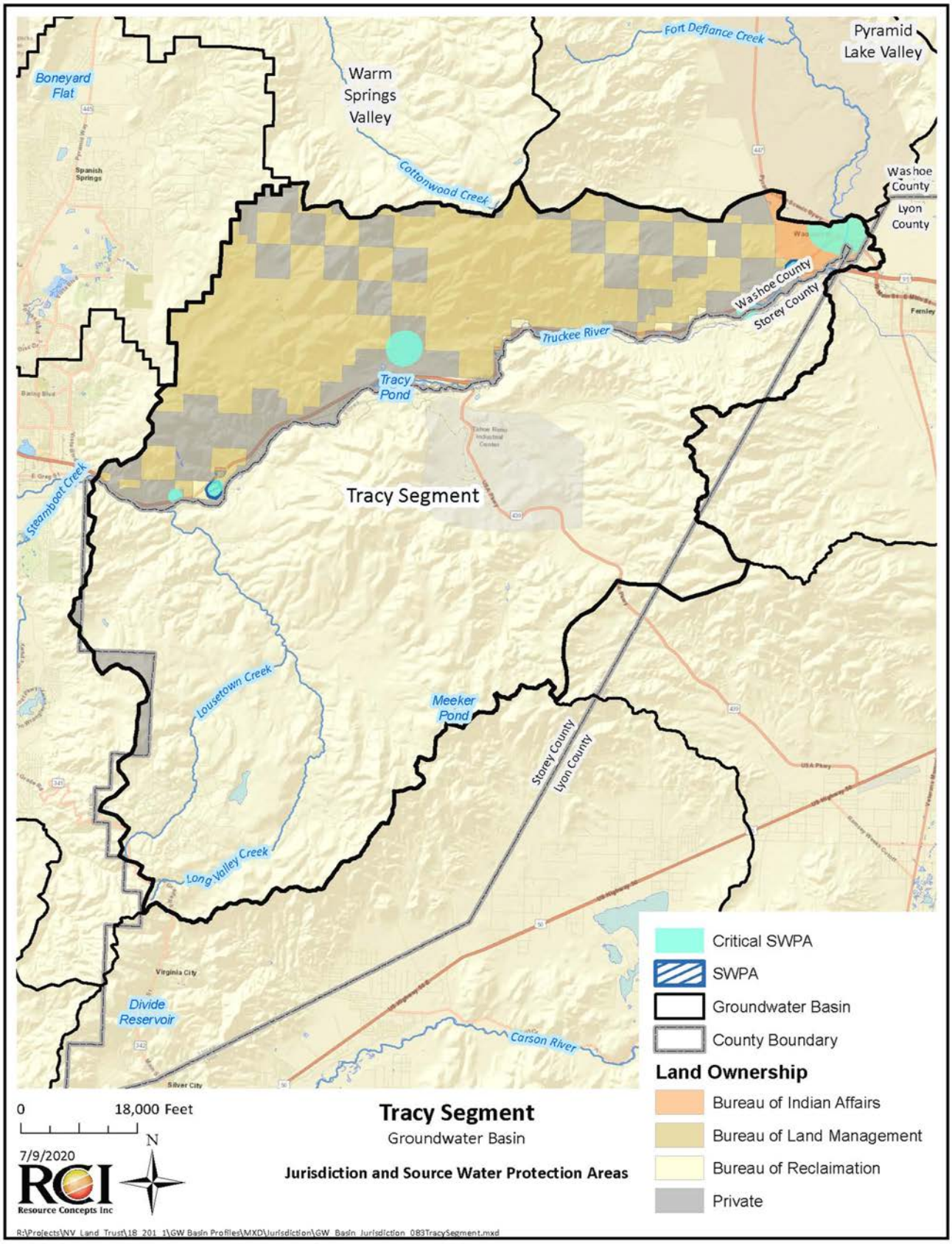
The following education and outreach objectives are intended to help effectuate positive actions to protect water quality:

- Increase knowledge of water quality protection and the pollution in stormwater runoff through local outreach efforts.
- Increase knowledge about household and commercial chemical use, storage, and disposal through local outreach efforts.
- Inform landowners and developers residing in critical SWPAs about the importance of avoiding contamination and their proximity to a valuable drinking water source. Display Well Head Protection Program (WHPP) information in public locations on the Reservation (Stetson Engineers, 2001).

Interagency Communication

The following interagency communication objectives are important tools to both reinvigorate and invest additional resources in water quality, as well as utilize existing resources and programs:

- Each agency may evaluate how to improve lines of communication within and between jurisdictions regarding water quality issues, i.e. Washoe County, TMWA, NDEP, Washoe County Health District, Pyramid Lake Paiute Tribe, BIA, BOR, and private landowners.
- Continue to increase coordination and communication regarding spills and corrective actions along I-80 and the railroad.
- Evaluate how to collaborate with Tribal council members and members of the Utility Board (Stetson Engineers, 2001).
- Utility personnel will ensure automotive fluids from auto salvage yards are contained (Stetson Engineers, 2001).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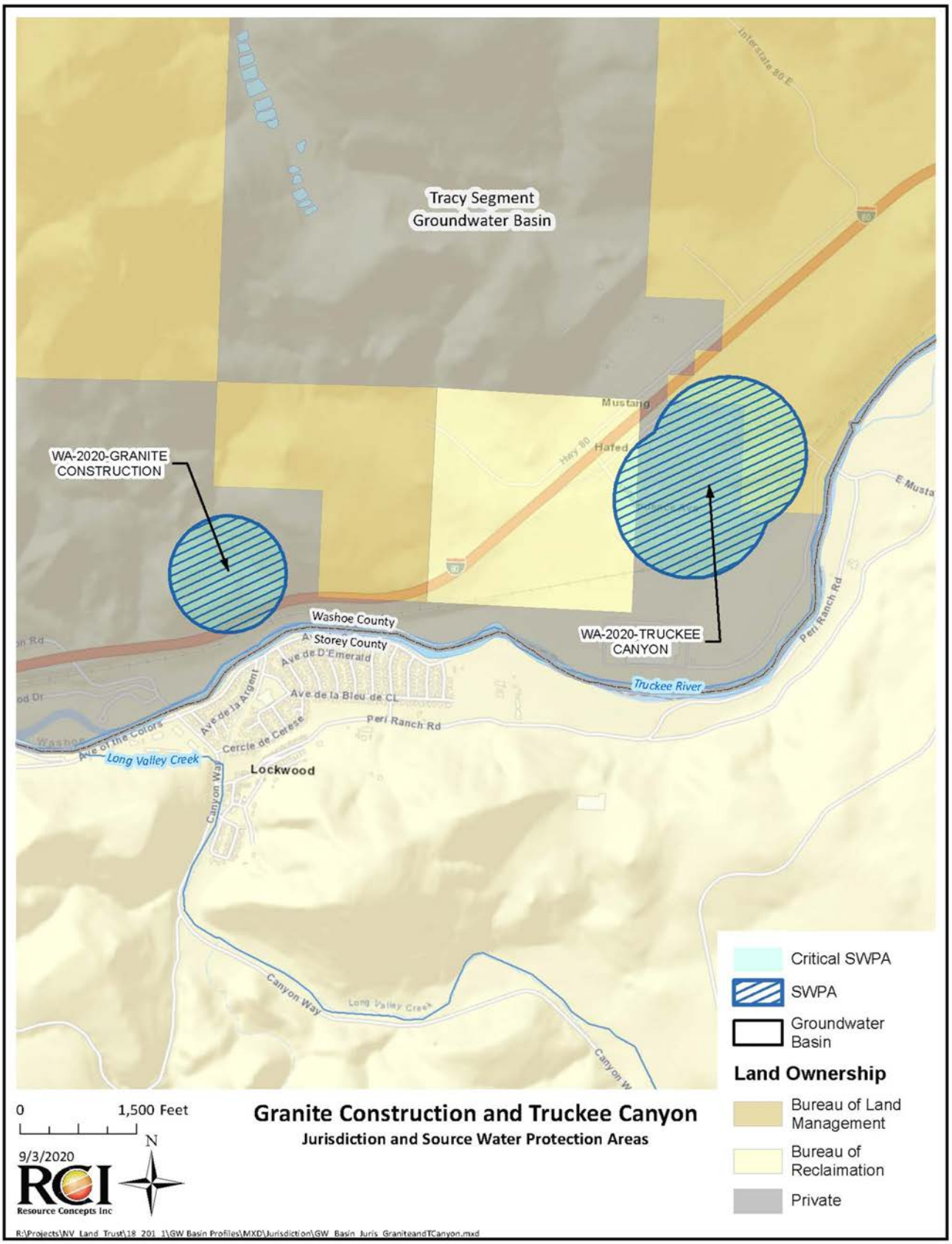
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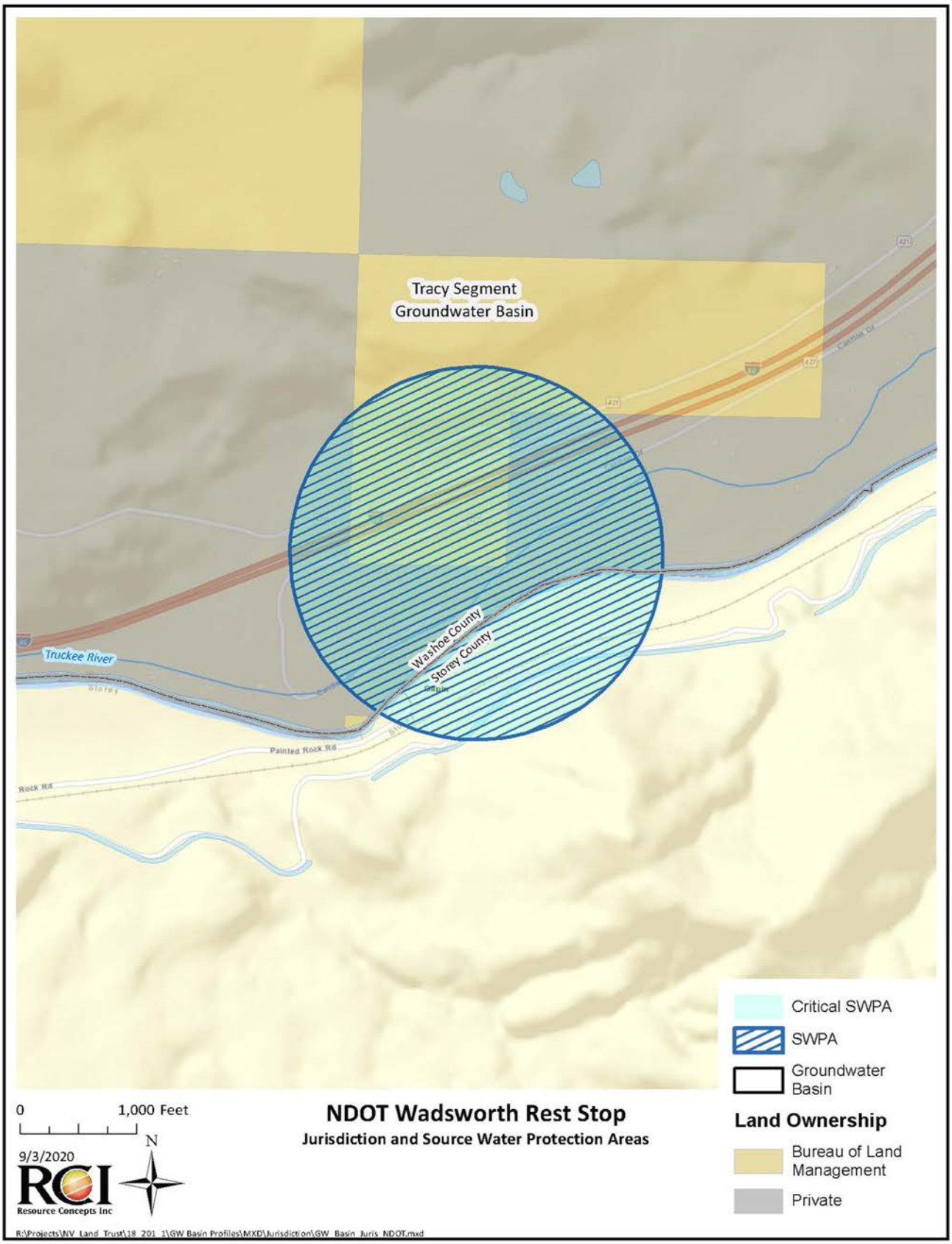
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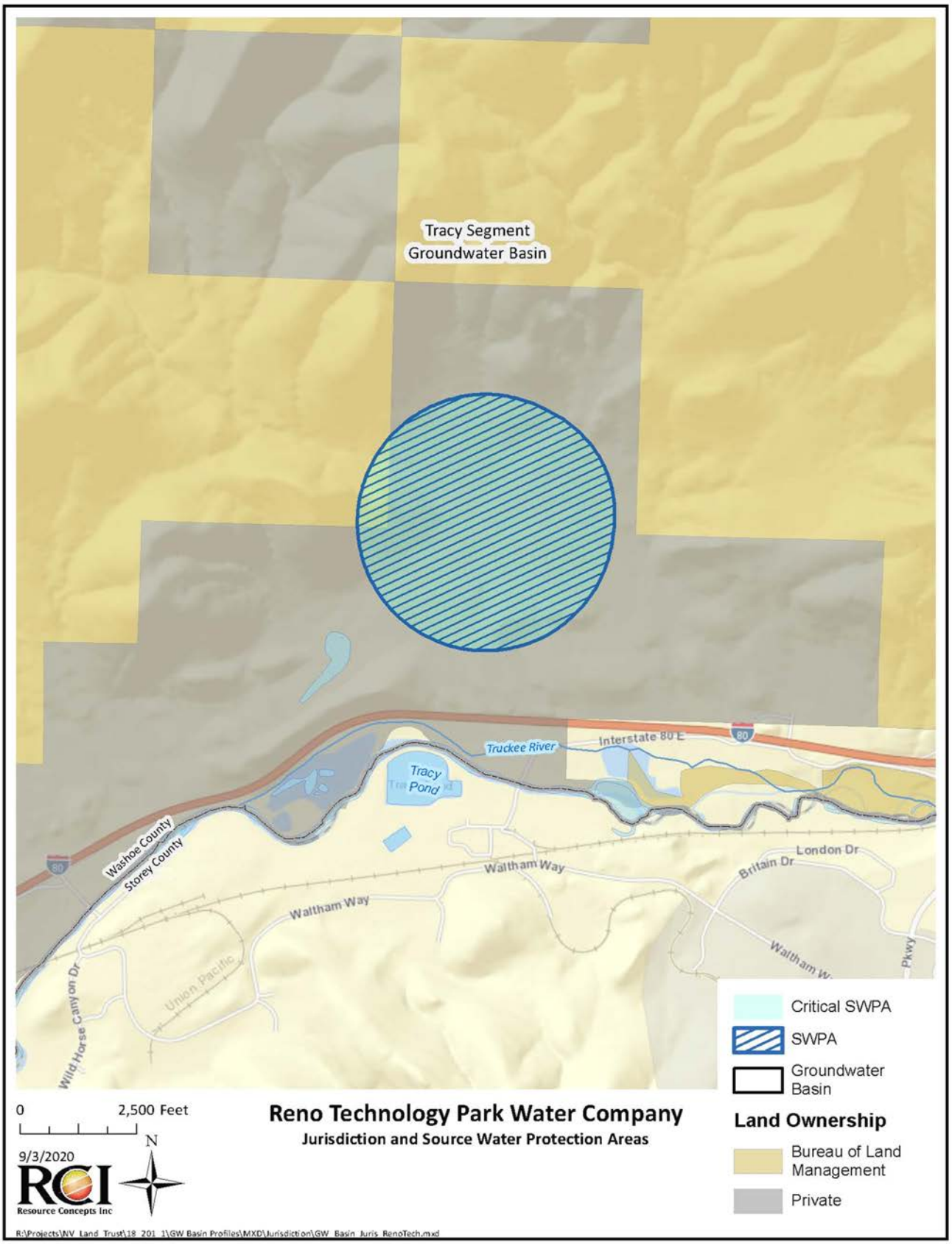
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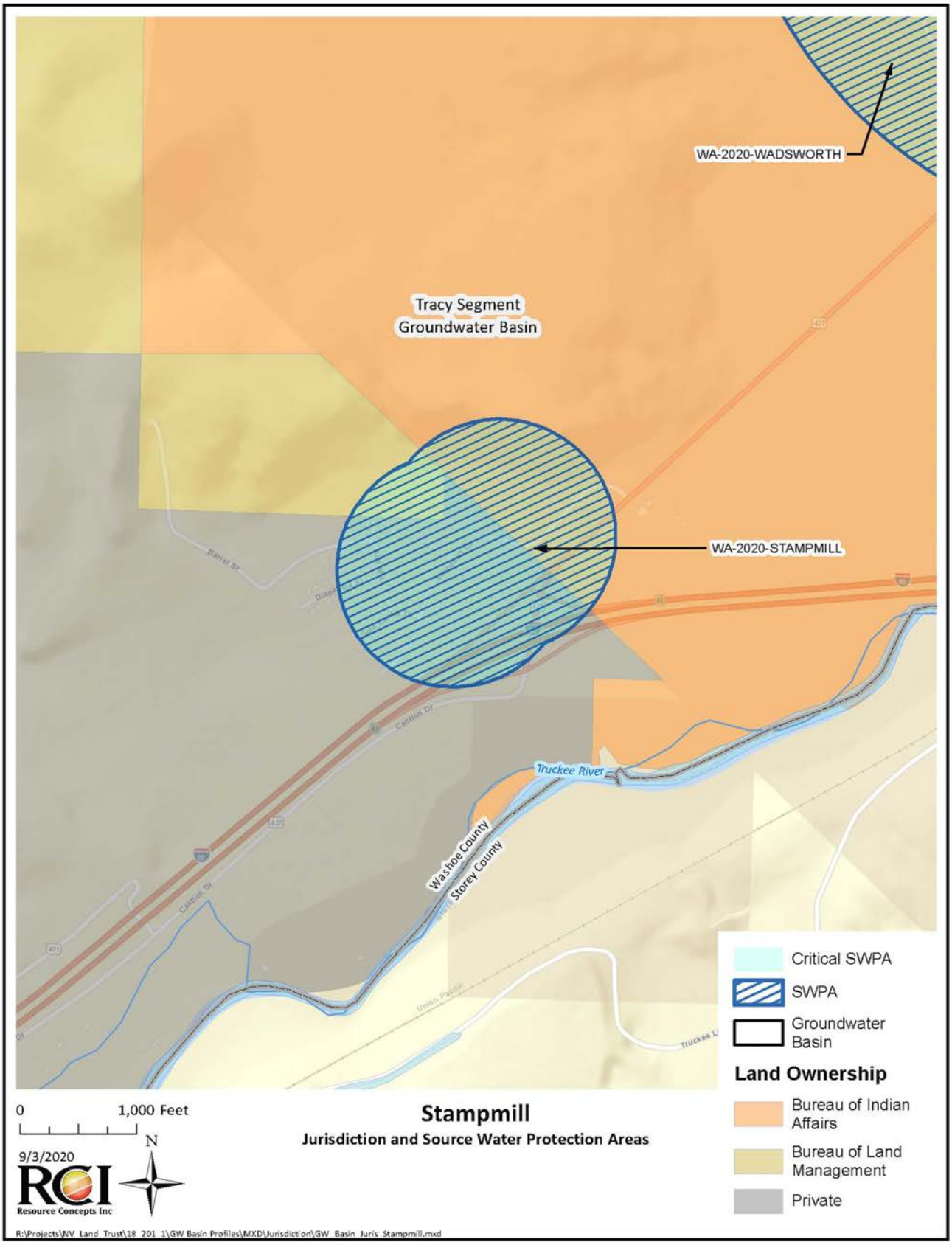
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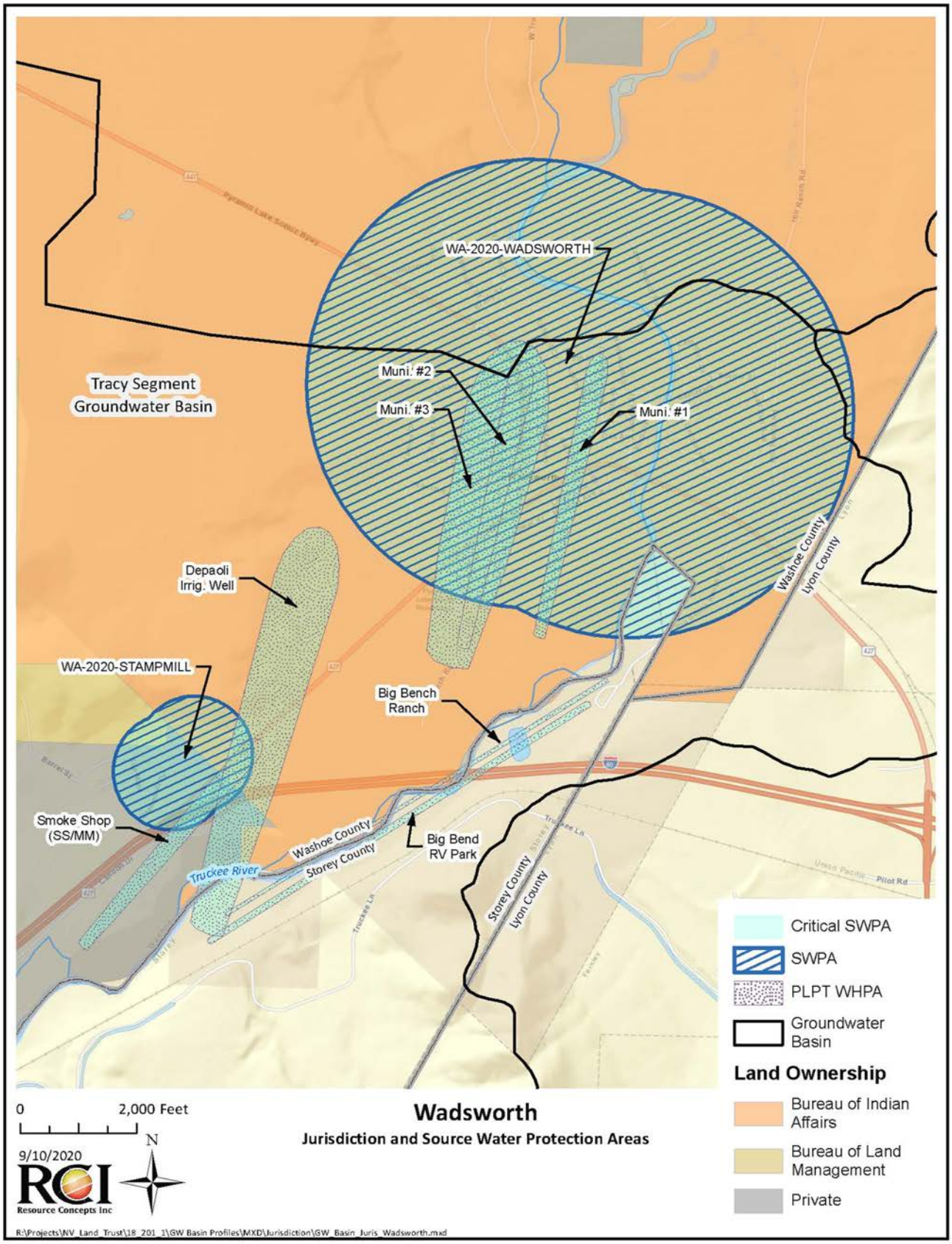
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Resource Investigation and Planning

Stakeholders may consider supporting the following resource investigations and planning, which can help fill data gaps, inform implementation designs, and prioritize projects:

- Research to identify non-point pollutant sources, pollution, and watershed management planning strategies for water quality improvement in the Truckee River between the Truckee Meadows and Pyramid Lake.
- Consider expanding groundwater quality monitoring.
- Research how to identify private wells that present a groundwater contamination risk and that might need to be repaired or abandoned.
- Explore and engage funding sources available for the eight public water systems to expand monitoring, implement improvements, and develop contingency plans.
- Inventory and register underground storage tanks that require testing and monitoring (Stetson Engineers, 2001).

Water Quality Best Management Practices

Stakeholders may consider supporting the following Water Quality Best Management Practices, or BMPs, that may improve and prevent degradation to water quality resources:

- Water quality improvement projects.
- Proper abandonment of wells.
- Physical improvements prioritized in SWPAs for water quality improvement and protection.
- Fertilizer and pesticide management plans for irrigated green spaces.

Proposed Implementation Projects

Proposed implementation actions are generally described under Strategies to Protect and Improve Water Quality. Specific implementation actions have been developed into proposed projects by local stakeholders and are described in Project Profiles. These Project Profiles include the information needed, as identified in the Environmental Protection Agency (EPA) guidance for nine critical elements for an endorsable watershed management plan or the Nevada Integrated Source Water Protection Program. Future projects could also be brought forward to funding agencies through:

- Demonstrating advancement of the strategies identified for this watershed in the Source Water and Watershed Protection Plan.
- Using the Project Profile format to establish consistency with the nine critical elements of an EPA endorsed plan.

As discussed in the following Stakeholders and Plans section, municipality and agency projects are also incorporated by reference.

Stakeholders and Plans

Stakeholder information and existing plans were used extensively in development of this Plan for Washoe County. These municipalities and agencies each have unique strategies and capital improvement plans that include water quality protection or improvement projects. These are updated regularly at differing timeframes (i.e. annually, every five years, etc.) according to their specific budgeting and planning processes. The applicable planning documents are briefly described and referenced in this section. Those projects pertaining to water quality protection and improvement are incorporated by reference.

Project Stakeholders	
• Bureau of Land Management • Nevada Division of Environmental Protection • Pyramid Lake Paiute Tribe • Truckee Meadows Water Authority	• Washoe County • Washoe County Health District • Western Regional Water Commission

Bureau of Land Management

The Nevada BLM has Resource Advisory Councils (RACs) which allow community members to be involved in natural resource planning and management issues on BLM managed public land. Washoe County is a part of the Sierra Front-Northwestern Great Basin RAC which is administered through the BLM-Carson City and Winnemucca District offices. BLM Resource Advisory Councils-Nevada

The BLM also has specific Resource Management Plans, or RMPs, that apply to this basin. These plans generally outline the way that the BLM currently manages and intends to manage the multiple resources on public land. Within this basin, the following plans and sections are applicable:

- Carson City Consolidated Resource Management Plan (2001):

  RIP-1: Riparian Management discusses how riparian areas on BLM land should be managed, monitored, and maintained. The desired outcome in this section is to protect and maintain existing and potential fisheries and riparian areas in good or better condition.

  SWA-1: Soils, Watershed and Air Quality describes specific techniques and goals for all watersheds within the planning area, such as reducing soil loss, flood damage, and sediment damage from human activities.

  WAT-1: Water Resources discusses management for good water quality on public lands, such as watershed management plans as an important administrative action.

- Carson City Fire Management Plan (2016):

  The Fire Management Plan (FMP) goal is to restore sagebrush ecosystems throughout the planning area. In doing so, the risk of wildfire and its negative effects should eventually decrease. Since wildfire is an issue in this basin, management to reduce its risk is a key planning component.

Nevada Division of Environmental Protection

The NDEP has a goal to preserve and enhance the environment of the State to protect public health, sustain healthy ecosystems, and contribute to a vibrant economy. Specifically, the Integrated Source Water Protection Program under the Safe Drinking Water Bureau works to help protect source water quality. This program offers technical assistance for source water protection projects. The program coordinates source water protection activities at the local, state, and federal levels, and encourages community-based protection and preventive management strategies to ensure all public drinking water resources are kept safe from future contamination. The 2010 Nevada Integrated Source Water Protection Program guidance document details the program components as well as the requirements for a State-endorsed Community Source Water Protection Plan.

Pyramid Lake Paiute Tribe

The Pyramid Lake Paiute Tribe is governed by 10 Tribal Council members who are elected bi-annually in December and on staggered two year terms. The tribe operates under the Indian Reorganization Act Constitution and By-Laws approved on January 26, 1936 by the Department of Interior. The Pyramid Lake Paiute Tribe has a Government to Government Relationship with the Federal Government. Therefore, the Tribe contracts with or receives grants directly from Federal Agencies or the State of Nevada, to provide services to the Tribal members and residents of the Reservation. The revenue generated by the Tribe is used to support local Tribal government activities and to supplement the programs that provide direct services to the Tribal members or residents. Pyramid Lake Paiute Tribe website

The Public Utilities District (PUD) which includes the Solid Waste Program and the Water & Sewer Program. The Pyramid Lake Public Utilities is dedicated to providing clean, safe drinking water for the communities of Sutcliffe, Nixon, and Wadsworth. Pyramid Lake Paiute Tribe PUD

Truckee Meadows Water Authority

TMWA is responsible for almost all municipal water delivery in the greater Reno-Sparks area. TMWA also owns and operates the municipal wells in this basin. The following program and plans guide the management of these water resources:

- TMWA Water Resources Plan (2016-2035):

  This plan describes water quality issues and goals for the water resources managed by TMWA. Special focus is placed on changes in future water supply and demand, and how those changes will impact the region's water resources.

- Source Water Quality Assurance Program (2016-2035):

  TMWA's objective is to deliver high-quality potable water to its customers in a cost-effective manner. To achieve this objective, TMWA has established a water quality assurance program. The components that make up the program are source water quality protection, potable water treatment, maintenance of distribution system water quality, and cross connection control.

- Wellhead Protection Plan (2016):

  The purpose of the Wellhead Protection Plan is to protect groundwater that serves as a source for public drinking water supplies. This plan is intended to be a tool used by TMWA to assist in protecting drinking water sources.

Washoe County Health District

The Washoe County Health District has regulatory authority over a wide variety of programs and services in the Truckee Meadows, including underground storage tanks, septic systems, all public water systems, domestic wells, water projects and community development, grading permits, solid waste management, and emergency preparedness. The Health District regulations are provided in several documents as listed below:

- Regulations of the Washoe County District Board of Health Governing Sewage, Wastewater and Sanitation. These regulations provide the minimum requirements to be followed by any person developing property served by an on-site sewage disposal system. These requirements are promulgated to prevent the spread of disease, protect the water quality of this County, and ensure the on-site sewage disposal systems function properly.
- Regulations of the Washoe County District Board of Health Governing Well Construction. These regulations provide minimum requirements to be followed by any person when drilling and plugging specific kinds of wells. A well construction permit is required to drill a well for consumptive use or monitoring wells. These requirements are primarily promulgated to protect the quantity and quality of the waters of this County from waste and contamination, and to provide public protection by enforcing proper construction and plugging of wells.
- Regulations of the Washoe County District Board of Health Governing Solid Waste Management. These regulations protect water quality through the regulation of municipal solid waste landfills.

Washoe County

Activities in Washoe County are reviewed according to the Master Plan Planning Areas. The County has Citizen Advisory Boards (CABs) which provide important community perspective on local issues to the Washoe County Board of Commissioners. The Tracy Segment area is wholly within the East Truckee Canyon CAB (CAB Boundaries).

The Washoe County Master Plan (2008) has Goals and Policies for Public Services and Facilities, and Open Space and Natural Resource Management. Applicable sections include:

- Article 418, Significant Hydrologic Resources, which regulates development activity within and adjacent to perennial streams to ensure that these resources are protected and enhanced. (Note: this does not apply to the Truckee River).
- Article 420, Storm Drainage Standards, which sets forth standards for ensuring that both private and public development provides adequate protection for citizens and property. Therefore, it minimizes and controls erosion and pollution impacts on the natural environment, and additionally minimizes maintenance costs for drainage and flood control systems.
- Article 421, the Storm Water Discharge Program, which protects and enhances the water quality of watercourses, water bodies, groundwater, and wetlands in a manner pursuant to and consistent with the Clean Water Act.
- Article 810, Special Use Permits, which provides a method of reviewing certain uses to determine if they have the potential to adversely affect public facilities in the vicinity.

Washoe County also provides comprehensive services for construction and maintenance roads, landscaping, and drainage facilities, county-wide planning and code compliance, and emergency response services for fire and hazardous materials. All of these roles contribute to preserving and improving water quality.

Western Regional Water Commission and the Northern Nevada Water Planning Commission

The Western Regional Water Commission (WRWC) focuses on improving water resource planning at the regional level and facilitating coordinated resource management among City of Reno, City of Sparks, Washoe County, TMWA, Truckee Meadows Water Reclamation Facility (TMWRF), South Truckee Meadows GID, and Sun Valley GID.

The Northern Nevada Water Planning Commission (NNWPC) is a technical advisory panel that reports to the WRWC. The NNWPC develops and updates a Comprehensive Regional Water Management Plan (RWMP) and makes recommendations to the WRWC for adoption. In addition, the NNWPC develops priorities and an annual budget for the Regional Water Management Fund, also for recommendations to the WRWC.

The Comprehensive Regional Water Management Plan includes several applicable objectives:

- Objective 1.2 Provide for a Sustainable Water Supply and an Acceptable Level of Service to the Community (including protecting groundwater recharge areas).
- Objective 1.3 Implement measures to protect and enhance water quality for a sustainable water supply (including source water protection).
- Objective 2.1 Promote Efficient Use of Resources (Reduction of Non-Point Source Pollution for TMWRF Pollutant Credit).
- Objective 2.2 Manage wastewater for protection and enhancement of water quality.
- Objective 3.1 Effective and integrated watershed management (protection of human health, property, and water quality, including storm water).

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