LAHONTAN BASIN
STORM WATER RESOURCE PLAN

FINAL
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CALIFORNIA
Water Boards
STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

HONEY LAKE VALLEY
RESOURCE
CONSERVATION
DISTRICT

LAHONTAN
SWRP
BASIN

DYER ENGINEERING CONSULTANTS

Lahontan Basin

Storm Water Resource Plan

Lassen County, California
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Abbreviations, Acronyms and Key Words

AB	Assembly Bill
Ac	Acre
ADWT	Advanced Water Treatment Grant
AF	Acre-Feet
AF/yr, AFY	Acre-feet/year
ArcGIS	Trade name for Geographic Information System
ASBS	Area of Special Biological Significance
AutoCAD	Trade name for Computer Aided Drafting
AWMC	Agricultural Water Management Council
Basin Plan	Water Quality Control Plan for Lahontan Basin
BMP	Best Management Practice
BMO	Best Management Objectives
Bulletin 160	California Water Plan
CA	California
CASGEM	California Statewide Groundwater Elevation Monitoring
CDFW	California Department of Fish and Wildlife
CDPH	California Department of Public Health
CEDEN	California Environmental Data Exchange Network
CEIC	California Energy Investment Center
CEQA	California Environmental Quality Act
CERES	California Environmental Resources Evaluation System
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
cfs	Cubic feet per second
Civil 3D	Trade name of enhanced civil engineering software for AutoCAD
Co.	Company
CPUC	California Public Utilities Commission
CRAM	California Rapid Assessment Methods
CRMP	Coordinated Resources Management and Planning
CSD	Community Services District
CSDWA	California Safe Drinking Water Act
CUWCC	California Urban Water Conservation Council
CWA	Clean Water Act
CWC	California Water Code

CWMP	Cooperative Watershed Management Program
CSWRCB	California State Water Resources Control Board
CWSRF	Clean Water State Revolving Fund
DAC	Disadvantaged Communities
DCP	Dust Control Plan
DDW	State Water Resources Control Board Department of Drinking Water
Dept.	Department
DMS	Data Management System
DO	Dissolved Oxygen
DOI	United States Department of Interior
DWR	California Department of Water Resources
E. coli	Escherichia coli
EDA	Economically Distressed Areas
EDU	Equivalent Dwelling Unit
EPA	United States Environmental Protection Agency
ESRI ArcGIS	Environmental Systems Research Institute the supplier of ArcGIS
FCD	Flood Control District
FEMA	Federal Emergency Management Agency
FM	Flood Management
GAMA	Groundwater Ambient Monitoring and Assessment
GHG	Greenhouse Gas
GIS	Geographic Information System
Guidelines	Storm Water Resource Plan Guidelines
HEC	Hydraulic Engineering Center
HLVRCD	Honey Lake Valley Resource Conservation District
HMS	Hydrologic Modeling System
IBank	California Infrastructure and Economic Development Bank
IPR	Indirect Potable Reuse
IRWM	Integrated Regional Water Management
IRWMP	Integrated Regional Water Management Plan
L	Liter
Lbs/year	Pounds per year
LID	Low Impact Development/Design
LRWQCB	Lahontan Regional Water Quality Control Board
M&I	Municipal & Industrial
MCL	Maximum Contaminant Level
MEP	Maximum Extent Practicable
mg/L	Milligram per Liter

ml	Milliliters
MGD, mgd	Millions of gallons per day
µg	Microgram
MOU	Memorandums of Understanding
MPN	Most Probable Number, typically per 100mL
MS4	Municipal Separate Storm Sewer System
MUSLE	Modified Universal Soil Loss Equation
NEPA	National Environmental Policy Act
NGO	Non-Government Organization
No.	Number
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NPS	Non-point sources
NRCS	Natural Resources Conservation Service
O&M	Operations & Maintenance
P2	Pollution Prevention
Plan	Lahontan Basin Storm Water Resource Plan
ppm	Parts per million
ppb	Parts per billion
PSA	Public Service Announcements
PSF	Project Submittal Form
PSP	Proposal Solicitation Package
PUD	Public Utility District
QA/QC	Quality Assurance/Quality Control
Q-GIS	Freeware version of GIS provided by governments
RAP	Region Acceptance Process
RAS	River Analysis Software
RCD	Honey Lake Valley Resource Conservation District
ROWD	Reports of Waste Discharge
RWQCB	Lahontan Regional Water Quality Control Board also LRWQCB
RWMG	Regional Water Management Group
SB	Senate Bill
SDWA	Safe Drinking Water Act
SDWSRF	Safe Drinking Water State Revolving Fund
SNMP	Salt and Nutrient Management Plan
SRA	Source Reduction Assistance
SRF	State Revolving Fund
SWAMP	Surface Water Ambient Monitoring Program

SWGP	Storm Water Grant Program
SWMM	Storm Water Management Model
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
SWRP	Storm Water Resource Plan
TAC	Technical Advisory Committee
TIA	Total Impervious Area
TMDL	Total Maximum Daily Load
TR-55	Technical Release 55 from Natural Resources Conservation Service
USACE	United States Army Corps of Engineers
USBR	United States Bureau of Reclamation
USDA	United States Department of Agriculture
USFS	United States Forest Service
USFWS	United States Fish & Wildlife Service
USGS	United States Geological Survey
VOC	Volatile Organic Compound
WaterSMART	Sustain and Manage America's Resources for Tomorrow by USBR
WDR	Waste Discharge Requirements
WQ	Water Quality
WRAMP	Wetland and Riparian Area Monitoring Plan
WS	Water Supply
WWTF	Wastewater Treatment Facility
WWTP	Wastewater Treatment Plant
§	Section of California Water Code

LAHONTAN BASIN
STORM WATER RESOURCES PLAN
EXECUTIVE SUMMARY

This Storm Water Resource Plan (SWRP) is an integral part of a regional water management approach to addressing stormwater concerns and exploring ways to utilize storm water as a resource for our communities. This executive summary is intended to give the reader an overview of the document and allow them to understand where various information is contained within the document.

1.0 Introduction

This SWRP discusses how identified stormwater management objectives will protect and improve water quality, water supply reliability, and how to potentially achieve objectives utilizing projects that have been proposed by local stakeholders.

An objective of this SWRP is to show the added benefits of integration of multiple projects with stormwater management strategies, into the IRWM plan for the Lahontan Basin watershed.

Recommended project-based solutions to the regional water resource management problems include the following:

- Reduce Negative Water Quality Impacts
- Increased Water Supply
- Efficient Water Use Practices
- Flood Management
- Groundwater Recharge and Management
- Community Benefits

2.0 Watershed Identification

The Lahontan Basin is defined by four major watersheds, which are comprised of several sub-watersheds. Figure ES.1 below shows the boundary of the major watersheds in the planning region which are:

- Honey-Eagle Watershed
- Smoke Creek Desert Watershed
- Madeline Plains Watershed
- Surprise Valley

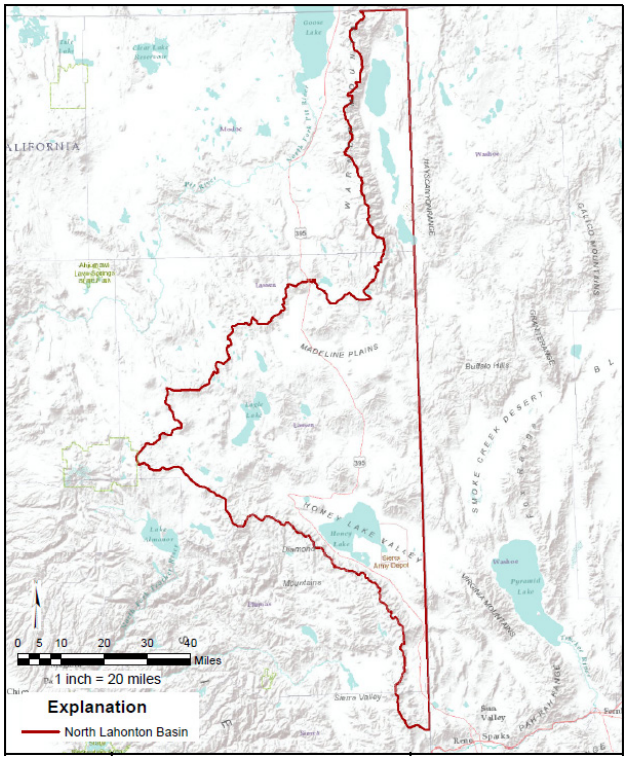


Figure ES.1 Lahontan Basin Major Watershed Boundary

The sub-watersheds in the regions are outlined in the following table ES.1. These watersheds are further discussed in section 2.0.

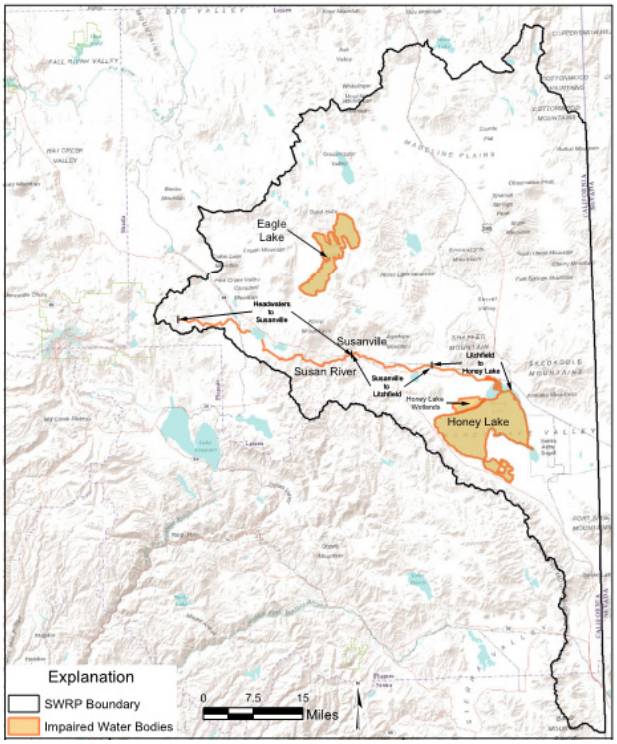
Table ES.1 Region Sub-basins

Lahontan Basin region Sub-Watersheds		
Watershed	**Sub-Watershed**	**Area (Sq. Km.)**
Honey-Eagle Lakes	Sub-Watersheds in state	7,261
	Upper Pine Creek	242
	Middle Pine Creek	255
	Lower Pine Creek-Eagle Lakes	597
	Upper Susan River	497
	Deep Creek-Secret Creek	962
	Horse Lake-Willow Creek	677
	Lower Susan River-Frontal Honey Lake	642
	Baxter Creek-Frontal Honey Lake	299
	Dry Valley Creek	242
	Upper Long Valley Creek	440*
	Lower Long Valley-Frontal Honey Lake	286*
	Skedaddle Creek	908*
	Honey Lake Valley-Frontal Honey Lake	371
	Honey Lake	225
Madeline Plains	Sub-Watersheds in state	2,181*
	Cold Spring Creek-Madeline Plains	839*
	Van Loan Creek-Madeline Plains	1,009
	Dry Valley-Grasshopper Valley	333
Smoke Creek Desert	Portion of Watershed in state	6,379*
	Smoke Creek-Frontal Smoke Creek Desert	981*
Surprise Valley	Surprise Valley	228,460 (acres)

*See Section 2.0

3.0 Compliance with Water Quality Standards

One of the top priorities of the Lahontan Basin SWRP is addressing water quality issues in the region's waterbodies as it relates to storm-water. The region has an existing Salt and Nutrient Plan outlining water quality issues stemming from salt and nutrient concentrations building due to the terminal nature of the basin. This SWRP's goal is to better determine Total Maximum Daily Loads (TMDL) of the additional pollutants that affect the region and develop solutions to reduce the pollutant build up. Figure ES.2 shows impaired water bodies in the region. Table ES.2 lists the known pollutants and the potential sources for the regions impaired waterbodies.



Note: There were no impaired water bodies in the Surprise Valley watershed.

Figure ES.2 Impaired Water Bodies Map

Water Body Name/Type/ Watershed No.	Pollutant
Honey Lake/Saline Lake/ 18080003	Arsenic
	Salinity/TDS*/ Chlorides
Eagle Lake/ Lake and Stream/18080003	Nitrogen
	Phosphorus
Honey Lake/ Wetlands/18080003	Metals
Honey Lake/ Wildfowl Management Ponds	Metals
	Salinity/TDS/ Chlorides
	Trace Elements
Susan River/Headwaters to Susanville/18080003	Mercury/TDS/ Total Nitrogen/ Total Nitrogen as N/ Unknown Toxicity
Susan River/Susanville to Litchfield/18080003	Mercury/TDS/ Turbidity/ Unknown Toxicity
Susan River/Litchfield to Honey Lake/18080003	Mercury/ Unknown Toxicity

*Total Dissolved Solids (TDS)

Table ES.2 Impaired Water Bodies List

4.0 Organization Coordination and Collaboration

The goals and objectives of the Lahontan Basin Storm Water Resources Plan (SWRP) were developed by the Technical Advisory Committee (TAC) with input from stakeholders and hired consultants. In addition to the regular coordination meetings of the TAC, the SWRP program provides web-based venues for local agencies and stakeholders to coordinate and identify opportunities for cooperative projects and new emerging resource needs. The Honey Lake Resource Conservation District created a webpage for local agencies and stakeholders to coordinate and identify opportunities for cooperative projects.

5.0 Quantitative Methods

The quantitative methods used in this SWRP are generated using various tools, major analytical tools include but are not limited to:

- Microsoft Excel Spreadsheets
- ESRI ArcGIS
- AutoCAD Civil 3D
- HEC-HMS
- HEC-RAS
- SWMM

These tools enable the SWRP to quantify the benefits of any proposed project with regard to Water Quality, Storm Water Capture, Water Supply and Flood Control, and Environmental and Community Benefit.

6.0 Identification and Prioritization of Projects

The Storm Water Resource Plan (SWRP) Guidelines require a list of prioritized projects to be included in the Plan. The projects must be ranked based on their ability to deliver Main and Additional Benefits to the region. Table ES-3 outlines the benefits that the projects are ranked against.

These benefits have been identified by the State of California. The more benefits contained by one project the more likely the project is to be funded.

Table ES.4 contains proposed projects and their respective rankings. These rankings will be used to prioritise funding and grant opportunities, as the higher ranked project is more likely to obtain funding.

Table ES.3
Storm Water Management Benefits

Benefit Category	Main Benefit	Additional Benefit
Water Quality Contributing to compliance with the applicable permit and/or TMDL requirements	Increased filtration and/or treatment of runoff	Non-point source pollution control
		Reestablished natural water drainage and treatment
Water Supply Through groundwater management and/or runoff capture and use	Water supply reliability	Water conservation
	Conjunctive use/Water reuse	
Flood Management	Decreased flood risk by reducing runoff rate and/or volume	Reduced sanitary sewer overflows
Environmental	Environmental and habitat protection and improvement, including; - wetland enhancement/creation; - riparian enhancement; and/or - instream flow improvement	Reduced energy use, greenhouse gas emissions, or provides a carbon sink
		Reestablishment of the natural hydrograph
Community	Increased urban green space	Water temperature improvements
	Employment opportunities provided	Community involvement
	Public education	Enhance and/or create recreational and public use areas

Table ES.4
Prioritized List of Projects

Rank	Type of Project	Project Sponsor	Project Name	Scoring		
				Benefits	Readiness	Total
1	Water Quality / Environmental / Community	Honey Lake Valley Resource Conservation District	Old Channel Improvement Project	42	4	46
2	Water Quality / Water Supply / Flood Management / Community	Lassen County	Janesville Park and Doyle Park Storm Water Project	40	5	45
3	Water Quality / Flood Management / Environmental / Community	Lassen County	Paiute Lane and Susanville Ranch Park Storm Water Project	35	4	39
4	Water Quality / Water Supply / Flood Management / Community	Lassen County	Lassen County Fairgrounds Storm Water Project	33	5	38
5	Water quality / Flood Management / Environmental	Lassen County	Susanville Road Shop Storm Water Project	28	5	33

7.0 Implementation Strategy and Schedule

Much of the Lahontan Basin consists of low-density development, rendering challenges when it comes to funding. Assuring sufficient funding will require regional participation and strategy. Potential sponsor sources can also be encouraged outside of the Lahontan Basin area. Securing funding for the projects proposed in the Lahontan Basin SWRP is best accomplished with a focused packaging strategy. In section 7.0 the SWRP discusses how the plan will be implemented with a focus on the funding sources.

The Storm Water Resource Plan (SWRP) project management is stakeholder driven and is non-regulatory based. Each Plan Project will build on the local stormwater management objectives. By their nature of the project origination, management will focus on watersheds with objectives and priorities that may enhance environmental criteria, provide flood protection and recreational opportunities, improve water quality, provide groundwater recharge and capture, and treat or reuse stormwater runoff.

8.0 Education Outreach and Public Participation

The purpose of the SWRP communication efforts is to ensure that the SWRP is developed based on input and involvement from a diverse group of informed local stakeholders from across the region, including, as much as possible, traditionally under-represented interests, such as Tribal interests and economically disadvantaged communities (DACs).

The Department of Water Resources (DWR) has developed a web-based application to assist local agencies and other interested parties in evaluating disadvantaged community (DAC) status throughout the State, using the definition provided by Proposition 84 IRWM Guidelines (2015). The overall communication strategy is to "cast a wide net" at the beginning of the planning process; see who wants to participate, constructively, in SWRP development as a SWRP stakeholder; work closely with those stakeholders and inform and seek input from the general public at key milestones. Background information, notice of public meetings, and information on Plan process and content will be posted on the Honey Lake Valley RCD website:

www.honeylakevalleyrcd.org/swrp/

Further Information:

This plan was sponsored by The Honey Lake Valley Resources Conservation District (HLVRCD) and was managed by Mr. Ian Sims. You can learn more about this project on the HLVRCD website, or by contacting the HLVRCD.

www.honeylakevalleyrcd.org/swrp/

The plan was produced by Dyer Engineering Consultants, Inc. in conjunction with the HLVRCD. Mr. Shane K. Dyer was the Consultant Project Manager. You can learn more about Dyer engineering at, or contact them regarding the plan via their website:

www.dyerengineering.com

LAHONTAN SWRP BASIN

1.0 Introduction

This Storm Water Resource Plan (SWRP) is an integral part of a regional water management approach to addressing storm water and dry weather runoff issues in the Honey Lake Valley and Lahontan Basin. Watershed and stormwater management in the Lahontan Basin requires partnerships between local governments, water agencies and authorities, environmental groups, and other regional stakeholders to develop projects to balance water quality, water supply, flood management, and protection of natural resources. The contents of this SWRP address the watershed priorities collectively with a focus on identifying and prioritizing multi-beneficial storm water projects.

Due to years of drought, the State of California Legislature adjusted the Water Code to encourage the use of stormwater as a resource instead of treating it as a nuisance. The State Water Resources Control Board (SWRCB) Proposition 1 Storm Water Grant Program (SWGP) is dedicated to the implementation and funding of the Lahontan Basin SWRP; however, the prioritization framework will apply to all storm water projects obtaining funding from any State Bond-financed grant program per Senate Bill (SB) 985. The project prioritization is based mostly on addressing water quality concerns, water supply, flood management, environmental impact, and community benefits.

1.1 Background

This SWRP sets a standard for compliance with the Water Code Section (§)10563 for the Lahontan Basin. This plan is consistent with provisions of the following standards and codes:

- California Environmental Quality Act (CEQA) (Public Resources Code Section 21000)
- Clean Water Act
- Safe Drinking Water Act
- California Water Control Board of the Lahontan Basin
- Regional Water Management (Water Code § 10562)
- Existing Integrated Regional Water Management Plan (IRWM)
- National Pollutant Discharge Elimination System (NPDES)
- Area of Special Biological Significance (ASBS)
- Conditional waivers issued by Lahontan Regional Water Quality Control Board
- Monitoring requirements for all applicable Municipal Separate Storm Sewer System (MS4) permits

The State of California's Proposition 1 SWGP authorized $7.545 billion of general obligation bonds for statewide water projects. The State Water Board administers $200 million worth of funds to five programs for multi-benefit stormwater management projects. The framework of this SWRP provides prioritization of stormwater projects in the Lahontan Basin seeking funding through a state bond program.

For the purposes of this plan, a watershed is defined as a region draining into a river, river system, or another bodies of water above a particular point. The Lahontan Basin area is a large conglomeration smaller watershed all draining east from the Sierra Nevada Mountain range. Four main watersheds comprise the region:

- Honey-Eagle Lakes Watershed
- Madeline Plains Watershed
- Smoke Creek Watershed
- Surprise Valley Watershed

Runoff in the Honey-Eagle lake's watershed terminates in the basin at Honey Lake. The Honey-Eagle Lakes watershed contains the majority of the population of the region, as well as the Susan River, which is the largest river in the system. Madeline Plans, Smoke Creek, and Surprise Valley watersheds are smaller, with less urban centers. All four of the major watersheds in the region have drainage area in both California and Nevada.

While this SWRP is aligned with the Lahontan Basin IRWM region, encompassing 4,000 square miles totaling 2.5 million acres, the major focus of the study analyzed the Susan River Watershed, home to the only incorporated city of the planning area. The City of Susanville and surrounding communities within the watershed encompasses 75% of the total population within the Lahontan Basin IRWM region. The analysis and research performed within the watershed identified projects that have the greatest potential of benefiting the maximum number of citizens with the least amount of project funding. The advantages of specifically targeting this region result from the high density of urban improvements that provide opportunity to address the storm water management benefits identified in this plan which include:

- Water Quality Benefits
- Water Supply Benefits
- Flood Management Benefits
- Environmental Benefits
- Community Benefits

The Lahontan Basin region is approximately 4,000 square miles and it includes most of Lassen County, portions of northern Sierra County, and Modoc County. Its large size contributes to the number of diverse environments, physical features, and land uses within the watershed. Section 2 identifies the watersheds and describes the region in detail.

Cultivated lands and irrigated rangelands are the dominant rural agricultural land uses in these areas but represent a small portion of the total watershed land use, which consists primarily of a forest, shrub, and natural grassland. General land use trends in the watershed include the significant development of rural and agricultural land. The land use trend is a shift in the types of crop grown in the watershed. The shift is generally from natural grasslands towards higher value, more water-intensive crops.

Stormwater management planning efforts were established based on considerations of regional land development, population projections, and other considerations.

1.2 Purpose and Need

Stormwater management on a watershed provides a combination of management objectives and multiple benefits throughout the watershed and sub-watersheds. This SWRP discusses how the various stormwater management objectives will protect and improve water quality, water supply reliability, and how to achieve other objectives where identified by the proposed projects. An objective of this SWRP is to show the added benefits of integration of multiple projects with stormwater management strategies, into the IRWM plan for the Lahontan Basin watershed.

This SWRP identified the needs and recommends project-based solutions to regional water resources management problems. The needs are as follows:

- Need for a reduction in negative water quality impacts
    - Need to reduce non-point source pollution
    - Erosion of canals
    - Flooding (flood irrigation and river flooding) of fertilizer and herbicide/pesticide-treated fields
- Increased water demand
    - Resulting from a shift to higher value, more water-intensive crops
    - During low-precipitation years, the reservoir system and flow of river water are inadequate for meeting irrigation demand
- Need to improve inefficient water use practices
    - Need better transmission efficiency
- Need for better flood management
    - Need better measurement infrastructure
    - Need better storage infrastructure
- Need for a reduction in negative impacts to sensitive ecosystems
- Need for better wastewater management
- Need for holistic, regional water management connected with land use planning
    - Need measurement infrastructure to inform planning and management decisions
- Need for better groundwater information and management
- Need for managed groundwater recharge

The purpose of the SWRP is to accomplish regional goals and objectives regarding stormwater capture and dry weather runoff through community involvement of a watershed-based approach. Stormwater management requires collaboration between local governments, utility agencies, and other stakeholder parties.

This plan provides insight into the regional watershed including natural processes and reoccurring issues to be managed. Solutions to these problems are addressed through project

proposals and execution. Project submittal forms included in Appendix A evaluate project impact and ranking for implementation. Recommended project-based solutions to the regional water resources management problems include the following:

Reduce Negative Water Quality Impacts – Non-point source pollution has a major impact on the area and represents an opportunity to improve water quality through pollution prevention and salinity management. Major sources of pollutants in the region come from canal erosion or flooding of agricultural fields fertilized by herbicides or pesticides.

Increased Water Supply - The Lahontan region is looking to increase water demand, particularly during low precipitation years, to provide adequate river flow and reservoir elevations. Higher water levels will assist in providing for the increasing irrigation demands.

Efficient Water Use Practices – Conveyance systems and pipelines can improve the efficiency of water use practices. Installations and modifications to improved infrastructure, such as valves, metering, pipe grade and pumps will improve transmission efficiencies.

Flood Management – The primary objective of Flood Management is to reduce the potential for loss of life and property damage. Flood control can be better managed through infrastructure improvements and the installation of measurement devices at key locations along the river. Enhanced infrastructure will account for an increase of usable water supply. Accurate flow sensors and devices will provide reliable flood warnings allowing water masters to transition locations of storage and use, resulting in fewer water losses. Flood Management will benefit both the general public and the irrigators.

Groundwater Recharge and Management – The protection and improvement of groundwater quality through additional monitoring and minimization of long-term drawdown.

Further suggestions for project-based solutions include wastewater management developments, improved coordination between land use planning and regional water management, and reductions in adverse impacts to ecosystems.

1.3 Goals and Objectives

Implementing this SWRP will improve the flexibility and efficiency of the regional water supply system, reduce negative impacts to water quality and sensitive ecosystems, and mitigate regional flood risk by improving existing water management infrastructure.

The goals of the plan include:

- Reduce negative impacts to water quality by:
    - Improving storage to reduce flooding of pollutant-laden fields, roads, and non-point sources
    - Reducing erosion in earthen transmission channels
- Increase water availability and the flexibility and efficiency of the water supply system by:
    - Improving storage and measurement capability

    - Improving transmission efficiency
    - Better managing groundwater recharge
- Mitigate flood risk by improving storage and measurement capability
- Reduce negative impacts on sensitive ecosystems by:
    - Better managing groundwater recharge
    - Increasing available water through better transmission efficiency
    - Increasing available water through better reservoir and watershed management
    - Improving water quality

Objectives for achieving the plan goals include:

- Increase the quality of information used for regional water resources decisions by improving measurement capabilities in storage and transmission structures
- Increase the storage capacity of the regional water management system by improving and repairing existing storage structures and by better managing regional groundwater recharge
- Improve canal transmission efficiency

2.0 Watershed Identification

2.1 Delineation

Lahontan Basin watershed management agencies include members of the Integrated Lahontan Regional Water Management Group (RWMG) that developed and are implementing the Integrated Regional Water Management Plan (IRWMP) and the Storm Water Resources Plan (SWRP). Stakeholders and interested entities in the IRWMG are listed below, in Table 2.3 of this section.

The watersheds within the region were generally identified and delineated through the United States Geologic Survey (USGS). Watershed delineations are used to map, analyze, and document water resources and water quality information and regulations. The water quality priorities within the delineated watershed are based on, at a minimum, applicable Total Maximum Daily Loads (TMDL's) and consideration of water body-pollutant combinations listed in the State's Clean Water Act (CWA) Section 303(d) (i.e., impaired waters list). Water quality priorities within a delineated watershed must be consistent with TMDL's, National Pollution Discharge Elimination System (NPDES) permits, and Integrated Regional Water Management (IRWM) plans purposed within the area.

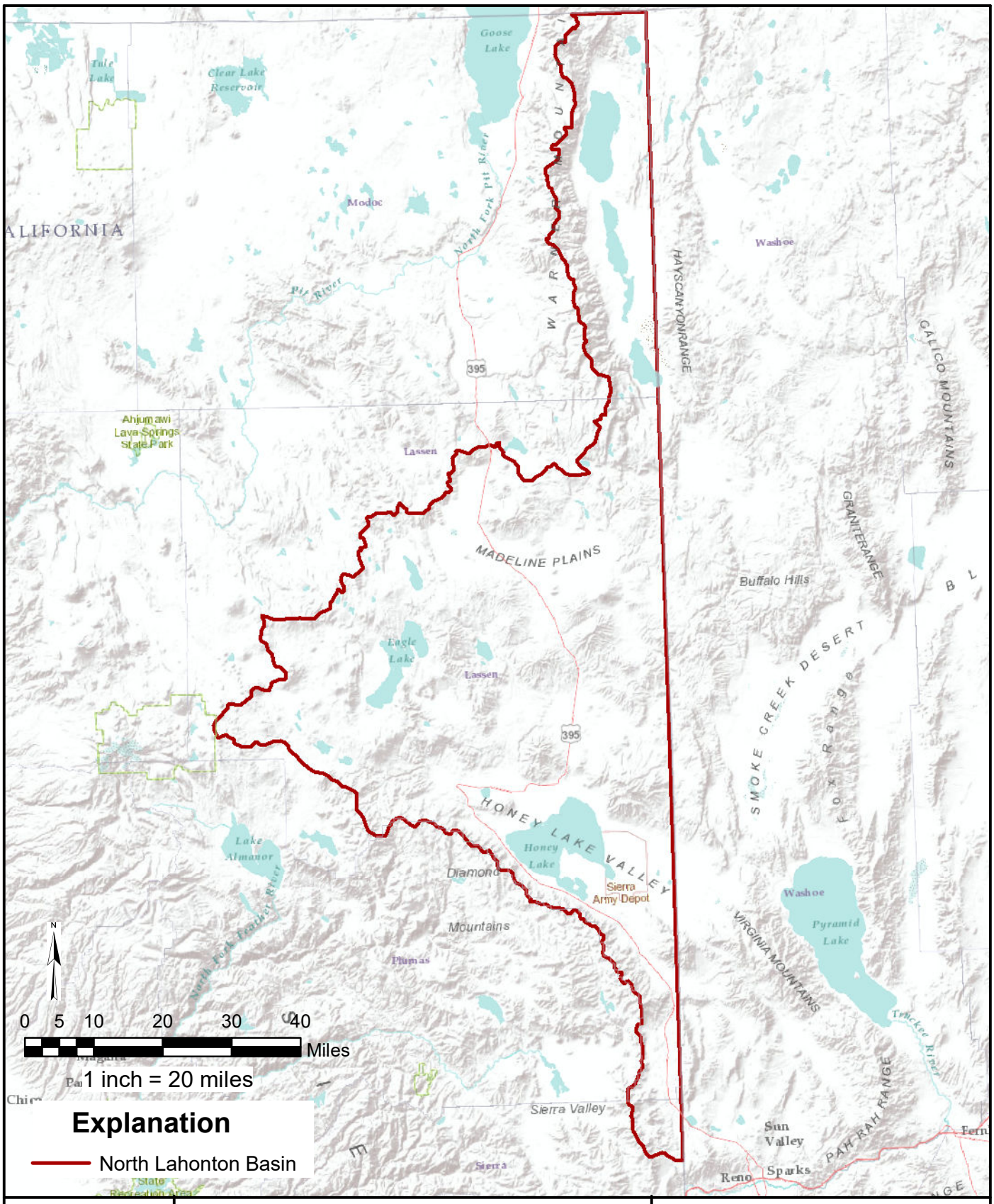
While this SWRP is for the Lahontan Basin region, the major focus of this study is on more densely populated areas within the region, which are generally found in the Susan River Basin. This is mainly due to budgetary constraints and the cost-benefit of working in areas where stormwater impacts are the greatest due to urban development.

2.2 Watershed Boundaries

The Lahontan Basin regional border, as defined by the four major watersheds, was approved in 2011 by the California Department of Water Resources (DWR) through the Region Acceptance Process (RAP). The Lahontan Basin regional boundary is shown in Figure 2.0. The boundaries have been discussed throughout the prior community and board meetings including Susanville City Council, Honey-Eagle Lakes (Susan River) Watershed, Lassen County Board of Supervisors, and Pine Creek Coordinated Resources Management and Planning (CRMP). These conferences were held in relation to the existing IRWMP. The entire boundary falls within the area of Lahontan Regional Water Board and mostly within Lassen County. There are some jurisdictional distinctions, but the primary basis for the regional boundary derives from a geographically workable area and watersheds with common communities, similar resources, and cultures. Through community collaboration and additional input from the Lahontan Regional Water Quality Control Board (LRWQCB) and DWR, a consensus was made for the area's boundary selection. The SWRP delineated regional boundaries shown in Figure 2.1 closely match the resolution formed through the meetings in relation to IRWMP.

The watersheds and sub-watersheds described herein are used for regulatory compliance and water planning efforts in Lassen County and are appropriate for stormwater management with a multi-benefit approach. These watersheds are used and referenced in all relevant activities and

documentation in this Lahontan Basin SWRP. Table 2.1 shows the region watersheds with the associated areas (EPA Watersheds, 2018).



Job No. HLV-SWRP-17 Date 5/31/2018 Figure No. 2-0	North Lahonton Basin Watershed Boundary	DYER ENGINEERING CONSULTANTS 9160 Double Diamond Pkwy. Ste. A Reno, Nevada 89521 Phone: 1-775-852-1440

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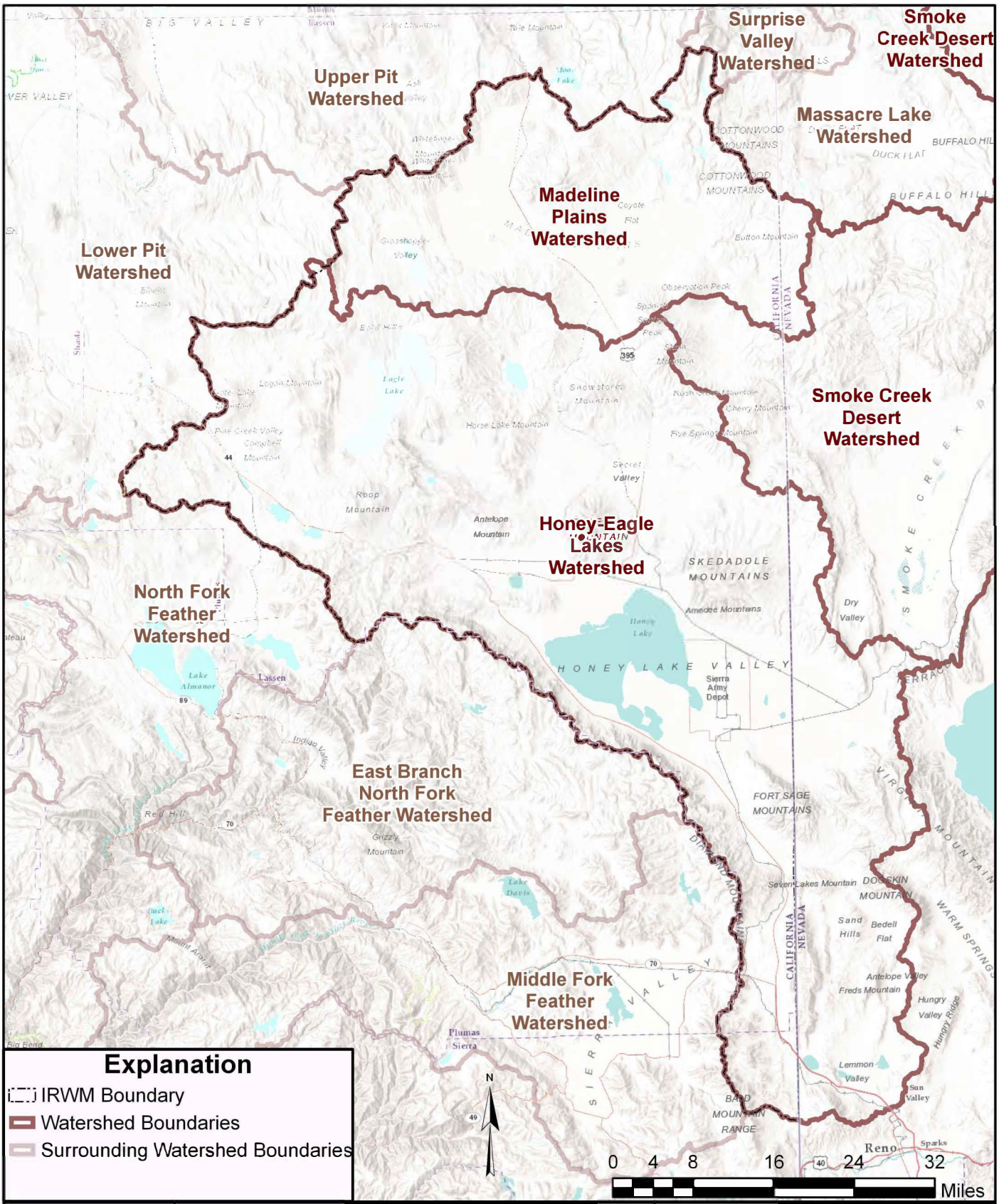

Job No. HLV-SWRP17 Date 2/5/2018 Figure No. 2-1	Honey Lake Valley RCD Lahontan Basin Watershed Identification	DYER ENGINEERING CONSULTANTS 9160 Double Diamond Pkwy. Ste. A Reno, Nevada 89521 Phone: 1-775-852-1440

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Table 2.1

Lahontan Basin Watersheds		
Watershed Level	Square miles (average)	Acres (average)
Honey-Eagle Lakes (Susan River)	2,175 (within county)	1,392,000
Madeline Plains	800 (within county)	512,000
Smoke Creek	190 (within county)	121,600
Surprise Valley	357	228,460
Total: Lahontan Basin Region	4,000	2,254,600

Lahontan Basin region stormwater project sponsors and local stakeholders in the Lahontan Basin region have projects within the watersheds, and various hydrology and water quality studies have been initiated or performed within the watersheds. The focus of the studies and projects were in the more populated areas for optimization of cost-benefit. These analyses have resulted in a prioritization of water quality concerns and associated strategies to address these concerns using a multi-benefit approach to improve water quality, reduce runoff, and promote infiltration (including groundwater recharge, where possible) habitat restoration, and community benefits. The Lahontan Basin SWRP watershed identification, as outlined in Figure 2.1, consists of three major watersheds: The Honey-Eagle Lakes Watershed which includes the Susan River drainage basin, the Smoke Creek Watershed, and the Madeline Plains Watershed. The Lahontan Basin SWRP region stretches from Lassen to Sierra County and covers approximately 2,254,600 acres (4,000 square miles).

The watershed boundaries are well-defined hydrologic basins. None of the runoff from adjacent watersheds, outside of these three identified basins, drains to or through any of the major watershed described herein.

Most of the population within the county reside within the three southern Lahontan Basin watersheds described. Portions of each of these basins also extend into the State of Nevada.

The Honey-Eagle Lakes Watershed's eastern limits lie directly east of Lassen National Park. The Susan River is the primary water stream within the watershed. It begins in this eastern region of the watershed and flows 40 miles southeast, draining into Honey Lake. The Susan River Valley is the primary drainage basin in the Honey-Eagle Lakes Watershed. There are five major tributaries associated with the Susan River sub-basin; Piute Creek, Gold Run Creek, Lassen Creek, Willow Creek, and Willard Creek. Willow Creek has four minor tributaries, Pete's Creek (known as Pine Creek above Horse Lake), Deep Creek, Secret Creek, and Snowstorm Creek, each consisting of a sub-basin within the Honey-Eagle Lakes Watershed. Two additional sub-basins are located south of Honey Lake; Baxter Creek and Long Valley Creek. The Honey-Eagle Lakes Watershed is the largest watershed in the region covering over 2,175 square miles.

The Madeline Plains Watershed is an arid flat region located in the northernmost sector of the Lahontan Basin region. There is one primary tributary to the watershed, Cold Springs Creek. Cold

Springs Creek has three tributaries; Red Rock Creek, Buckhorn Creek, and Painter Creek. There are two additional small tributaries; RF1 Ranch Drainage and Long Canyon Creek.

Madeline Plains receive irrigation water from the Sacramento Hydraulic Region. Shasta Valley exports 3,000 acre-feet (AF) from the South Fork Pit River drainage, Sacramento Basin, for irrigation to Madeline Plains. The Madeline Plains Watershed covers 800 square miles in Lassen County (DWR, 1994).

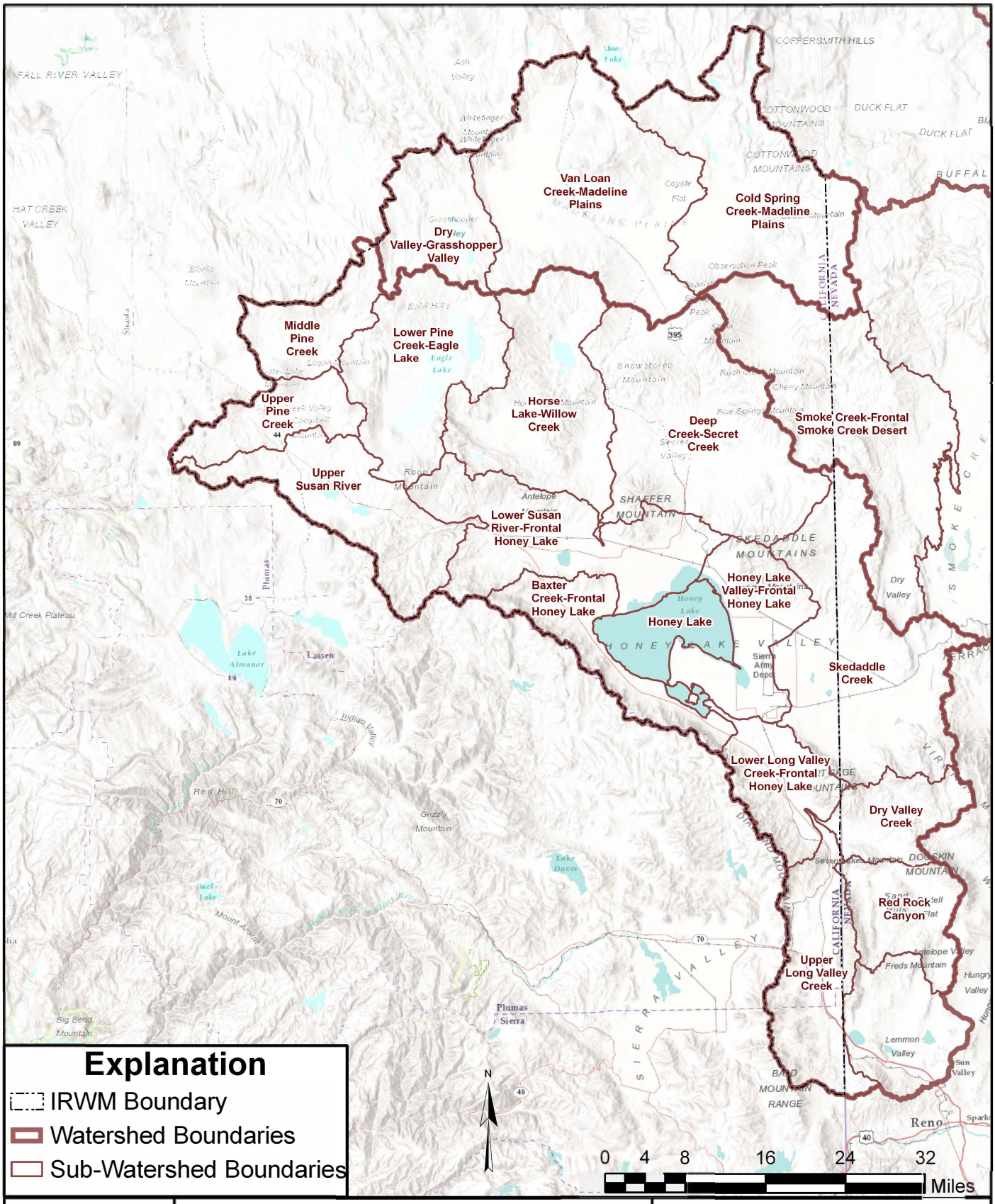
The Smoke Creek Watershed lies between Madeline Plains and The Honey-Eagle Lakes Watersheds. It is composed of a single drainage basin, Smoke Creek, in the Lahontan Basin. The Watershed is located approximately 60 miles north of Pyramid Lake and southwest of the Black Rock Desert. Excluding the section that extends into the northern parts of Nevada, the Smoke Creek Watershed stretches approximately 190 square miles within the Lassen County. The Smoke Creek Watershed drains to Nevada.

Figure 2.2 in conjunction with Table 2.2 details the region sub-watersheds.

Table 2.2

Lahontan Basin SWRP Region Sub-Watersheds			
Watershed	**Sub-Watershed**	**ID (HUC10)**	**Area (Sq. Km.)**
Honey-Eagle Lakes	Sub-Watersheds in state	18080003	7,261
	Upper Pine Creek	1808000301	242
	Middle Pine Creek	1808000302	255
	Lower Pine Creek-Eagle Lakes	1808000303	597
	Upper Susan River	1808000304	497
	Deep Creek-Secret Creek	1808000305	962
	Horse Lake-Willow Creek	1808000306	677
	Lower Susan River-Frontal Honey Lake	1808000307	642
	Baxter Creek-Frontal Honey Lake	1808000308	299
	Dry Valley Creek	1808000311	242
	Upper Long Valley Creek	1808000312	440*
	Lower Long Valley-Frontal Honey Lake	1808000313	286*
	Skedaddle Creek	1808000314	908*
	Honey Lake Valley-Frontal Honey Lake	1808000315	371
	Honey Lake	1808000316	225
Madeline Plains	Sub-Watersheds in state	18080002	2,181*
	Cold Spring Creek-Madeline Plains	1808000201	839*
	Van Loan Creek-Madeline Plains	1808000202	1,009
	Dry Valley-Grasshopper Valley	1808000203	333
Smoke Creek Desert	Portion of Watershed in state	16040203	6,379*
	Smoke Creek-Frontal Smoke Creek Desert	1604020309	981*

*Refers to the area of a watershed in California. Area partially in Nevada is not shown.



Job No. HLV-SWRP17 Date 2/5/2018 Figure No. 2-2	Honey Lake Valley RCD Lahontan Basin Sub-Watershed Identification	DYER ENGINEERING CONSULTANTS 9160 Double Diamond Pkwy. Ste. A Reno, Nevada 89521 Phone: 1-775-852-1440

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The large extents of the Lahontan Basin region convey diverse environments, physical features, and land use applications within the watershed. Agriculture and grazing are the predominant land uses, yet they cover only a small percentage of the overall area. The region mostly consists of deciduous forest and shrubs.

The Lahontan Basin region is home to over 35,000 residents. The City of Susanville is the only major incorporated city within the region's boundaries. The City is located approximately 17 miles northwest of Honey Lake and stretches over approximately 6 square miles. Smaller communities within the region include Johnstonville, Standish, Herlong, Wendel, Spalding, Milford, Doyle, Ravendale, Madeline, Cedarville, Alturas and Janesville.

Stakeholders and interested entities in the watersheds' management are found within the regions' boundaries. Some of the major stakeholders involved in the plan are listed in Table 2.3 along with their corresponding directions of authority.

Table 2.3

Regional Major Stakeholders	
Agency	**Nature and Description of Statutory Authority**
Honey Lake Valley Resource Conservation District (RCD)	Operates as the court-appointed Watermaster for the Susan River and Baxter Creek Decrees. California Water Code authorizes the appointment of a local agency to act as Watermaster to assure equitable distribution of water to right holder as described by decree.
Lassen County Irrigation Company	Under authority granted by the California Water Code and Susan River Decree, the private water company regulates flow and distribution of irrigation water in Susan River and the McCoy, Hog Flat, and Leavitt Lake Reservoir system.
City of Susanville	Operates under the California Water Code to adopt and implement an Urban Water Management Plan. By ordinance requires permits and inspections of wells, street and storm drain maintenance and installation, flood control and prevention. Operates the municipal water system for the city of Susanville and surrounding area by maintaining water supply and distribution facilities.
Susanville Indian Rancheria	By Ordinance requires permit and inspection for well and sewage treatment, road and drainage maintenance, exportation of groundwater, flood control and prevention, and numerous other authorities.
Lassen County	Operates under the California Water Code to adopt and implement a Groundwater Management Plan. By Ordinance requires permit and inspection for well and sewage treatment, road and drainage maintenance, exportation of groundwater, flood control and prevention, and numerous other authorities.

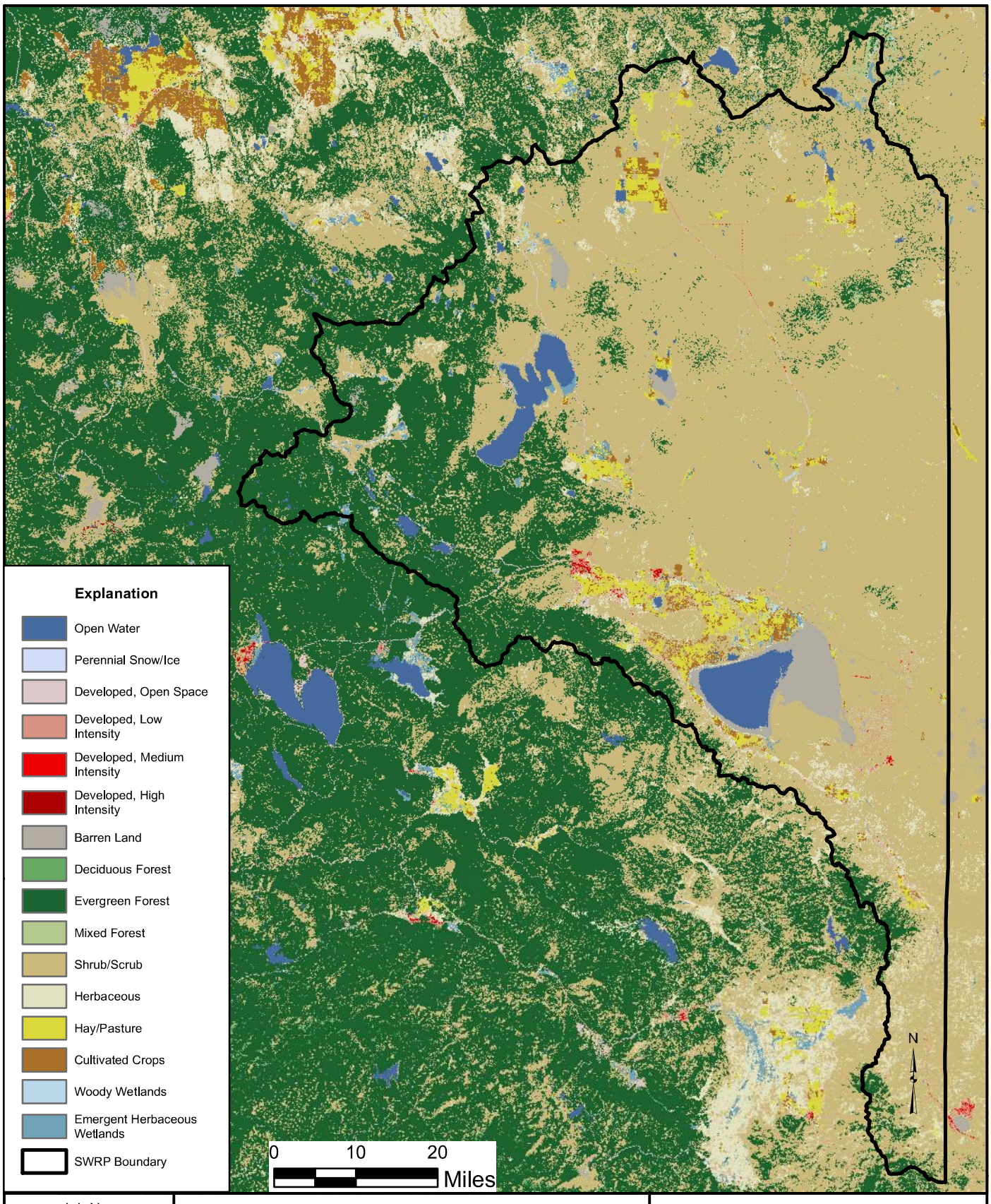
Other associated agencies including water service districts relevant to the region are shown in Table 2.4.

Table 2.4

Associated Agencies and Service Districts	
Wholesale, Retail, or Agricultural Water Purveyors/Wastewater Agencies/ Flood Management Agencies/Special Districts	
Organization	**Statutory Authority**
Herlong Public Utilities District	Water supply, water quality management
Lake Forest Community Service District	Water supply, water quality management
Lassen Irrigation Company	Water supply
Spaulding Community Service District	Water supply, water quality management, wastewater treatment
Leavitt Lake Community Services District	Water supply, water quality management, wastewater treatment
Stones Landing Community Service District	Water supply, water quality management
Susanville Consolidated Sanitary District	Wastewater treatment
West Patton Village Community Service District	Water supply, water quality management
Municipal and County Governments and Special Districts	
City of Susanville	Water supply, water quality management, flood management/control, stormwater management
Honey Lake Valley Resource Conservation District (RCD)	Water supply
Lassen County Department of Planning and Building Services	Groundwater management, flood management/control, storm water management, well permitting process, water exportation and extraction permits
Regulatory and Resource Agencies – State and Federal	
California Department of Fish and Wildlife (CDFW)	Water quality management
California Department of Public Health (CDPH)	Water quality management
California Department of Water Resources (DWR)	Water quality management
Federal Emergency Management Agency (FEMA)	Emergency Preparedness
Lahontan Regional Water Quality Control Board (LRWQCB)	Water quality management
Sierra Army Depot (SIAD)	Water supply, water quality management, flood management, storm water management
United States Department of Agriculture (USDA) Forest Service, Lassen National Forest (LNF)	Water quality management
United States Department of Agriculture Natural Resource Conservation Service (NRCS), Susanville District	Water quality management
United States Department of Health and Human Services (DHHS), Indian Health Services (IHS)	Water quality management
United States Department of Interior Bureau of Indian Affairs (BIA), Redding Regional Office	Water quality management

United States Environmental Protection Agency (EPA), Tribal Programs Office	Water quality management
United States Department of Interior Bureau of Land Management, Eagle Lake Field Office	Water quality management
Tribal Governments	
Honey Lake Maidu	Not applicable
Honey Lake Paiute (Wadatukuta)	Not applicable
Susanville Indian Rancheria (SIR)	Water supply, water quality management, flood management, stormwater management
Pit River Tribe	Not applicable
Washoe Tribe of Nevada and California	Not applicable
Community Representatives/Social Justice Organizations/Public and Private Interests	
Eagle Lake Coordination Committee	Not applicable
Eagle Lake Guardians	Not applicable
Honey Lake Valley RCD Watermaster Advisory Committee	Not applicable
Lassen County Special Weed Action Team (SWAT)	Not applicable
Susan River Watershed Group (SRWG)	Not applicable
Pine Creek Coordinated Resource Management Plan (CRMP)	Not applicable
Lassen County Fire Safe Council (LCFSC)	Not applicable
Lassen County Times	Not applicable
Lassen Ground Water Advisory Committee	Not applicable
Sierra Radio Network	Not applicable
Susanville Indian Rancheria (SIR) Tribal Historic Preservation Office (THPO)	Not applicable
Sierra County Fire Safe and Watershed Council	Not applicable
Agricultural Interests	
Lassen County Farm Bureau	Not applicable
Lassen County Cattlemen's Association	Not applicable
Sierra County Farm Bureau	Not applicable
Sierra County Cattlemen's Association	Not applicable

Figure 2.3 shows the regional land use. Figure 2.4 shows the municipal boundaries which include service areas of individual water districts and wastewater service areas. Lassen County does not have dependent special districts serving culinary water in the area. The irrigation districts serving farms to the south and east of the City of Susanville have water rights from drainage basins and therefore do not pump groundwater for their customers. Brockman and Jensen Sloughs, which serve irrigation water, receive water from diversion on the downstream Susan River and from the Susanville Consolidated Wastewater Secondary Treatment Ponds.



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2/1/2018

Figure No.
2-3

Honey Lake Valley RCD

Lahontan Region Land Use

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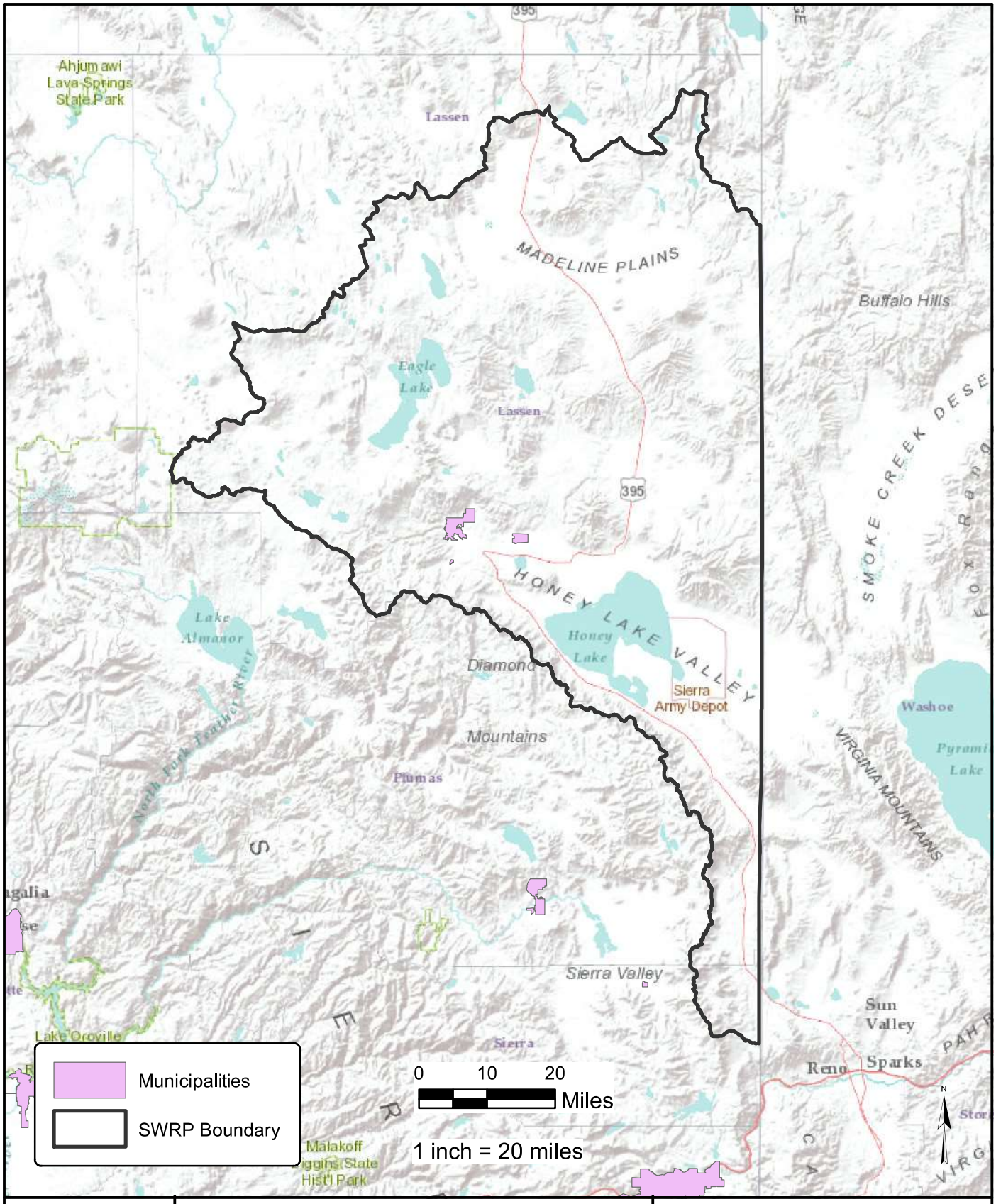

Job No. CCC-JJJ-TTT Date 2/1/2018 Figure No. 2-4	Honey Lake Valley RCD Internal Boundaries	DYER ENGINEERING CONSULTANTS 9160 Double Diamond Pkwy. Ste. A Reno, Nevada 89521 Phone: 1-775-852-1440

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2.3 Neighboring Watersheds Not Included In SWRP

Figure 2.1 shows the surrounding watersheds. The Lahontan Basin SWRP boundary is adjacent to two other IRWM planning regions: Shasta and Plumas which include eight adjacent watersheds. Lahontan Basin IRWMP has a long history of open communications and coordination of stormwater, surface water, and groundwater management with these regions through the California Water Control Board.

The regions are separated by distinct mountain divides. There are no overlapping watersheds. While these regions lie close to the Lahontan Basin region, there will be little coordination required across the regional boundaries.

2.4 Water Quality Priorities

2.4.1 Point Source Pollutants

The U.S. Environmental Protection Agency (EPA) defines point source pollution as "any single identifiable source of pollution from which pollutants are discharged," such as factories, drainage systems, sewage treatment plants, and other conventional pollutants (i.e., oil, grease, total suspended solids, and pipeline from chemical plants). The Clean Water Act (CWA) made it unlawful to discharge any pollutants from a point source into navigable waters unless a permit is obtained. Point sources are defined in the CWA, Section 502.

2.4.2 Non-Point Source Pollutants

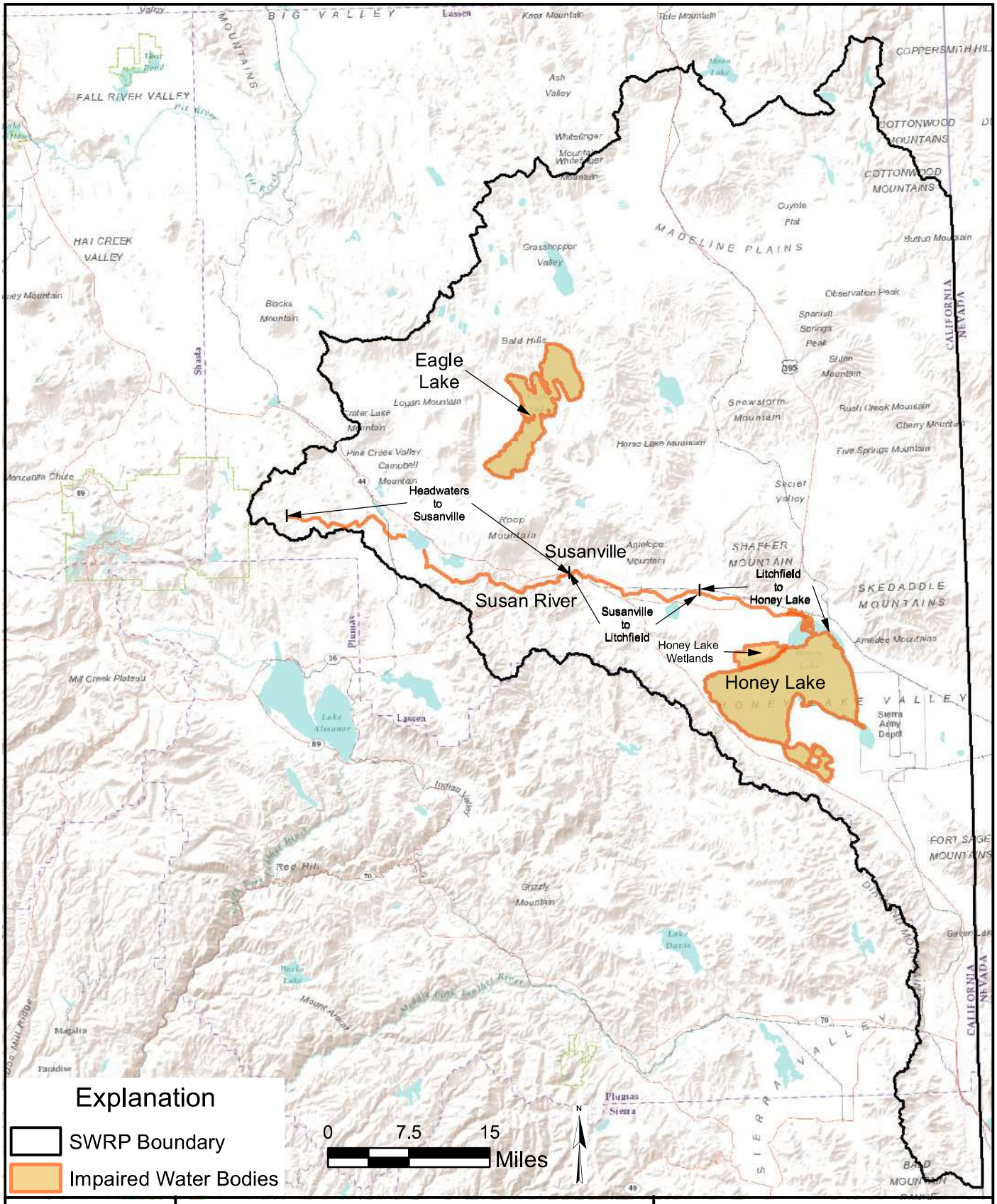
Non-point source (NPS) pollution (also called polluted runoff) is the release of pollutants from everything other than point sources. These include landscape-scale sources such as stormwater and agricultural runoff, and dust and air pollution that find their way into water bodies. Non-point source pollution is not typically associated with discrete conveyances. Non-point sources are not defined in statute but are considered everything that is not covered under the point source definition.

The CWA contains strategies for prioritizing and managing water quality. 303(d) of the CWA requires that the states make a list of waters that are not meeting standards after the technology-based limits are put into place. For waters on this list (and where the EPA administrator deems they are appropriate) the states are to develop total maximum daily loads (TMDLs). Figure 2.5 shows the locations of the impaired 303(d) water bodies.

2.4.3 TMDLs for Impaired Water Bodies

A TMDL must account for all sources of the pollutants that caused the water to be listed. Federal regulations require that the TMDL, at a minimum, account for contributions from point sources (federally permitted discharges) and contributions from non-point sources. EPA is required to review and approve the list of impaired waters and each TMDL. TMDL's are established at the level necessary to implement the applicable water quality standards.

The regions impaired water bodies are shown in Figure 2.5 and 2.10 for a more detailed view



Job No. HLV-SWRP2017 Date 2/5/2018 Figure No. 2-5	Honey Lake Valley RCD Lahontan Basins Impaired Water Bodies	DYER ENGINEERING CONSULTANTS 9160 Double Diamond Pkwy. Ste. A Reno, Nevada 89521 Phone: 1-775-852-1440

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The CWA does not expressly require the implementation of TMDLs. Section 303(d), 303(e), and their implementing regulations require that approved TMDLs be incorporated into the quality control plans. The EPA has established regulations (40 Code of Federal Regulations [CFR] 122) requiring that NPDES permits be revised to be consistent with an approved TMDL. A federal regulation, effective in October 2001, requires that implementation plans be developed along with the TMDLs.

The State Water Board has interpreted state law (Porter-Cologne Water Quality Control Act, California Water Code Section (§) 13000 et. seq.) to require that implementation be addressed when TMDLs are incorporated into Basin Plans (water quality control plans). The Porter-Cologne Act requires that the state agency Lahontan Regional Walter Quality Control Board (LRWQCB) and each Regional Board formulate and adopt water quality control plans for all areas within its region. It also requires that a program of implementation be developed that describes how water quality standards will be attained.

TMDLs can be developed as a component of the program of implementation, thus triggering the need to describe the implementation features, or alternatively as a Water Quality Standard. When the TMDL is established as a standard, the program of implementation must be designed to implement the TMDL.

TMDLs in California are developed either by LRWQCB or by EPA. TMDLs developed by LRWQCB will be designed and included in the IRWMP and will include implementation provisions. If LRWQCB accepts the TMDLs developed by EPA, the total load and load allocations required by Section 303(d) will be adopted. LRWQCB will also add implementation provisions.

Water quality testing has been reported by the State Water Board (SWRCB) and listed in the 2010 Integrated Report, Clean Water Act Section 303(b) for the Honey-Eagle Lakes. No results have been published for the Madeline Plains and Smoke Creek Watersheds (CWRCB 2017). The water quality priorities are generally abbreviated as shown in Table 2.5. The locations of these water quality priorities are shown as impaired water bodies in Figure 2-5.

2.4.4 Salt & Nutrient Management Plans

Water quality in the Lahontan Basin region is threatened with degradation due to increased levels of salts and nutrients. As surface impoundments and groundwater supplies become scarcer and wastewater flows more concentrated, salt and nutrient impacts occur. Recent drought conditions compounded this threat, particularly in the Honey Lake area. Water can be impaired by both point sources and non-point sources. Point sources typically consist of direct discharge into a water source from an external entity. Non-point pollutant sources are often naturally occurring within the geological makeup of the region.

In 2009, the SWRCB instituted a Recycled Water Policy for the State of California to address drought concerns. This policy called for local stakeholders to develop Salt & Nutrient Management Plans (SNMP) for the underlying non-point pollutant groundwater sources throughout the state.

Table 2.5

Water Quality Priorities		
Water Body Name/Type/Watershed	**Pollutant**	**Assessed Area, Ac.**
Honey Lake/Saline Lake/ 18080003	Arsenic	57,756
	Salinity/TDS/ Chlorides	57,756
Eagle Lake/ Lake and Stream/18080003	Nitrogen	20,704
	Phosphorus	20,704
Honey Lake/ Wetlands/18080003	Metals	62,590
Honey Lake/ Wildfowl Management Ponds	Metals	665
	Salinity/TDS/ Chlorides	665
	Trace Elements	665
Susan River/Headwaters to Susanville/18080003	Mercury/TDS/ Total Nitrogen/ Total Nitrogen as N/ Unknown Toxicity	38 Miles
Susan River/Susanville to Litchfield/18080003	Mercury/TDS/ Turbidity/ Unknown Toxicity	18 Miles
Susan River/Litchfield to Honey Lake/18080003	Mercury/ Unknown Toxicity	9.3 Miles

Through this initiative, the HLVRCD established a SNMP as part of the IRWMP process. The analysis identified various sources of salts and nutrients. The primary area of concern is Honey Lake located in the Honey Lake Basin. With no natural major outflows, Honey Lake reserves incoming nutrients in significant quantities.

Once a water body has been included on the 303(d) list of impaired waters, it remains on the list until the state generates a TMDL to be approved by the EPA. When a TMDL is created for a water source, that source is removed from the list, but still monitored until a full restoration is reached. Currently, the SWRP area does not require TMDL permits, however Table 2.6 presents the regional water bodies on the 303(d) list.

Table 2.6

Regional Water Bodies on 303(d) List			
Water Body	**Pollutant Category**	**Potential Sources**	**Expected TMDL Completion Date**
Eagle Lake	Nitrogen and Phosphorus	*VARIOUS, SEE EPA 303(d) COMPLETE LIST*	2019
Honey Lake	Salinity	Natural, Agriculture	2019
Honey Lake Wetlands	Metals/Metalloids	Natural, Geothermal Development, Agriculture	2019
Susan River	Metals, Salinity, Nutrients, Toxicity	Unknown, Natural, Agriculture	2019, 2021

2.5 Surface and Groundwater Resources

The regional limits provide 14 identified groundwater basins, each governed under Lassen County jurisdiction. Each groundwater basin is impacted by stormwater to some degree. The groundwater basins are listed below in Table 2.7 and surface water resources and groundwater basins are shown in Figure 2.6 and 2.7, respectively.

The Susan River is the central surface water source of the region. The Susan River flows to the east joining the north-eastern section of Honey Lake. Long Valley Creek flows from upper Long Valley north into Honey Lake. Honey Lake is the largest water body in the county and amasses water from Long Valley Creek, Baxter Creek, Willow Creek, and the Susan River.

Lassen County is responsible for local groundwater monitoring as authorized under § 10927 of the California Water Code (CWC). The Lassen County Board of Supervisors adopted a nation-wide groundwater management plan in 2010 focusing on the development of Basin Management Objectives (BMO). Under the direction of this plan, Lassen County identified twelve groundwater basins and sub-basins eligible for BMO implementation.

The Honey Lake Valley Groundwater Basin is the largest basin in the region and sustains an estimated 10 million acre-feet of water within the top 100 feet of the aquifer. The groundwater basin supplies the City of Susanville, as well as the towns of Doyle, Herlong, Janesville, Milford, and Standish. The basin is approximately 45 miles long, and 15 miles in width. It encompasses the eastern edge of Lassen County, and the western edge of Washoe County, Nevada. Due to Honey Lake's tendencies of storing large amounts of nutrients and salt for extended periods of time, the Honey Lake Groundwater Basin is an important priority in the region.

Table 2.7

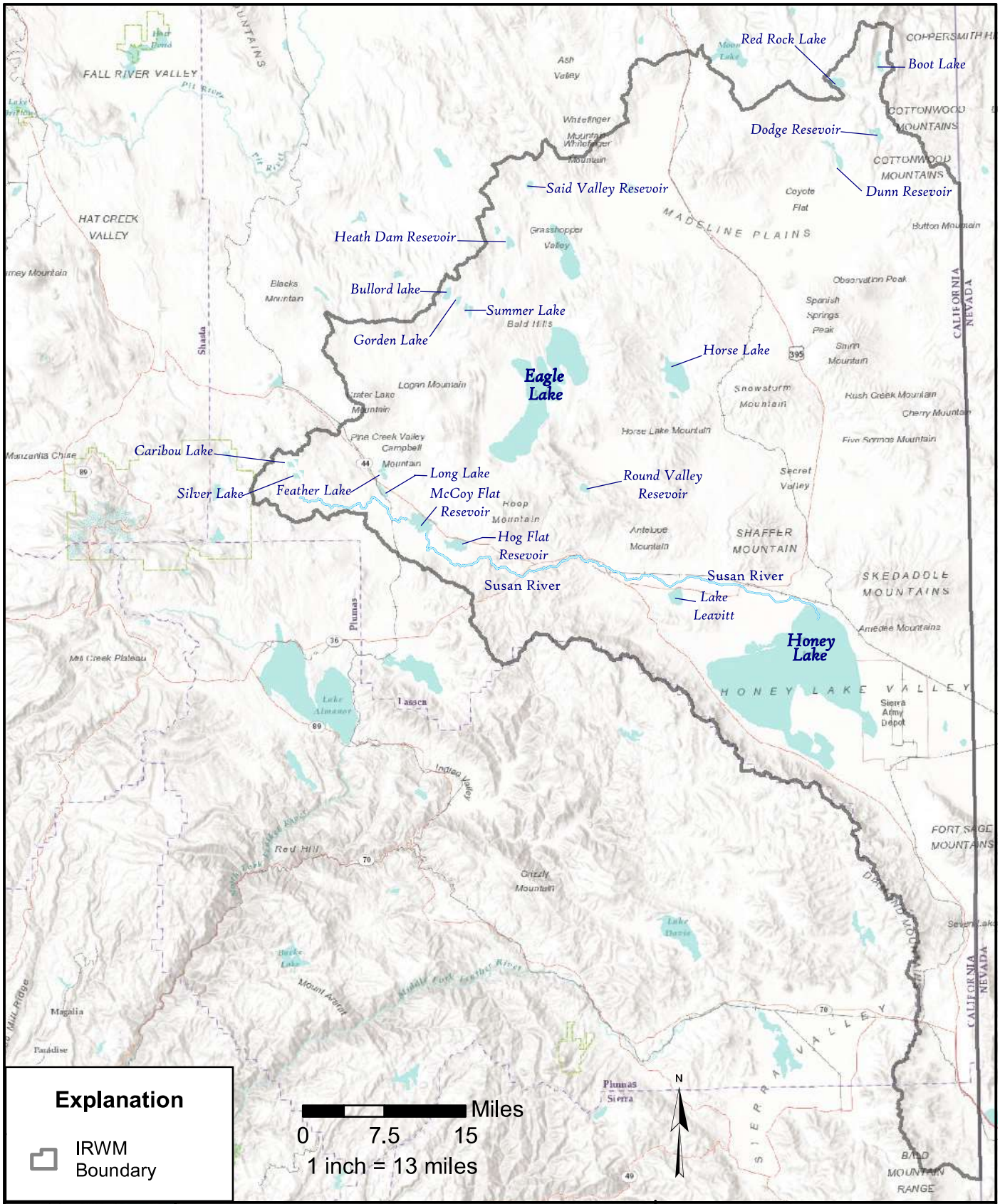
Groundwater Basins		
Basin	**Basin Name**	**Description**
5-51	Surprise Valley	Groundwater estimated total storage – 4,000,000 acre-ft Well production – 1,383 GPM
6-02	Madeline Plains	Sub-basins – 2 Priority Basin Annual Precipitation – 11 to 17 inches Water Type – Bicarbonate with mixed cationic character TDS Concentration – 81-1790 mg/L Surface Area – 156,150 acres (244 square miles) High conductivity and salinity concentrations
6-03	Willow Creek Valley	Annual Precipitation – 21 to 23 inches Surface Area – 11,700 acres (18 square miles) Water Type – Bicarbonate TDS Concentration – 90-1200 mg/L, average – 401 mg/L
6-04	Honey Lake Valley	Annual Precipitation – 7 to 15 inches Surface Area – 311,750 acres (487 square miles) TDS Concentration – 89-2,500 mg/L Traces of Nitrate and Arsenic have been detected
6-07	Antelope Valley	
6-92	Pine Creek Valley	Annual Precipitation – 29-33 inches Surface Area – 15 square miles
6-93	Harvey Valley	
6-94	Grasshopper Valley	Annual Precipitation – 13 to 19 inches Surface Area – 17,670 acres (28 square miles) TDS Concentration – 81-1790 mg/L, average – 402 mg/L
6-95	Dry Valley	Annual Precipitation – 13 to 17 inches Surface Area – 6,500 acres (10 square miles) Water Type – Bicarbonate with mixed cationic character TDS Concentration – 81 to 1790 mg/L, average – 401 mg/L
6-96	Eagle Lake Area	Annual Precipitation – 21 to 25 inches Water Type – Bicarbonate and low in dissolved solids
6-97	Horse Lake Valley	Annual Precipitation – 13 to 19 inches Surface Area – 6 square miles
6-99	Painters Flat	Annual Precipitation – 15 inches Surface Area – 6,400 acres (10 miles)
6-100	Secret Valley	Annual Precipitation – 9 to 11 inches Surface Area – 33,680 acres (53 square miles) Water Type – Sodium Bicarbonate TDS Concentration – 125 to 3,200 mg/L, average – 818 mg/L
6-101	Bull Flat	Annual Precipitation – 9 to 11 inches Surface Area – 18,100 acres (28 square miles)
6-104	Long Valley	Priority Basin Contains 33 domestic wells Annual Precipitation – 25 to 27 inches Surface Area – 1,090 acres (2 square miles)

2.6 Local Water Supply

Most of the domestic water systems within the unincorporated sections of Lassen County are independent, smaller systems, providing water to individual communities. Table 2.8 lists the regions municipal water purveyors and estimated volume provided by the suppliers.

Table 2.8

Municipal Water Purveyors	Volume Estimate (million gallons/yr)
High Desert State Prison (2016)	445.681
California Correctional Facility	294.55
City of Susanville (2009)	1,027.4
Herlong Public Utilities District (2013)	114.7
Lake Forest Community Service District (2016)	1,275
Spalding Community Service District	<50, Serves 120 persons
Stones Landing Community Service District	<50, Serves 200 persons
West Patton Village Community Service District	126
Lassen Irrigation Company	unknown
Lassen County Department of Planning and Building Services	unknown
Sierra County Planning Department	unknown
Susanville Indian Rancheria	<50, Serves <400 persons
Susan Hills Estates WC	<50, Serves 250 persons



Job No. HLV-SWRP17 Date 1/30/2018 Figure No. 2-6	Honey Lake Valley RCD Lahontan Basins Surface Water Resources	DYER ENGINEERING CONSULTANTS 9160 Double Diamond Pkwy. Ste. A Reno, Nevada 89521 Phone: 1-775-852-1440

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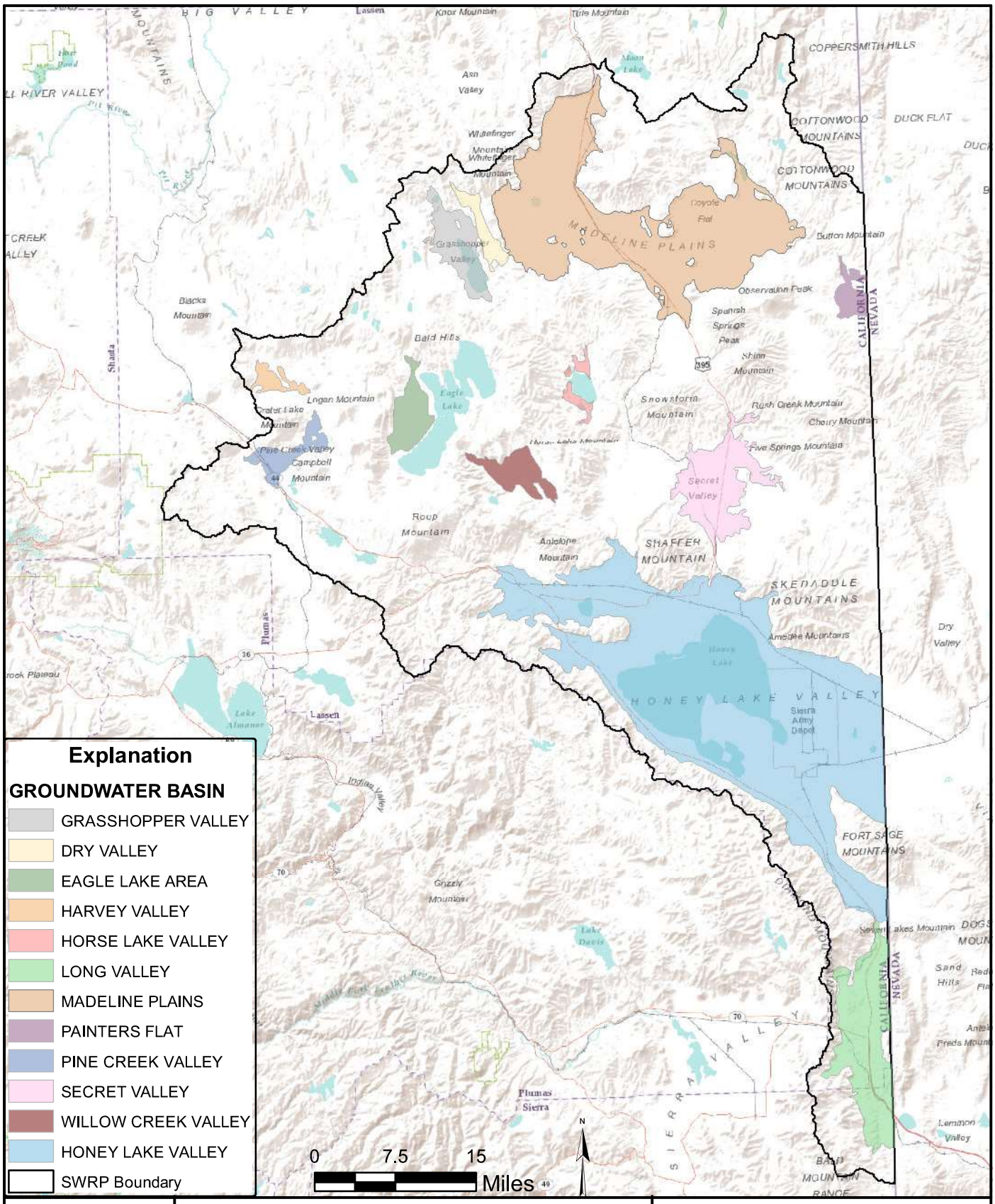

Job No. CCC-JJJ-TTT Date 2/1/2018 Figure No. 2-7	Honey Lake Valley RCD Groundwater Basins in the Lahontan Region	DYER ENGINEERING CONSULTANTS 9160 Double Diamond Pkwy. Ste. A Reno, Nevada 89521 Phone: 1-775-852-1440

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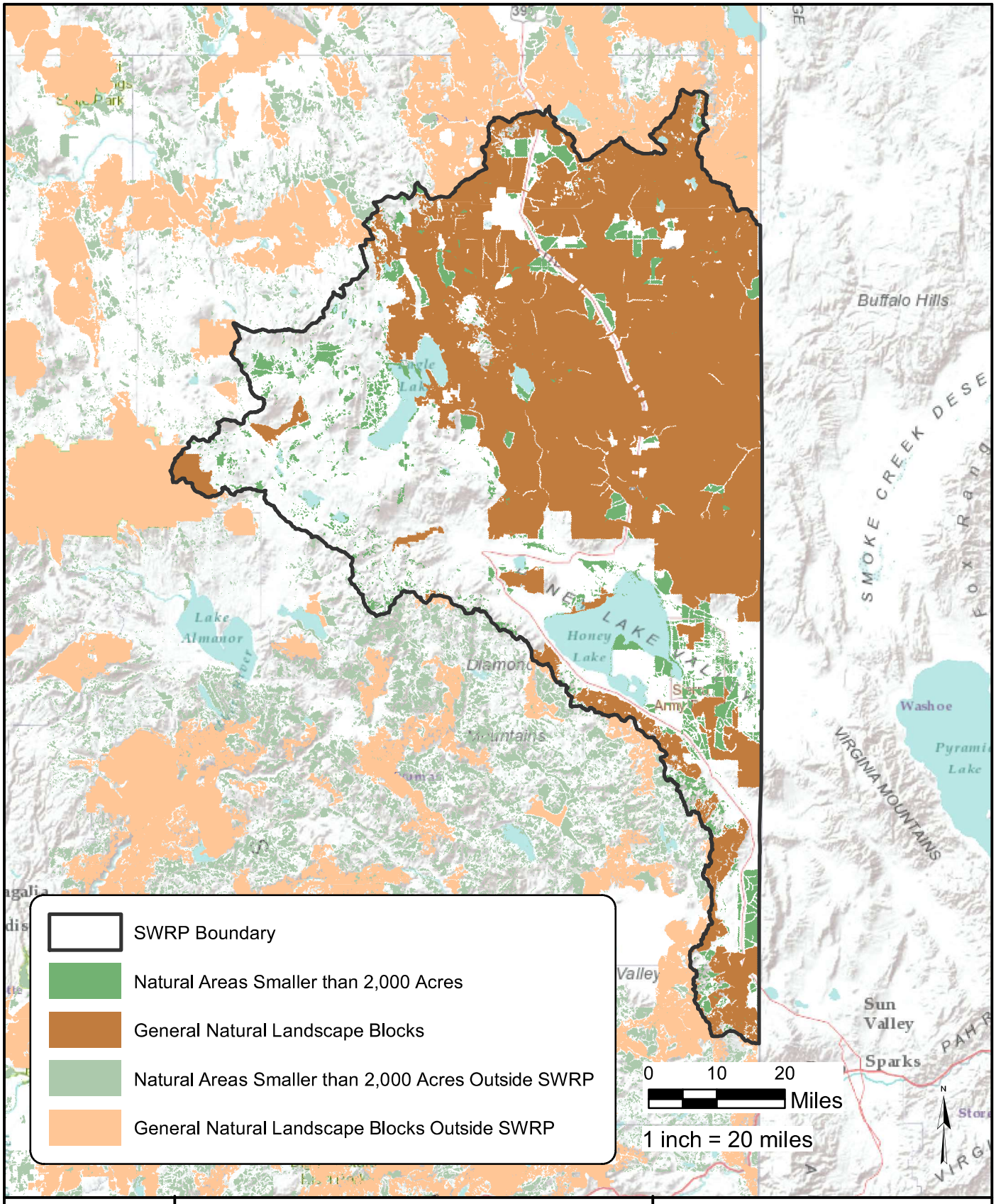
2.7 Wildlife Habitat, Water Bodies, and Open Space

Lassen County contains an approximated 40,000 acres of state wildlife areas. Much of this land falls under CDFW jurisdiction. These wildlife sanctuaries divert water to maintain habitat for waterfowl and other endangered species including the bald eagle, sandhill crane, bank swallow, and peregrine falcon. The Honey Lake Valley adjoins the Basin Range Geomorphic Province that extends into central California. The Honey Lake Wildlife Area is habitat for waterfowl, upland birds, and other wildlife. It expands over the 7,200-acre area, encompassing the Fleming and Dakin Units which are located on the northeast shore of Honey Lake. Additionally, the DWR manages wildlife habitats that provide winter homes for the mule deer populations situated near Doyle, Hallelujah Junction, and Bass Hill.

The region includes over 3,000 acres of wetland reserves found within Willow Creek drainage. The Ash Creek Wildlife Area located in Big Valley holds 16,000 acres of preservation land for the sandhill crane and cackling geese. Fish and wildlife are critical constituents of Lassen County and their preservation must be highly prioritized in project development. Figure 2.8 shows native habitat in the SWRP boundary.



Job No. CCC-JJJ-TTT Date 2/16/2018 Figure No. 2-8	Honey Lake Valley RCD Native Habitat	DYER ENGINEERING CONSULTANTS 9160 Double Diamond Pkwy. Ste. A Reno, Nevada 89521 Phone: 1-775-852-1440

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2.8 Natural Watershed Process Interruptions

The natural watershed processes within the Lahontan Basin region are geographically and topographically unique because drainage is directed to the east into terminal lake basins. This is uncharacteristic of the other IRWM regions in California which flow westward into the Pacific Ocean.

The typical demography of the region is low-density populated areas and undeveloped lands. This results in large percentages of pervious soils allowing infiltration from runoff and natural levels of groundwater recharge.

The Susan River is one of the most vital water sources and the only major river in the region. It flows eastward from the arid volcanic highlands of Caribou Lake situated 7,000 feet in elevation, into Honey Lake at an elevation of 4,000 feet. The river delivers an annual discharge of 60,000 acre-feet to the city of Susanville.

The Susan River has numerous water diversion structures to maintain the irrigation lands nearby. Dams have been built to form the McCoy Flat Reservoir, Caribou Lake, Bridge Creek, and Gold Run. Side channels and Parshall Flumes such as McCoy Parshall, Ramsey's diversion ditch, and Gold Run Dam's side channel have been constructed to divert water flow for irrigation purposes.

The structures on the flowing water bodies are subject to flooding. Flooding typically results from rapid melting of winter snows, severe thunderstorms, and other high precipitation events. Additionally, some flooding may result from mismanaged operations, or failure to maintain the man-made interruptions, on the flowing water bodies. Sensitivity to flood-prone areas is vital in planning and executing Plan Projects. A map showing the FEMA-designated flood-prone areas is presented in Figure 2.9.

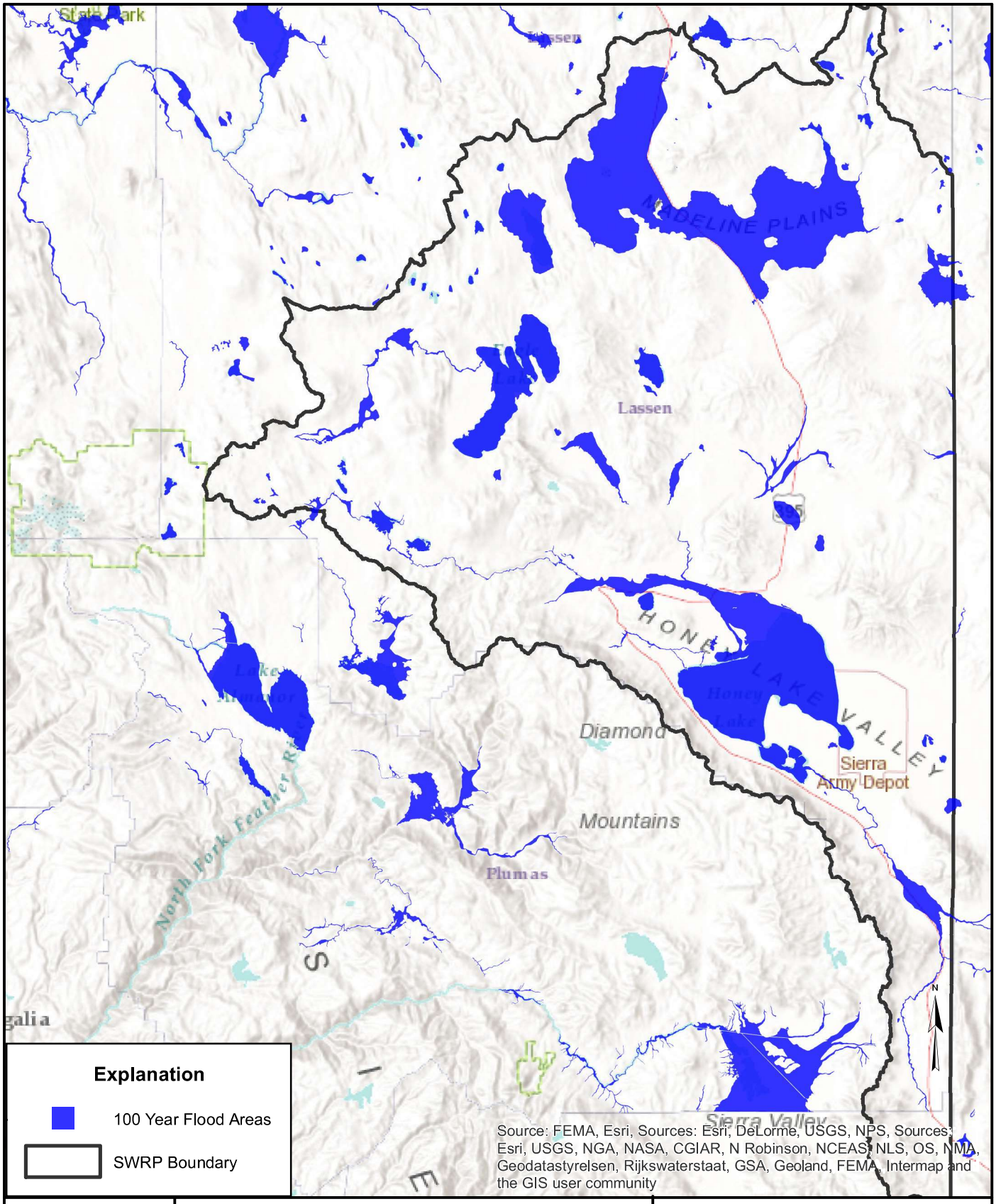
2.9 Quantitative

A key index for gauging impacts on urban streams is total impervious area (TIA). Total impervious area is composed of rooftop and transport (e.g. roads and driveways) components. The rooftop component is typically disconnected impervious area where runoff is captured by yards and given opportunity to infiltrate. Transport imperviousness is directly connected to drainage systems and often results in greater hydrologic impact than rooftop imperviousness. Research conducted in many geographical areas have similarly concluded that stream degradation occurs at approximately 10-20% TIA. The projects individual acreage is calculated in Table 2.9. The maximum developed area within the planned projects watershed is 0.002 percent based on the acreage developed by the total watershed acreage.

Table 2.9

MAXIMUM POSSIBLE AFFECTED WATERSHED PERCENTAGES			
PROJECT	**TIA ACRES**	**MINMUM WATERSHED ACERAGE**	**MAXIMUM PERCENT AFFECTED WATERSHED**
Susanville Road Shop	18.41	1,392,000	0.0013%
Janesville Park	6.63	1,392,000	0.0005%
Doyle Park	5.99	1,392,000	0.0004%
Standish Road Shop	1.74	1,392,000	0.0001%
Paiute Lane - Susanville Park	2.18	1,392,000	0.0002%
Doyle Road Shop	5.98	1,392,000	0.0004%
OLD Channel	31.08	1,392,000	0.0022%
Lassen Co Fair N. Gate & Parking	10.04	1,392,000	0.0007%
Lassen Co Fair Parking	9.10	1,392,000	0.0007%

The sub-watershed has been minimally affected by an increase in peak flow magnitudes and occurrences and decreases in base flows that are typically observed. An increase in the total impervious area decreases the volume of precipitation allowed to infiltrate into the soil during a storm event; therefore, increasing the volume of surface runoff. If the surface runoff is directly connected to the stream system through roads or storm drains, the stream will produce an increased peak flow magnitude in a shorter time-period than observed in an undisturbed stream system.



Job No.
CCC-JJJ-TTT

Date
2/16/2018

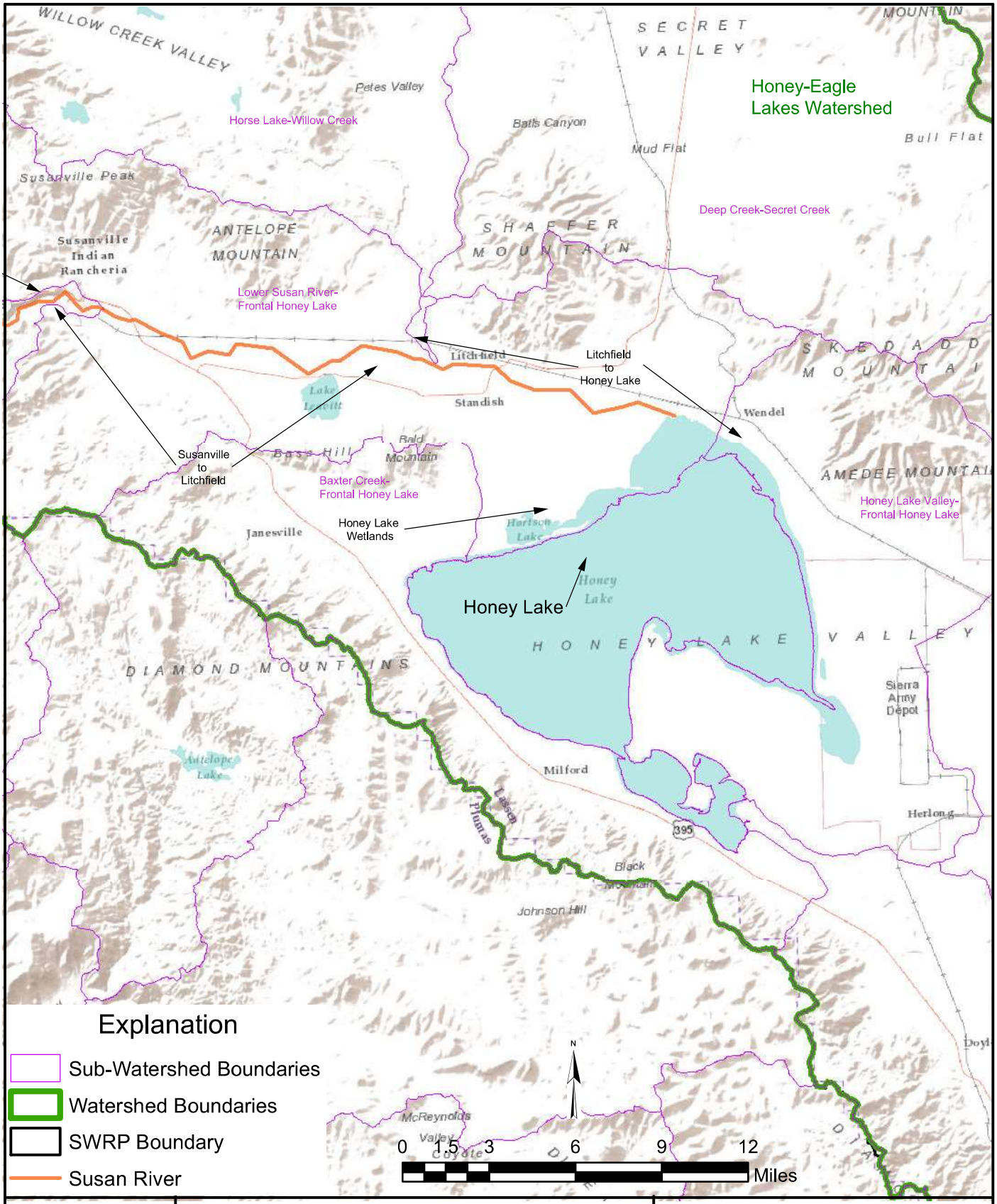
Figure No.
2-9

Honey Lake Valley RCD

Flood Map

DYER ENGINEERING CONSULTANTS
9160 Double Diamond Pkwy. Ste. A
Reno, Nevada 89521 Phone: 1-775-852-1440

V:\Projects\HLVRCD\03-SWRP\04-CAD\Figures\GIS Files\Flood Map.mxd



Job No.
HLV-SWRP2017

Date
5/3/2018

Figure No.
2-10

Honey Lake Valley RCD

Lahontan Basin
Impaired Water Bodies
Larger Scale to show Project Area

DYER ENGINEERING CONSULTANTS
9160 Double Diamond Pkwy. Ste. A
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3.0 Compliance with Water Quality Standards

3.1 Contributors to Pollution of Runoff

Pollution in waterways can originate from many different sources, which are categorized as point and non-point. Point source pollution occurs when pollutants are discharged directly into a waterway and are typically regulated by Waste Discharge Requirements (WDR) and National Pollutant Discharge Elimination System (NPDES), which are further discussed in section 3.2. Non-point source (NPS) pollution is created by contaminants from a broad area, such as urban runoff and agricultural land. Many NPS contaminants occur naturally in soil, such as salts, heavy metals, and naturally-occurring nitrates.

The region has an existing Salt and Nutrient Management Plan (SNMP). The SNMP outlines the water quality issues from a salt and nutrient perspective, which is a major concern in the region due to the terminal lakes basin and heavy agriculture. The analysis in the SNMP identified various sources of salts and nutrients, with the primary area of concern being Honey Lake in the Honey Lake Basin. As a terminal lake with no natural outflows, Honey Lake reserves incoming nutrients and pollutants in significant quantities. Runoff from urban landscaping, construction sites, roadways, and natural drainage (erosion) contribute most of these pollutants. Return flows from agricultural uses, such as pesticides and fertilized area, contribute significantly to pollutant constituents. Also, untreated sewage and illegal discharge of waste entering the waterways contribute to the water quality issues in the Honey Lake Valley.

The following pollutants have been identified in the region through various permits, studies, and assessments:

3.1.1 Arsenic

Arsenic is a regulated trace element with an established State Maximum Contaminant Level (MCL) in drinking water of 10 μg/L. Arsenic is a semi-metal element that occurs naturally in the environment but can also be released to the environment by human activities (State Water Resources Control Board [SWRCB], 2017). Arsenic has been found in Honey Lake in low concentrations. Monitoring is needed to confirm results, identify causes and develop TMDLs.

Potential Sources of Arsenic - The California Department of Water Resources (DWR) identified the potential anthropogenic sources of arsenic as flow regulation, geothermal development, and non-point sources. Generally, the primary source of arsenic in the environment is from the weathering of arsenic-containing rocks. Naturally occurring arsenic is found in a variety of solid phases, including a component of volcanic glass in volcanic rocks, adsorbed to and co-precipitated with metal oxides (especially iron oxides), adsorbed to clay-mineral surfaces, and associated with sulfide minerals and organic carbon. The concentrations of arsenic in soil (0.1 to 40 ppm) and sedimentary rocks (13 ppm) are generally higher than the average (2 ppm) in the earth's crust due to movement and accumulation of the arsenic through weathering. Additionally, volcanic activity and forest fires can release arsenic into the atmosphere where

it later falls to earth; however, precipitation in unpolluted areas usually contains less than 1 ppb of arsenic (SWRCD 2017).

3.1.2 Bacteria/Pathogens

While bacteria and pathogens are not specifically identified as a major issue in the Lahontan Basin, bacteria concentration is always a water quality consideration. Drinking water must be treated to remove bacteria and pathogens throughout the region and a general awareness of pollutants to water can help to reduce various bacterial pollutants in the water. Bacteria can indicate the presence of pathogenic organisms typically found in warm-blooded animal waste.

Honey Lake Valley has a significant agricultural industry. Regulatory agencies measure Escherichia coli (E. coli) bacteria as an indicator species for many possible disease-causing organisms found in stomachs of warm-blooded animals. Bacteria and pathogens affect water quality and diminish the health of the area's waterways and could negatively affect the local population and tourism (Pathogens & Contaminants, 2017).

Potential Sources of Bacteria/Pathogens - Bacteria and pathogens naturally occur in surface water. The Honey Lake Valley waterways generally have a low concentration of bacteria, but the water still requires adequate filtration and purification processes. During warmer, dry weather conditions, bacteria concentrations in almost all rivers increase. Heavily-forested lands, such as the higher elevations of the Lahontan Basin, tend to contribute fewer bacteria than agricultural land and urban areas. Urban areas with sewer systems have the highest concentration of bacteria and pathogens, due to the potential microbe-dense sources being discharged into the waterways. Other potential sources of pathogens and bacteria are from the natural wildlife using the river environment as a food source, ultimately contaminating the river with excrement. As the areas surrounding the Honey Lake Valley become more populated and agricultural areas expand, bacteria and pathogen levels are expected to rise due to increases in municipal sewage, urban runoff, recreation along the river, and increased recycled water irrigation (Pathogens & Contaminants, 2017).

3.1.3 Sediment

Sediment imbalance is one of the most common and significant water quality issues of any river, stream, or lake system. Sediment degrades water quality for drinking and diminishes habitat for natural wildlife in the water body. Sediment from soil erosion eventually flows downstream, collecting and depositing in slower-moving water, reducing channel depth, and increasing future flood risk from the reduced capacity of the channel. Sediment can also be a source for transport toxins such as arsenic, mercury, and other dangerous contaminants downstream affecting the local population and wildlife. The increased turbidity can affect wildlife, fish, and various habitats (Sediment, 2014).

Potential Sources of Sediment - Sediment comes from the erosion of soils due to the movement of water through a river or stream and particulate from stormwater drainage and surface flooding being deposited into waterways. Natural erosion due to precipitation and stormwater runoff is a source of sediment. Flooding due to natural storm cycles can move significant amounts of sediment and affect water quality severely in certain instances. Anthropogenic sources of sediment have a wide range of sources such as various forms of development and construction, land clearing, paving, and altering natural flow courses. Future growth of the region could increase sediment loading in the waterways, best management practices (BMPs) and other engineered solutions can be used to minimize potential negative impacts (Sediment, 2014).

3.1.4 Phosphorus and Nitrogen

Eagle Lake is known to have high phosphorus and nitrogen. High nitrogen has been found in the Susan River. Nitrogen and phosphorous are bio-stimulatory substances that can cause eutrophication, a process in which algae and other aquatic vegetation experience rapid growth. This rapid growth cannot be sustained by the ecosystem and the subsequent death of such overgrowth can use up large amounts of oxygen in the water, creating a deficit of dissolved oxygen which other aquatic organisms require. Subsequent deaths of aquatic organisms can further degrade water quality (Nutrient Pollution, 2017).

Potential Sources of Phosphorus and Nitrogen - Fertilizer is the main contributor for nitrogen and phosphorous in the watershed. Fertilizer primarily enters the water sources of the Honey Lake Valley from runoff due to excessive irrigation or runoff due to rainfall that is washed out of the fertilized land, and into the streams, rivers, and lakes. Potential sources for phosphorous also include pesticides, industry, cleaning compounds, human and animal wastes, and phosphate-containing rocks.

Similar to phosphorous, nitrogen can enter the system through human and animal waste, specifically septic tanks, farm livestock, and animal waste including fish and birds. Specific to nitrogen, potential biotic sources are bacteria resulting from breaking down toxic ammonia waste and the decay of dead organisms (Nutrient Pollution, 2017).

3.1.5 Temperature

Temperature is a major component of aquatic ecosystems and governs the types of organisms that can live and thrive in them. The temperatures of the waterways in the Lahontan Basin region are higher during summer months and much cooler during winter; however, as the temperature gets too far away from the natural range, a reduction in natural species populations occurs. Warmer temperatures in water cause a reduction in its ability to hold on to dissolved oxygen (DO), which directly affects the aquatic life that depends on the DO for survival (Perlman, 2017).

Potential Sources of Temperature - Causes of temperature pollution can be both natural and anthropogenic. Natural temperature change occurs in waterways. Anthropogenic temperature change can result from many different sources. During summer months, impervious surfaces such as parking lots and roads become heated and can cause a significant increase in stormwater runoff temperatures that flow into streams and rivers. This increased temperature can cause shock to the aquatic life and damage water quality. Temperature pollution can also come from various tailwater discharges such as treated water, water used in industrial cooling processes, and or energy production (Perlman, 2017).

3.1.6 Trash

Trash in the natural aquatic environment can be destructive. Trash sources are varied and are generally more prevalent in heavily populated areas. Trash comes in many forms including plastics, paper products, glass, metals, etc. These materials take years if not decades to biodegrade, and with buildup, can cause major negative effects to the aquatic ecosystem.

Potential Sources of Trash - Trash enters the waterways in the Honey Lake Valley in several ways. The largest contributors are the urban areas, in which trash is generated in large amounts and can flow into the rivers, streams, and lakes via stormwater runoff and wind. Portions of the Susan River run along a major highway, where littering is common and gets conveyed into the river by stormwater runoff and wind.

3.1.7 Metals

Heavy metals are naturally occurring elements in the environment and there is a trace presence in almost every water source. There are different toxicity levels associated with individual metals, but all pose a danger when present in high concentrations. Some example metals found in the waterways of the Honey Lake Valley include Arsenic, Mercury, and Lead. These metals are discussed individually in this section. These metals have been reported to negatively affect cellular components of organisms and have carcinogenic properties. These metals are systemic toxicants which are known to cause organ damage and become carcinogenic to humans and animals even at very low levels of concentration. It is important to understand these negative effects and implement controls to reduce or eliminate these metals from water sources (Heavy Metals in The Environment, 2002).

Potential Sources of Metals - Heavy metals are embedded within the Earth's crust and are introduced to the surface via geothermal and volcanic processes, as well as mining, industrial waste, and agriculture. In the Lahontan Basin, volcanic and geothermal processes are common, as are agricultural operations using fertilizers which contain heavy metals. As a river naturally erodes soil or as stormwater runoff erodes surface soils, the soils containing metals flow into a river, stream, or lake. Metals which were embedded are released into the waterway and eventually may be ingested by wildlife or humans. Also, agricultural fertilizers contain dangerous metals and are introduced to water systems from storm runoff, ground absorption and wind carrying the fertilizer to surface water sources (Heavy Metals in The Environment, 2002).

3.1.8 Mercury

The Susan River headwaters through to Honey Lake has been listed under the Clean Water Act Section 303(d) for mercury pollution due to its presence in tissues of trout. The mercury toxicity level is unknown, but in two of the four samples, the concentrations exceeded the tissue criterion. Mercury has many negative effects on humans and wildlife, but most notably, methyl mercury's effect on developing embryos, causing neurodevelopmental damage (Wentz, 2014).

Potential Sources of Mercury - The main sources of mercury are volcanic and geologic deposits and atmospheric deposition. When mercury enters surface water, methylation occurs which is a product of complex processes that transport mercury. Mercury attaches to sediment particles and diffuses into the water column and can be methylated by organisms ingesting the particulate and passing it into other larger animals or humans. Since the Lahontan Basin region is volcanic and has geothermal processes, control of sediment sources such as natural erosion and surface stormwater runoff must be maintained (Wentz, 2014).

3.2 Permitting Requirements

3.2.1 Total Maximum Daily Load (TMDL) and NPDES Compliance

Stormwater pollutants can come from point-sources where water is discharged into waterways from facility operations such as wastewater treatment plants, power plants, or other industrial facilities. In 1972, the Federal Water Pollution Control Act (also referred to as the Clean Water Act [CWA]) was amended to provide that the discharge of pollutants to waters of the United States, from any point source, is unlawful unless the discharge complies with an NPDES permit. General permits establish regulatory requirements for a range of activities related to stormwater and wastewater discharge and management. Applicable NPDES permits within the Lahontan Basin Storm Water Resource Plan (SWRP) planning area include the Construction General Permit and the Municipal Separate Storm Sewer System (MS4) Permit. WDRs and NPDES requirements typically govern point-source pollution measures. BMPs are used through NPS pollution prevention for more effective water management and source control.

The CWA outlines two central methods for protecting water from pollutants. The first is a technological approach that uses the best available technology to maintain a minimum pollutant level. Second is a water quality-based approach. The water quality-based approach incorporates surface water evaluation and condition assessment to establish pollutant exposure limitations. Section 303(d) of the CWA illustrates these methods. Section 303(d) is a state required list of waters that do not uphold the water quality standards after limits are put in place.

The region's stakeholders and stormwater project applicants are required to meet a variety of water quality mandates and to meet the requirements of their respective discharge permits. Along with local agencies and guidelines the Storm Water Resource Plans must comply with water quality provisions and standards implemented by the U.S. Environmental Protection Agency (EPA), SWRCB, Lahontan Regional Water Quality Control Board (LRWQCB) and the Honey

Lake Valley Resource Conservation District (HVLRCD). The permits and respective requirements included herein are directly applicable to the North Lahontan Region. These permits include:

- Section 303(d) impaired water bodies,
- Total maximum daily loads (TMDLs),
- NPDES permits,
- General Construction Storm Water Pollution Prevention Plans (SWPPP),
- MS4 permits, and
- General WDRs.

Determination of TMDLs has been recommended by the EPA for the impaired water body segments (Designation 5A) shown in Table 3.1 and locations are shown in Figure 2-5. Accompanying pollutants detected, potential pollutant sources, and the assessed area is also shown for each water body in Table 3.1. Completion dates for all listed water bodies are in 2019 except for several portions of the Susan River which have completion dates in 2021.

Table 3.1

Water Bodies and Pollutants			
Water Body Name/Type/ Watershed No.	**Pollutant**	**Potential Sources**	**Assessed Area, Ac.**
Honey Lake/Saline Lake/ 18080003	Arsenic	Flow regulation, Geothermal development, non-point source	57,756
	Salinity/TDS/ Chlorides	Agricultural return flows, water diversion, geothermal development, natural sources, sediment resuspension	57,756
Eagle Lake/ Lake and Stream/18080003	Nitrogen	Agriculture, atmospheric deposition, grazing-related, highway maintenance and runoff, internal nutrient cycling, recreational boating, natural and non-point sources, wastewater systems (septic) sediment resuspension, silviculture, wastewater	20,704
	Phosphorus	Atmospheric deposition, grazing, highway and road runoff, internal nutrient cycling, marinas and recreational boating, natural and non-point sources, septic tanks, urban runoff, recreational and tourism activities, sediment resuspension, silviculture, and wastewater	20,704
Honey Lake/ Wetlands/18080003	Metals	Agriculture, geothermal development, natural sources, non-point sources	62,590
Honey Lake/ Wildfowl Management Ponds	Metals	Agriculture, geothermal development, natural sources	665
	Salinity/TDS/ Chlorides	Agriculture, geothermal development, natural sources	665
	Trace Elements	Geothermal development and nurseries	665
Susan River/Headwaters to Susanville/18080003	Mercury/TDS/ Total Nitrogen/ Total Nitrogen as N/ Unknown Toxicity	Source Unknown	38 miles
Susan River/Susanville to Litchfield/18080003	Mercury/TDS/ Turbidity/ Unknown Toxicity	Source Unknown	18 miles
Susan River/Litchfield to Honey Lake/18080003	Mercury/ Unknown Toxicity	Source Unknown	9.3 miles

3.2.2 Steps for Developing TMDLs

There are five steps in producing a TMDL:

1. *Involve Stakeholders*: Stakeholders can be the public, business interests, government entities, environmental groups, or anyone concerned with a specific water body. Stakeholders are involved at the beginning of the process to provide input to the LRWQCBs on the development of TMDLs.

2. *Assess Water Body*: In this step, pollution sources and amounts, or "loads," are identified at various times of the year. Then the overall effect of these loads on the water body is determined.
3. *Define the Total Load and Develop Allocations*: To ensure water quality standards are met and beneficial uses are attained, allocations of pollutant load to all sources are established for the pollutant(s) in question. TMDLs can address single pollutants or combinations of pollutants. The sum of the allocations must result in the water body attaining the applicable water quality standards. Federal regulations provide that TMDLs can be expressed as mass, thermal energy, toxicity, or other appropriate measures. Toxicity and other appropriate measures often serve as the basis for TMDLs. As watershed management efforts mature, it is likely that an increased dependence on measures other than mass or thermal energy will serve as the basis for TMDLs.
4. *Develop the Implementation Plan*: This step is a description of the approach and activities to be undertaken to ensure the allocations are met and identification of parties responsible for carrying out the actions.
5. *Amend the Basin Plan*: Federal law requires that TMDLs be incorporated into the Basin Plans (IRWMP). The (IRWMP) Basin Plan is a legal document that describes how a Regional Board (LRWQCB) would manage water quality. The TMDLs must be formally incorporated into the Basin Plan (IRWMP) to be part of the basis for board actions. Basin Plan (IRWMP) amendments are adopted through a public process that requires the approval of the TMDLs by a Regional Board (LRWQCB), the State Water Board, the Office of Administrative Law, and EPA Region 9.

3.2.3 TMDL Elements

A complete TMDL must contain all the following elements to be approved by the EPA:

- Problem Statement: Describes which water quality standards are not being attained, which beneficial uses are impaired, and the nature of the impairment.
- Numeric Targets: The Desired Future Condition: Defines measurements that will ensure recovery of the beneficial uses that are impaired, and attainment of standards. Numeric targets are usually not directly enforceable but are used to assess progress towards the attainment of standards.
- Source Analysis: Identifies the amount, timing, and point of origin of pollutants of concern. Source analysis may be based on field measurements and/or models and estimations.
- Allocations: Allocates responsibility and identifies the parties to take the specified actions. The allocations may be specific to agencies or persons (businesses), or generally by source category or sector. Allocations of allowable pollutant burdens define TMDL

endpoints (e.g., total sediment load from urban runoff). The sum of individual allocations must equal total allowable pollutant burden.

- Implementation Plan: Describes what actions will be undertaken to alleviate the impairments. The Implementation Plan identifies enforceable features (e.g., prohibition) and triggers for Regional Board action (e.g., performance standards).
- Linkage Analysis: How the Numeric Targets relate to the Problem: Describes how the actions to be taken will result in achievement of the relevant standards.
- Monitoring/Re-evaluation: Describes the monitoring strategy that will be used to develop more refined information for performance evaluation and consideration of TMDL revisions, for phased TMDLs.
- Margin of Safety: Describes how the required margin of safety was incorporated into the TMDL. The margin of safety may be implicit (i.e., using conservative assumptions), or explicit (i.e., a discrete allocation assigned to the margin of safety).

3.2.4 Reports of Waste Discharge (ROWD)

Reports of Waste Discharge (ROWDs) present a collection of data from current and previous NPDES MS4 permits and describe the permittee's general plan to improve future water quality. Section 3.1, above, describes an overview of the pollutants contributing to water quality issues and their sources, with Section 3.3 and 3.4, below, providing water quality improvement and management plans. The Municipal Storm Water Program regulates stormwater discharges from MS4s throughout California. The Phase II MS4 Permit Program serves municipalities with populations less than 100,000 people and regulates stormwater and dry weather runoff to surface water within the planning area. The SWRCB and LRWQCB implement and enforce the Municipal Storm Water Program for the Susan River and have adopted NPDES permits to regulate MS4s.

The MS4 Permit includes BMPs and management measures required for commercial, industrial, municipal, and residential land uses to reduce or eliminate the discharge of pollutants to surface water sources. Also, the Permit requires inspection and post-construction assessment of BMPs and incorporates requirements for new development and re-development projects aimed at reducing surface water impacts. Low Impact Development (LID) requirements are mandated, as applicable, to mimic natural hydrology functions by retaining and/or treating pollutants in stormwater runoff prior to MS4 discharge. Table 3.2, below, details TMDL, NPDES, and WDR permits that apply to the area.

Table 3.2

Applicable Permits			
Agency	**Place/Project Type**	**Regulatory Measure Type**	**NPDES No.**
AT&T Corporation	Other	NPDES	CAG990002
Amedee Geothermal Venture I	Power Plant	NPDES Permit	CA0103055
CA Dept. of Corrections & Rehabilitation	WWTF	WDR	null
Herlong PUD	WWTF	WDR	null
Honey Lake Power Co.	Power Plant	WDR	null
Knapp Paired Homes	Other	Enrollee - WDR	null
Leavitt Lake CSD	WWTF	WDR	null
Pacific Gas & Electric Company San	Utility Structure	Enrollee - WDR	null
Phillips, Brian T	NEC	WDR	null
Reddoch, A & McMillin, S.	Campground	Enrollee	null
Reimers, Iris & Walter	Other	WDR	null
Spalding Community Service District	Facility	WDR	null
Staal, Ken	Other	Enrollee	null
Stones-Bengard CSD	Other	WDR	null
Susanville City	Other	WDR	null
Susanville City	Power Plant	WDR	null
Susanville CSD	Facility	NPDES Permit	CA0102695
US Army Sierra Army Depot	WWTF Facility	WDR	null
USDA Forest Service Lassen National	Other	WDR	null

3.2.5 California Environmental Quality Act (CEQA)

All stormwater projects proposed in the Lahontan Region by public and private agencies must adhere to the California Environmental Quality Act (CEQA). CEQA covers the potential negative environmental impacts created from proposed projects. This includes both short and long-term impacts and cumulative impacts related to project construction and operation.

If an evaluation deems a projected impact as significant, certain mitigation processes must take place to alleviate the potential impacts. CEQA review of specific projects will provide a detailed evaluation of the potential impacts discussed below.

Aesthetics - Aesthetic consideration should mitigate latent effects on scenic vistas or resources. This includes significant damage to trees, rocks, outcroppings, or any historical monuments within a state scenic highway or designated public areas. Projects must not degrade the existing integrity and quality of the sites and their surroundings.

Agriculture and Forestry Resources - Oversight agencies may address the California Agricultural Land Evaluation and Site Assessment Model (1997) while determining if the potential agricultural resources pose a significant threat to the environmental qualities of a project area. The model was developed by the California Department of Conservation to assess environmental impacts associated with agriculture and farmland. For possible impacts concerning forestry and fire

protection, lead agencies may refer to the California Department of Forestry and Fire Protection's compiled inventory of forest lands. Potential impacts may include non-agricultural use, farmland conversion, and issues with existing agricultural or forest land zoning associated with the conversion of forest land.

Air Quality - Applicable BMPs identified by the air quality management district will help in minimizing the short-term air quality effects. Air pollution control districts determine air quality significance based on conflicts with air quality plans, violation of current air standards, a cumulative net increase of any criteria pollutant for non-attainment areas, exposure of sensitive receptors to substantial pollutant concentrations and development of objectionable odors that affect a significant number of people.

Biological Resources - CEQA compliance applies to projects that have a hostile effect on sensitive species or candidates as specified in their respective ASBS, regional policies or as administered through the California Department of Fish and Wildlife. This includes direct wildlife influence or habitat modification on any riparian habitat or other sensitive communities recognized in the area. Federally protected wetlands, as defined by Section 404 of the Clean Water Act, should maintain minimal disturbance and avoid direct removal, filling and hydrological interruption. Applicants should not impede migratory or native resident fish nor perspective wildlife corridors and nursery sites. Projects are to comply with local and state conservation plans and regulations.

Cultural Resources - Significant impacts concerning historical and archaeological resources are to be assessed and defined in accordance with § 15064.5. Destruction of paleontological resources, sites, unique geologic features, or the disturbance of human remains is to be avoided for eligible projects.

Geology and Soils - Project implementation must consider hazardous geological aggravation and eliminate any exposure or risk of death or injury. Appropriate measures include earthquake fault locations as delineated from the current Alquist-Priolo Earthquake Fault Zoning Map. Precaution should be taken to remove the possibility of seismic activity, ground failure, liquefaction, landslides and soil erosion. Project sites are to be located on stable foundations to reduce the risk of the described threats. This includes site foundations placement on the expansive soil as represented in the Uniform Building Code.

Greenhouse Gas Emissions - Greenhouse gasses emitted directly or indirectly, can cause significant environmental impacts. Projects should not conflict with existing plans or policies regulating greenhouse emission standards.

Hazards and Hazardous Materials - Projects are to be cautious with hazardous waste by minimizing the effect on the public and environment through proper routine transport and disposal. Waste emissions must not be within a quarter-mile of an existing or proposed school.

Hydrology and Water Quality - CEQA requires that water quality standards and waste discharge regulations not be violated. Groundwater compliance includes mitigating interference with groundwater tables or ground-water supplies which result in the reduction of volume or level of

existing aquifers and water tables. Drainage patterns should be considered, including alterations for stream and river courses causing soil erosion, siltation, surface runoff rate and flooding.

Land Use and Planning - Appropriate projects must be in accordance with applicable local land use regulations. This includes general and specific plans and zoning ordinances. Agencies with acting jurisdiction will oversee those existing communities not be negatively impacted.

Mineral Resources - Minerals and resources of regional value, as delineated on a local general plan, should be protected during the construction process.

Noise - Noise exposure and ground vibrations should not exceed standards established in local plans or by regulatory agencies.

Population and Housing - An analysis of projected population growth or edgrowth should be taken before the implementation of a project. Plans may directly or indirectly encourage growth through residential and commercial zoning proposals or the expansion of infrastructure and roads. Projects should moderate the displacement of existing housing.

Public Services and Utilities - Alterations of government facilities including schools, parks, police stations, among others, and should not affect service response times and ratios.

Recreation - Construction or extension of recreational facilities should be assessed for potential environmental impacts. Projects should be careful not to promote overuse of existing facilities and parks that may cause physical deterioration.

Transportation and Circulation - Policy measures effectiveness regarding the transportation system performance. These measures reflect all modes and components of transportation including non-motorized travel and mass transit, streets, highways, bike paths, pedestrian walkways, and intersections. Projects must maintain existing levels of circulation and avoid conflict with traffic congestion management plans. Inadequate design features such as sharp curves and dangerous intersections or blockage of emergency access are undesirable safety risks. Projects should not increase air traffic volume or present substantial safety hazards.

Utilities and Service Systems - The Regional Water Quality Control Board defines wastewater treatment requirements that are to not be exceeded through project implementation. Construction of new treatment facilities, drainage features and infrastructure should be assessed for significant environmental impacts.

3.2.6 California Health and Safety Code

The California Health and Safety Code contains divisions and general provisions regarding environmental health subjects including pest abatement and drinking water requirements. Part 12 of the Code entitled ‘Drinking Water’ addresses the California Safe Drinking Water Act (CSDWA) compliance requirements. Division three identifies the pest abatement districts. Projects under considerations are to adhere to the regulations set by their corresponding pest abatement districts and articles provided in the CSDWA.

3.2.7 Water Rights

Groundwater recharge is the increase of groundwater, through natural or man-made surface or recycled water sources. This, in and of itself, is not a beneficial use of water, but some groundwater recharge projects may be considered for short-term water surpluses that occur. Diverting runoff to underground storage can be a method of taking advantage of natural storage capacities of aquifers; however, to obtain a water right there must be a designated beneficial use of the stored water.

Water rights consist of legal entitlements which authorize users to divert water from a specific surface or groundwater source in a beneficial manner. The exercise of water rights typically requires a permit or license issued through the California Water Quality Control Board. Riparian rights are a type of water right that come with ownership of a parcel of land adjacent to a source of water. These rights entitle a landowner to a share of the water flowing through the respective property. These rights do not require permitting, however, they do not allow for water storage. Similar to riparian rights, landowners have rights to extract underlying groundwater percolating through the owned land without the consent of the State Board.

Unauthorized appropriation of water is against the law and may result in court action and fines. A water rights permit covers construction timetables and conditions for proposed water projects. Prior rights and water basin capacity are measured while confirming potential projects. Water diversion or extraction must also be analyzed to determine if there are sufficient flows as to not negatively impact associated streams, lakes, recreational areas and wildlife areas.

A prospect water right application must work through the following steps to obtain a permit:

1. *File an application*: In the form, the applicant must specify the source, planned place of use, the purpose of diversion, and the quantity of water to be diverted.
2. *Acceptance of Application*: The Board will notify the applicant within 30 days if the application is accepted.
3. *Environmental Review*: CEQA requires the Board to review potential environmental effects that could endanger the surrounding natural habitat or water quality. After examination, the Board will determine if conservation measures will be enforced.
4. *Public Notice*: The State Board issues a public notice of the projects intents and provisions and invites public commentary. If the project attracts opposition, the applicant is required to respond and address the protestors concerns.
5. *Protest Resolution*: The Board acts to resolve any protests that have been filed. Typically, a mutually agreeable solution between both parties is found. In the case in which no compromise has been developed, the Board's Division of Water Rights will open an engineering investigation report, and often for larger projects a hearing is held before members of the State Board.

6. *Permit Issuance*: A permit is issued if the Boards determines that the proposed water use meets the criteria given. Generally, the applicant is required to begin construction within two years of the date of issuance.

After project completion, the Board confirms the terms and conditions placed during the permitting process. If approved, the applicant will receive a license for the final confirmation of the water right and it will remain effective if the terms and conditions are fulfilled.

3.3 Water Quality Implementation Plan

Much of the Lahontan Basin region consists of low-density development, rendering challenges to funding and implementation and assuring implementation will require regional participation and strategy. Projects will be submitted and implemented through the IRWMP. The beneficiaries of the Lahontan Basin SWRP are the residents of the region represented by the Plan Stakeholders and include water agencies; local, state, and federal agencies; non-government organizations (NGOs), businesses, wildlife organizations, the agricultural/farm industry, and others within the Lahontan Basin SWRP Region. The Lahontan Basin Plan, implemented in 1995, contains water quality standards and control measures for surface and ground water in the region. The plan designates beneficial uses of water bodies, as well as, water quality objectives, waste discharge prohibitions and other provisions to protect the basin's water quality.

3.3.1 Proposed Modification of a Stream Bed or Channel

Projects within the plan proposing major geometric modifications or material use from a river, stream, or lake must include mitigation measures to minimize erosion, hydromodification, or sediment transport. Environmental impacts caused by project implementation must also be fully mitigated as outlined in The Clean Water Act sections 401 and 404. If a given project requires stream bed modifications, a notification package must be completed and submitted to a California Department of Fish and Wildlife (CDFW) regional office along with an associated fee before the continuation of project development.

Section 1602 of the CDFW Code mandates notifications prior to the initiation of any of the following conditions:

- Diversion or obstruction the natural water flow of a given river, stream, or lake in a substantial manner,
- Significantly altering or using material from the bank, channel, or bed of a given river, stream, or lake, and
- Discharging debris, waste, or any other harmful substance that may lead to a path of a given river, stream, or lake.

Note that "a given river, stream, or lake" as classified by the CDFW, includes those that are intermittent (dry during certain seasons or periods) and perennial (year-round flow). This also incorporates transient streams, rivers with a subsurface flow, and desert washes.

3.4 Water Quality Management Plan

Storm Water Resource Plan (SWRP) project management is stakeholder driven and is non-regulatory based. Each project within the plan will build on the local stormwater management objectives. By the nature of the project origination, management will focus on watersheds with objectives and priorities that may enhance the environmental, provide flood protection and recreational opportunities, improve water quality, provide groundwater recharge and capture, and treat or reuse stormwater runoff. The managers will be the stakeholders. The projects must be responsible to establish project goals and guidelines which are consistent with the SWRP. Project proponents must identify their objects and establish operating guidelines to obtain those objects. A project management implementation strategy and schedule must be proposed for acceptance. Goals and Objectives are presented later in Section 7 of this SWRP.

Projects will be added to or removed from the SWRP through the submittal and review process. Projects will be added to the agenda of regularly-scheduled IRWMP meetings. The Lahontan IRWMG will review all accepted projects on a routine basis to identify accomplishments and compliance with the project objectives and Guidelines of the SWRP. One of the SWRP goals and requirement of the Guidelines is to produce a living document which can be used for many years and adapted to the changing needs and resource goals for the Lahontan Basin region.

3.4.1 Monitoring Program Requirements

Applicants for project implementation, in conjunction with IRWMP, will be regulated in developing monitoring plans prior to construction or implementation stages. Project proponents will be accountable for performing monitoring activities, data collection, and verification of the consistency of SWRP requirements. Data analysis and collection is a significant process to be included in project implementation. Quality data can help to identify gaps, assess project performance, and integrate regional and statewide datasets.

Meaningful data collected from projects is to be submitted to the IRWMP database management system and any other relevant statewide database. Collection frequency and sampling methods will depend on the nature of the project and will undergo a review to certify that local, state, and federal requirements are being met. Project data collected and certified will be integrated with external data sets and will receive an annual update. The agencies listed in Table 3.3 are considered potential sources for data collection and analysis.

Table 3.3

Potential Data Sources		
Federal	State	Local
National Climate Data Center	California Irrigation Management Information System (CIMIS)	Lassen County
National Resource Conservation District	Department of Fish & Game	Sierra County
Army Corps of Engineers	Department of Public Health	City Planning Departments
Bureau of Reclamation	Department of Water Resources	Susan River Watershed Group
U.S. Fish & Wildlife Service	State Water Resources Control Board & the Regional Water Quality Control Board	Lassen Irrigation Company
U.S. Geologic Survey	California Natural Diversity Database	Susanville Indian Rancheria
National Marine Fisheries Service	California Department of Pesticide Regulation	Honey Lake Valley Resource Conservation District
U.S. Environmental Protection Agency		Stakeholders
The Nature Conservancy		
U.S. Forest Service		

The RWMG, TAC, project proponents, and other participants are jointly responsible for the distribution and propagation of data. Data sharing may be accomplished through public and technical workshops, TAC meetings, and website postings and updates. Information gathered will be compiled and sent to statewide databases (e.g. CEDEN, Water Date Library, CASGEM, CEIC, and CERES).

The IRWMP website is a tool for sharing and integrating regional project data. Any interested entity of the public can register for IRWMP to view posted information. IRWMP is designed to encourage collaborative efforts between stakeholders and project sponsors through easy access to current information and data.

3.4.2 Integration into Existing Monitoring Efforts

Data collected from projects or as part of this plan can be used in supporting and expanding data from state programs. These programs include:

Surface Water Ambient Monitoring Program (SWAMP) – This program is tasked with surface water quality assessment in the State of California. Any data in relation to surface water that is collected for project implementation provided by grant funding must be consistent with the SWAMP database guidelines for compatibility. Data is to be added annually to the state database using the appropriate data submission formats.

Groundwater Ambient Monitoring and Assessment (GAMA) - The GAMA program was instituted in 2000 with its principal purposes being: collect data of tested untreated, raw water in different types of wells for substances (both naturally occurring and man-made). The GAMA test results are compiled together with existing groundwater quality data into a public database. These field samples are coordinated with the GAMA program to assure the prevention and elimination of duplicate data collection.

California Statewide Groundwater Elevation Monitoring (CASGEM) - Enacted by the State Legislature on November 9, 2004, SBX7-6 mandates locally managed monitoring programs for groundwater elevation. CASGEM is applicable statewide for California's groundwater basins and sub-basins as identified through the DWR Bulletin 118. The new law regulates systematic monitoring of groundwater elevations, a collaboration of data accumulation, and collection between the DWR and respective local entities. The central goal of the CASGEM program is to examine both seasonal and long-term trends in groundwater elevations throughout the state. It is expected to obtain sufficient data to generate contour maps of each representative region along with the corresponding elevations. The production of maps as these will be utilized for estimating volumetric groundwater storage changes and assessing potential areas of subsidence and overdraft.

Wetland and Riparian Area Monitoring Plan (WRAMP) - WRAMP is a planned program intended to track trends of wetlands limits, determine wetland conditions, and measure agency performance in managing and protecting their associative wetland areas. WRAMP describes standardized assessment methods and data management practices with the intent to minimize external costs and maximize public access to data.

Monitoring plans implemented by projects are to include the following plans and procedures:

- A description of what is being monitored (e.g. flood frequency, water quality, water depth, etc..) and its correlated influences on surrounding habitat and impact on native species both before and after construction. This information should be provided in a formatted table,
- Counteractive measures and remedies to address issues that may arise during the monitoring process,
- Locations being monitored,
- Frequency of monitoring, and
- A description of appropriate protocols and utilized methodologies along with quality assurance and control procedures specifying the monitoring agencies.

3.5 Satisfaction of Applicable Waste Discharge Permits

The primary waste discharge permit requirements that are currently applicable are summarized in the NPDES MS4 permit discussed in Sub-Section 3.2.2. Along with the SWRCB, LRWQCB adopted R6T-2003-00004, which describes WDRs for small construction projects, including utility, public works, and minor streambed/lakebed alteration projects in the Lahontan Region (Excluding the Lake Tahoe Hydrologic Unit). The General Order includes WDR requirements for minor streambed/lakebed alteration projects throughout the region that are not regulated by the Army Corps of Engineers under the Clean Water Act 404.

All WDRs must implement the applicable Regional Water Quality Control Board's water quality control plan for the region that the discharge occurs; therefore, the discharger must comply with any more stringent standards including any prohibitions and/or water quality objectives for the

region. A general WDR permit is used to reduce the discharge of stormwater pollutants from reaching surface waters. Table 3.4, extracted from the Table of General Permits for use within the region**,** lists the General WDR permits specifically adopted by the Lahontan Basin region. All other State Water Control Board WDRs apply, as well.

Table 3.4

General WDR Permits Adopted by the Lahontan Region		
R6T-2003-0004	General Waste Discharge Requirements for Small Construction Projects, including Utility, Public Works, and Minor Streambed/Lakebed Alteration Projects Throughout the Lahontan Region, Excluding Lake Tahoe	Regulates construction activity in specific high-elevation watersheds with a land disturbance between 10,000 sq. ft. and 43,560 sq. ft. (one acre). It also may be used to regulate dredged and fill material discharges in State waters of the Lahontan Region when the federal Clean Water Act is not applicable (as determined by the US Army Corps of Engineers). This permit does not apply to projects within the Lake Tahoe Hydrologic Unit (please see General Order No. 6-91-31). Projects are typically non-recurring, and short-term (completed within two construction seasons). Requires application to Regional Water Board.
R6T-2004-0015	Waste Discharge Requirements for Land Disposal of Treated Ground Water	Regulates pollutants from groundwater cleanup actions involving discharge to land with underlying ground water. Primary pollutants covered are petroleum product and chlorinated hydrocarbon constituent residuals in treated waters. Requires application to Regional Water Board.

4.0 Organization Coordination and Collaboration

4.1 Introduction and Overview

The goals and objectives of the Lahontan Basin Storm Water Resources Plan (SWRP) was developed by the Technical Advisory Committee (TAC) with input from stakeholders and hired consultants. In addition to the regular coordination meetings of the TAC, the SWRP program provides web-based venues for local agencies and stakeholders to coordinate and identify opportunities for cooperative projects and new emerging resource needs. All SWRP program information can be found at https://www.honeylakevalleyrcd.org/swrp/

The Lahontan Basin SWRP website was developed early in the SWRP planning process to serve as a source of information for individuals interested in learning basic information about the SWRP program. During the development of the SWRP, the Honey Lake Valley Resource Conservation District (HLVRCD) enhanced the website to include meeting notifications, meeting materials, and documents developed throughout the SWRP planning process. All program materials are posted on the website to keep stakeholders informed of activities being pursued at the regional level.

4.2 Regional Water Management Groups Existing IRWMP

The Lahontan Basin Regional Water Management Group (IRWMG), which oversaw the development of the Lahontan Basin IRWMP, led a collaborative process with public agencies, private utilities, and public stakeholders in the region to develop the Lahontan Basin IRWMP. Furthermore, the Lahontan Basin SWRP TAC includes three of the four member agencies of the RWMG with the addition of Lassen County representatives. With the addition of Lassen County officials, the SWRP needs assessment was better represented.

4.2.1 Overview of Lahontan Basin IRWMP

The Lahontan Basin Integrated Regional Water Management Plan (IRWMP) is the first Integrated Regional Water Management (IRWM) for the Lahontan Basin region. The IRWMP was developed through a stakeholder-driven process, building upon the Region's successful history of collaboration on water resource management issues. The IRWMP represents the culmination of years of cooperative and collaborative planning among regional stakeholders.

The IRWMP is a shared effort by HLVRCD, Lassen Irrigation Company (LIC), City of Susanville (CS) and the Susanville Indian Rancheria (SIR) to identify regional and multi-beneficial projects for the Lahontan Basin Watershed. These four agencies are collectively referred to as the Regional Watershed Management Group (RWMG). Their role as the sponsors led the development of the IRWMP.

On an individual basis, HLVRCD, LIC, CS, and SIR have each investigated and evaluated various water resource and environmental management options for the overall health and wellbeing of the watershed within their jurisdictions. The IRWMP integrates these various efforts and other

efforts in the greater Lahontan Basin Region area in order to identify and prioritize integrated regional water projects to maximize benefits to the broadest group of stakeholders in the region.

4.3 Stakeholders Agencies that Participated in plan Development

The Lahontan Basin SWRP process is built on the premise that future implementation of a SWRP would not be possible unless the strategies and options were first identified, prioritized, and developed by the affected stakeholders. As a result, stakeholder involvement is a central element to the Lahontan Basin SWRP process and implementation success will necessarily involve water management strategies that address the concerns of local communities and reflect the public's interests and values within the region.

Stakeholder involvement is a central element of the Lahontan Basin SWRP process. Accordingly, numerous stakeholder groups throughout the Lahontan Basin region were identified and contacted (Table 4.1). These outreach efforts were successful in obtaining stakeholder input during the planning process. Stakeholders have participated in various stakeholder meetings and regular correspondence with the planning team to develop, influence, and complete the SWRP. It is anticipated that active stakeholder involvement will continue during the implementation of the SWRP. See Table 4.1 below for the Stakeholder Agencies.

Table 4.1

Stakeholder Agencies		
City of Susanville	Herlong Public Utilities District	Honey Lake Valley Resource Conservation District (HLVRCD)
Lake Forest Community Service District	Lassen County Cattlemen's Association	Lassen Irrigation Company
Lassen County Special Weed Action Team (SWAT)	Lassen County	Lassen County Fire Safe Council (LCFSC)
Leavitt Lake Community Services District	Lassen County Farm Bureau	Lassen Land and Trails Trust
Sierra Nevada Conservancy (SNC)	Sierra Army Depot (SIAD)	Spaulding Community Service District
Susanville Consolidated Sanitary District	Susanville Indian Rancheria (SIR)	United States Department of Agriculture (USDA) Forest Service, Lassen National Forest (LNF)
West Patton Village Community Service District	Lahontan Regional Water Quality Control Board (LRWQCB)	United States Department of Agriculture Natural Resource Conservation Service (NRCS), Susanville District

In addition to the participation represented in the stakeholders above, various locally developed plans were also used as cornerstone documents during the SWRP developments. These documents are referenced below in Table 4.2.

Table 4.2

Document Name	Publication Date	Agency(ies)/Entity(ies)	Relation to SWRP
Conservation Plan for Pine Creek and Eagle Lake	June 2007	Honey Lake Valley Resource Conservation District	For general understanding of existing conservation efforts and planning along the Pine Creek and Eagle Lake
Lassen County Groundwater Management Plan	June 2007	Lassen County	For understanding of Lassen County groundwater needs, management and planning objectives.
Infrastructure Inventory and Capital Improvements Plan	January 2013	Honey Lake Valley Resource Conservation District	For understanding relationship of Infrastructure condition and prioritizing capital improvements.
Groundwater Quality Data (Cascade Range and Modoc Plateau)	2010	United States Geological Survey (USGS)	A regional overview of groundwater quality in the Lahontan Basin
Hazard Mitigation Plan	October 2010	Lassen County, City of Susanville, & Susanville Indian Rancheria	For general information regarding mitigation strategies for reducing potential losses resulting from fire, flood and other possible hazards. Directly relates to several projects.
Susan River Area Rapid Watershed Assessment	December 2011	United States Department of Agriculture (USDA)	For general understanding of existing watershed studies and planning along the Susan River.
Susan River Toxicity Report	August 2004	Regional Water Quality Control Board: Lahontan Region	For general understanding of existing water toxicity levels and planning along the Susan River.
Toxicity in California Waters: Lahontan Region	August 2012	State of California Regional Water Quality Control Board Lahontan Region	For general understanding of existing water toxicity levels and planning in the Lahontan Region.
Lassen County General Plan	2000	Lassen County	For general understanding of local land use, environmental/water resources, economic, and administrative management issues.
Water Quality Control Plan: Lahontan Region	December 2005	State of California Regional Water Quality Control Board Lahontan Region	For general understanding of local land use, environmental/water resources, economic, and administrative management issues.

4.4 Nonprofit Organizations

No nonprofit organizations with a primary purpose of working on stormwater and dry weather resource planning or management exist in the planning area. Other nonprofit organizations were engaged in the development of the Lahontan Basin SWRP. Given the extremely rural and arid desert climate, few nonprofit organizations exist. The TAC and Lahontan Basin RWMG will continue to engage these organizations.

4.5 Public Engagement/Communication Plan and Coordination

4.5.1 Overview of Public Engagement/Communication Plan

The SWRP is an integral part of a comprehensive and coordinated stormwater management program at a local and regional level. As such, more general outreach to the public and stakeholders on stormwater issues, specific project proposals, and regional stormwater management conditions also served as the objectives of the SWRP. Examples include:

Public Events - Public SWRP meetings hosted at Lassen County Administrative Offices and Honey Lake Valley Resource Conservation District Conference Room,

Presentations to Community and Professional Groups - Lassen County Board of Supervisors Meetings, Honey Lake Valley Resource Conservation District Board Meetings,

Websites - The https://www.honeylakevalleyrcd.org/swrp/ website disseminates information about the plan to the broader public and keeps participants informed between meetings. The website promotes active engagement of stakeholders in the SWRP community,

Emails - The TAC communicates frequently via emails given the largely rural nature of the region. Updates of SWRP progression was sent out via email using a contact list of over 50 addresses, and

Other - TAC continually seeks opportunities for outreach to the public and stakeholders on stormwater issues in general and the SWRP.

Through the initial phases of SWRP development, key stakeholders were included when considering major technical and policy issues related to the development and implementation of the Plan. Issues included the ultimate purpose of the development of the SWRP and plan components, who was going to be involved in the development, how projects would be solicited from stakeholders, gathered, and included in the Plan, and development of the process for updates and the addition of projects in the future. The goal was to encourage public participation in projects benefitting stakeholders and promote the other goals of the Plan.

A public website has been created to store data and information about the SWRP process so that the public can find information about public meeting dates, agendas, and notes. The website provides information on the SWRP process, reports and relevant documents that can be downloaded. Data collected during the SWRP process will be available on the website (https://www.honeylakevalleyrcd.org/swrp/).

Collection and dissemination of data to stakeholders, agencies, and the general public will be integrated into the SWRP process to ensure overall success. The HLVRCD will compile the reporting of the SWRP and work individually with the project proponents to receive updates on individual project progress. A standardized reporting format will be created which the HLVRCD will use to compile this data, and will be uploaded to the project website described above. Data collected or produced as part of the SWRP will then be presented and disseminated.

4.5.2 Public Meetings During Plan Development

The public meeting agendas will be organized using a standardized format. All data will be compiled by HLVRCD. The objectives of the meetings include:

- Purpose and need for SWRP
- SWRP history, minutes and list of participants
- Clean explanation of the SWRP goals and responsibilities
- SWRP components and action items
- Project submittal process
- Report on existing project progress
- Data to be disseminated

4.6 Local, State, Federal Decisions, Code Change or Legislations Needed for Plan Implementations

Local, state, and federal governance structure currently exists to support the implementation of the SWRP and prioritize projects within the region. The permits and decisions required for project implementation will be determined after preliminary designs are completed and the California Environmental Quality Act (CEQA) documents for the projects are certified. A list of required decisions will be prepared at that time. All projects proposed and implemented as part of the SWRP will comply with applicable city, and county stormwater documents and ordinances. No specific code changes or legislation will be required on local, state or federal levels for plan or project implementation.

Coordination between local agencies will be essential for regional monitoring and will be addressed through the collaboration of the Lahontan Basin RWMG and if needed, interaction with local, state, and federal agencies may be required for permitting and environmental processes.

4.7 Planning and Coordination among Existing Local Government Agencies for Plan Implementation

Continued coordination with local agencies with permitting authority will be critical to the implementation of projects in the SWRP. In the Lahontan Basin region, the primary local agency with permitting authority for water projects is the Lassen County Planning Department. Lassen County is a member of the SWRP TAC.

Historically, coordination with state and federal agencies has mainly occurred on a local, project-specific basis as needed to complete necessary permits and CEQA or NEPA documentation. In the integrated planning process, however, the role of these agencies was identified proactively and the potential involvement of each agency during SWRP implementation was identified.

The first form of involvement is to help coordinate and/or communicate the SWRP to other stakeholders within the region. Another form of involvement is to assist in the implementation of the SWRP through facilitation or active project involvement. The final form of involvement is through granting of necessary regulatory approvals. In many cases, a given agency can be involved in SWRP implementation in all these ways.

5.0 Quantitative Methods

5.1 Metrics-Based Analysis

The Honey Lake Valley Resource Conservation District (HLVRCD) Storm Water Resource Plan (SWRP) is being developed to improve water quality and meet objectives as outlined in the SWRP guidelines.

Section VI of the California State Regional Water Resources Control Board (CWRCB) SWRP Guidelines outlines the need for a quantitative analysis of proposed projects and the need for "appropriate quantitative methods for identifying and prioritizing opportunities for stormwater and dry weather runoff capture projects." In addition, the 2015 CWRCB guidelines state that "Plans shall include a metrics-based and integrated evaluation and analysis of multiple benefits to maximize water supply, water quality, flood management, environmental, and other community benefits within the watershed" (CWRCB 2015).

This section outlines the selected modeling tools and metrics-based approach to quantify multiple benefits from the proposed projects.

5.1.1 Tools

Tools identified for the analysis of benefits are anticipated to include but are not limited to the following:

Microsoft Excel – Excel is a spreadsheet database and calculation program that will be used in portions of the calculations as outlined in the quantification methods proposed below. In addition, outputs from various other software applications can be transferred to the program. Calculations and numerical models can be created as part of the quantification process.

ESRI ArcGIS – A Geographic Information System (GIS) is a spatially-based program that has powerful spatial analyst tools that allow for various spatial qualification and mapping of collected and generated data. The mapping and area qualifications for the SWRP will generally be generated in ArcGIS. Data inputs for other modeling tools such as HEC-HMS and HEC-RAS can be gathered and handled more succinctly with the ArcGIS program. As an alternative, freeware version Q-GIS is recommended for agencies and project applicants without an ESRI ArcGIS license.

AutoCAD Civil 3D – Civil 3D is a drafting tool with additional 3D and hydrologic calculation capabilities. Within the system, various modules are used to calculated open channel flow rates, culvert flows, and other water-related calculations. The program is also used in the preliminary design of the selected projects. In the project design documents, there will be essential data needed for inputs and iterations of the design process.

HEC-HMS – HEC-HMS is designed to simulate the complete hydrologic processes of watershed systems. HEC-HMS will be used for water flow quantification. This can apply to multiple parts of the study including watershed peak flows, stream flows, and some elements of sedimentation.

HEC-HMS computes watershed sediment yield using the Modified Universal Soil Loss Equation (MUSLE) and includes several empirical assumptions that translate a total event load into a sediment time-series by grain class (USACE 2017).

HEC-RAS – HEC-RAS is a river modeling tool, and could be used in channel flow computations, and more detailed sedimentation calculations. However, with the currently submitted projects, it is not anticipated that HEC-RAS will be required. HEC-RAS is a tool relevant to the project and may be used depending on the design produced for the proposed improvement projects.

SWMM – EPA's Storm Water Management Model (SWMM) is used for planning, analysis, and design related to stormwater runoff, combined and sanitary sewers, and other drainage systems in urban areas. There are many applications for drainage systems in non-urban areas as well.

The EPA created the following description for the SWMM program (EPA 2017). https://www.epa.gov/water-research/storm-water-management-model-swmm

> SWMM is a dynamic hydrology-hydraulic water quality simulation model. It is used for single event or long-term (continuous) simulation of runoff quantity and quality from primarily urban areas. The runoff component operates on a collection of sub-catchment areas that receive precipitation and generate runoff and pollutant loads. The routing portion transports this runoff through a system of pipes, channels, storage/treatment devices, pumps, and regulators.
>
> SWMM tracks the quantity and quality of runoff made within each sub-catchment. It tracks the flow rate, flow depth, and quality of water in each pipe and channel during a simulation period made up of multiple time steps. SWMM 5 has been extended to model the hydrologic performance of specific types of low impact development (LID) controls. The LID controls that the user can choose to include the following green infrastructure practices:
>
> - Rain gardens,
> - Bioretention cells (or bioswales),
> - Vegetative swales,
> - Infiltration trenches,
> - Green roofs,
> - Rooftop (downspout) disconnection,
> - Rain barrels or cisterns (rainwater harvesting), and
> - Continuous permeable pavement systems (EPA 2017).

SWMM can be used to evaluate proposed improvements on the projects included if necessary. BMP performance data and water quality loading rates will rely on local or regional data, where available, and otherwise will rely on state, national data or estimates. Total pollutant load removal estimates will rely on both volume capture and treatment quantification.

Simplified GHG Emissions Calculator – EPA's emissions calculator is designed as a simplified calculation tool to help low emitter estimates and inventories of Annual Greenhouse Gas (GHG) emissions. The calculator can determine the direct and indirect emissions from sources for one annual period. This tool is a simple effective way to estimate changes due to an individual project (EPA 2017).

Equation Based Analysis

For planning purposes empirical equations, such as the Schueler 1987 Simple Method, area calculations, rainfall depth, rational rainfall runoff, Manning's equation, and other typical volume and flow calculations were used. The Scheduler 1987 Simple Method for estimating BMP's is outlined as

1. Calculation of the runoff coefficient, Rv

   Rv = 0.05 + 0.009(I)

2. Calculation of runoff depth (acre-feet per time interval)

   R = [(P)(Pj)(Rv)/12](A)

3. Calculation of annual pollutant loads (pounds/acres per time interval) L = (R)(C)(2.72) / A or L = [(P)(Pj)(Rv)/12](C)(2.72)

where:

- Rv = Mean runoff coefficient, expressing the fraction of rainfall converted into runoff
- I = Percent of site imperviousness
- R = Runoff (acre-feet per time interval)
- P = Rainfall depth over desired time interval (inches)
- Pj = Fraction of rainfall events that produce runoff (0.9 in the median case)
- A = Area of the site (acres)
- L = Urban runoff load (pounds/acres per time interval)
- C = Flow-weighted mean concentration of the pollutant in urban runoff (mg/L or ppm)
- 12 = Conversion factor (inches/foot)
- 2.72 = Conversion factor (pounds/acre-foot-ppm)

5.2 Projects Analysis & Design Criteria

5.2.1 Project Eligibility

The first step of the project prioritization is determining eligibility. In order for a project to be considered eligible to be included in the SWRP, it must be an implementation project that includes elements of stormwater or dry weather runoff capture, water quality improvement, or beneficial use. A goal of the SWRP is to identify opportunities to enhance utilization of stormwater as a resource. Benefield use of

collected stormwater and dry weather flows are further assessed in the SWRP to address stormwater as a resource. Eligible projects must also meet at least two SWRP benefits. Therefore, one of the two projects benefits must include water quality or water resource benefits through stormwater or dry weather runoff capture. This SWRP also covers projects that may have habitat restoration, flood management and water conservation elements and benefits. Implementation projects must also identify the funding source for operations and maintenance for the timeline required in the grant application (figure on following page). After a project is determined eligible, the project is evaluated against a series of criteria for each benefit category addressed by the project to meet the eligibility under this first step. Points are assigned for achieving certain benefits (i.e., increasing infiltration or providing urban green space) and providing project metrics. (i.e., volume of flow reduced). In addition, projects that have been identified and assessed in a watershed-based plan.

Depending on the specific grant criteria, a portion (which varies between grant solicitations) of total project costs may include planning (design, permitting, and environmental assessment). Project sponsors need to check specific grant application requirements for the portions of the requested funding allowable for planning activities. The implementation project must also include as its primary element's stormwater or dry weather runoff capture and water quality improvement and or beneficial use. Eligible projects must also meet at least two SWRP benefits. In order to prioritize projects within the region, projects must provide two or more of the following benefits: water quality, water supply, flood management, environmental, and community. Therefore, one of the two project benefits need to be water quality or water resource benefits through stormwater and/or dry weather runoff capture. A project that achieves the water quality benefit would contribute to water quality compliance or address a TMDL requirement.

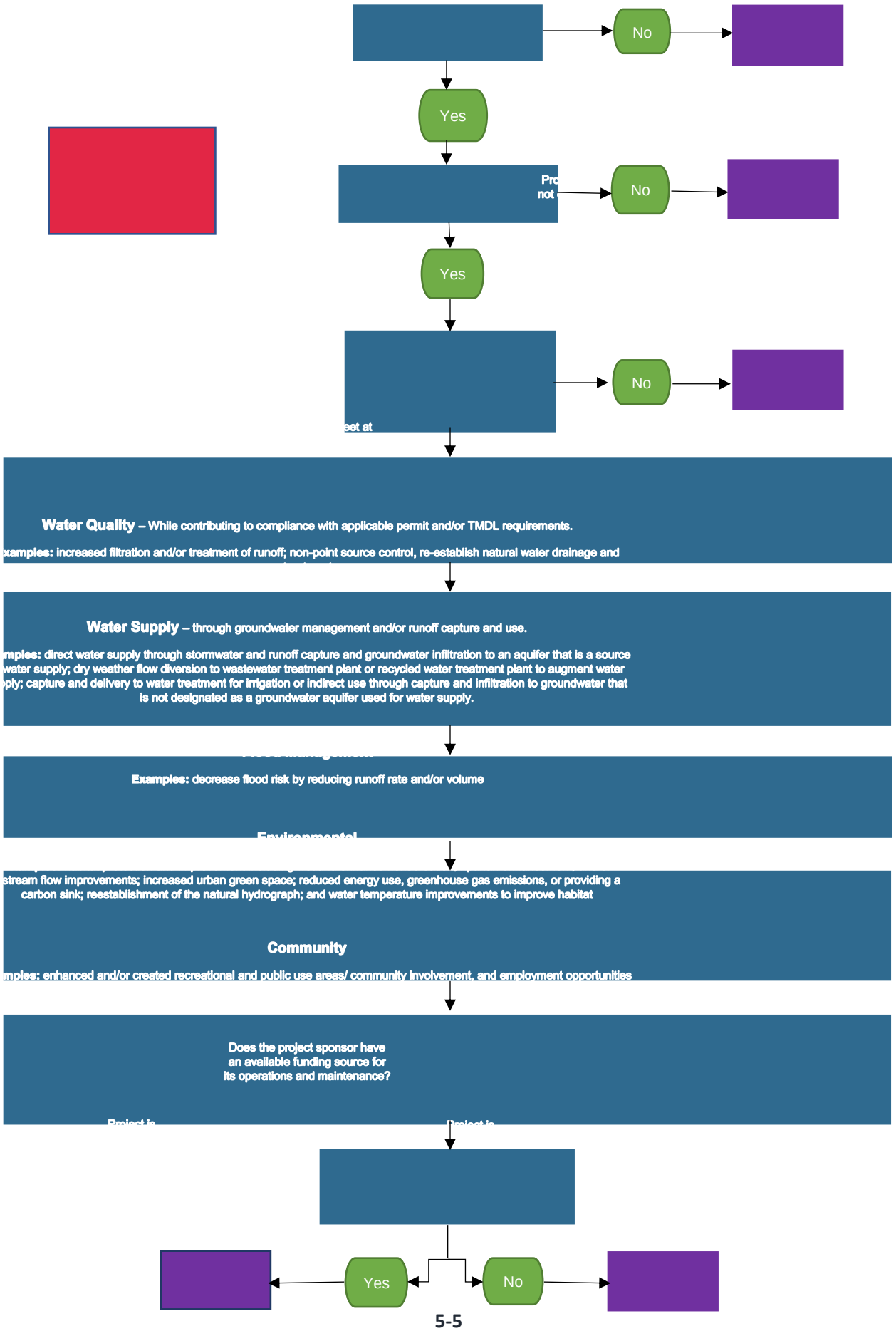
Many projects will naturally fall into multiple benefit categories. For example, a project that involves BMP elements such as bioswales would help re-establish a natural hydrograph, providing flood and environmental benefits, would enhance water quality, and could benefit the community by increasing urban green space. Projects must fall in a minimum of two benefit categories to be eligible but could have benefits in all five categories.

The project benefit matrices and scoring are described in section six. Section six also includes tables showing the projects and their weighted benefits and final benefit scores.

Design for all projects will be expected to comply with the following potential permits as applicable:

- Local Building Codes
- Section 303(d) impaired water bodies,
- Total maximum daily loads (TMDLs),
- NPDES permits,
- General Construction Storm Water Pollution Prevention Plans (SWPPP),
- MS4 permits, and
- General WDRs

Project Eligibility Flow Chart:


No
Yes
No
Yes
No
Water Quality – While contributing to compliance with applicable permit and/or TMDL requirements.
Water Supply – through groundwater management and/or runoff capture and use.
Examples: decrease flood risk by reducing runoff rate and/or volume
Community
Does the project sponsor have an available funding source for its operations and maintenance?
Yes
No

5.2.2 Water Quality Projects

The Lahontan Water Quality Board will be the permitting agency for NPDES compliance , water quality projects identified in this document will be expected to utilize standard NPDES and BMP requirements in final design documents.

Design Criteria

To quantify pollutant load reduction, the project must have a pre-project and post-project condition for the pollutant load. Pollutant loads can be calculated utilizing EPA-SWMM, or other acceptable industry standard methods. The Initial condition will be examined, and post-project condition will be deducted from the initial condition to obtain a delta and the quantifiable benefit in lbs./year or (most probable number) MPN/year.

Sediment loading will be calculated by HEC-HMS or other acceptable industry standard methods. Reduction in sediment load will be a pre- and post-sediment load calculation. Units for sediment loads will be in lbs./year.

Design shall comply with the following potential permits:

- Local Building Codes
- Section 303(d) impaired water bodies,
- Total maximum daily loads (TMDLs),
- NPDES permits,
- General Construction Storm Water Pollution Prevention Plans (SWPPP),
- MS4 permits, and
- General WDRs

Infiltration totals will be calculated by using infiltration rates applied over project areas. Evapotranspiration will be calculated by using locally developed evapotranspiration rates. The total quantifiable metric will be measured in acre-ft per year (AFY). All methods used will provide quantitative analysis of pre- and post-development flows not causing an increase in the watershed. Each project will contribute to the preservation, restoration, or enhancement of the watershed process. Table 5.1 below shows a narrative of each projects water quality contributions. Actual benefit quantifications are included in Section 5.2.6 Preliminary Calculation Results.

Table 5.1

Watershed Summary	
Project	**Improvement**
Old Channel Improvement Project	Making non-point pollution control/best management practices improvements to existing infrastructure to capture, treat, infiltrate or reuse storm water. Identify potential channel point source pollution outlets and implement storm drain infrastructure to mitigate poor water quality.

Janesville Park and Doyle Park Stormwater Project	This project will be designed to improve water quality by making non-point pollution control/best management practices improvements to existing infrastructure to capture, treat, infiltrate or reuse storm water. Janesville Park: Extended detention basins. Doyle Park: Vegetated Buffer Strip.
Paiute Lane and Susanville Ranch Park Stormwater Project	Improve water quality by making non-point pollution control/best management practices improvements to existing infrastructure to treat or infiltrate storm water. Including an infiltration basin, infiltration trench, and vegetated swale.
Lassen County Fairgrounds Storm Water Project	Improve water quality by making non-point pollution control/best management practices improvements to existing infrastructure to capture, treat, infiltrate or reuse storm water. North Gate & Parking: Relocate manure stockpiles and mitigate contaminated run-off to improve surface water and reduce sediment load. Fair Parking: Identify potential of effluent point source pollution contamination in storm drain system. Including a vegetated swale.
Susanville Road Shop Storm Water Project	Improve water quality by making non-point pollution control/best management practices improvements to existing infrastructure to capture, treat, infiltrate or reuse storm water. Including an infiltration basin. Oil sur trap will be placed at basin outlet to contain oils transported by storm water run-off. Including an infiltration trench.

5.2.3 Storm Water Capture Projects

Rain barrels, water vessels, and water detention basins should be monitored for total capture quantities and reuse.

Design Criteria

Where possible meters should be added to stormwater outflows, to quantify reuse. If not possible, yearly average rainfall depths should be used to estimate the total amount of water retained and reused. Stormwater capture for infiltration will be calculated by using infiltration rates applied over project areas. Infiltration rates should be obtained from site soils investigations or from soil type and related infiltration rates for the soil type. The total quantifiable metric will be measured in AFY.

Design shall comply with the following potential permits:

- Local Building Codes
- NPDES permits,
- General Construction Storm Water Pollution Prevention Plans (SWPPP),

5.2.4 Water Supply and Flood Control Projects

Conjunctive use or the recovery of stored surface water will be calculated on an annual basis. This calculation will require an estimation of the total precipitation and/or flow values for the year with a calculation of the collected amount using industry standard calculations for the various methods of collection, such as runoff calculations using HEC-HMS. The total quantifiable metric will be measured in AFY.

Design Criteria

Flood control using infiltration basins or rapid infiltration basins for groundwater recharge will be calculated by using infiltration rates applied over project areas. Infiltration rates should be obtained from site soils investigations or from soil type and related infiltration rates for the soil type. The total quantifiable metric will be measured in AFY.

Increased efficiency will be calculated on an annual basis using pre- and post-infiltration rates or scientifically based efficacy rates for the proposed project. The total water conserved will require a pre-project and post-project flow loss and should be reported in AFY.

Peak flow reductions should utilize industry acceptable hydrology methods such as rational method or computer-based programs such as HEC-HMS or USDA's TR-55 for small watershed hydrology. The calculation will be a pre-project and post-project peak flow calculation. The total quantifiable metric will be measured in cubic feet per second (cfs).

Peak volume reductions should utilize industry acceptable hydrology methods such as rational method or computer-based programs such as HEC-HMS or USDA's TR-55 for small watershed hydrology. The calculation will be a pre-project and post-project peak flow calculation. The total quantifiable metric will be measured in AFY or cfs.

Design shall comply with the following potential permits:

- Local Building Codes
- Section 303(d) impaired water bodies,
- Total maximum daily loads (TMDLs),
- NPDES permits,
- General Construction Storm Water Pollution Prevention Plans (SWPPP),
- MS4 permits, and
- General WDRs

5.2.5 Environmental and Community Benefits

Areas of wetland habitat and/or riparian habit created or enhanced will require area calculations using spatially based software's such ArcGIS or AutoCAD. The total quantifiable metric will be measured in acres.

Areas of increased urban green space will require area calculations using spatially based software programs such as ArcGIS or AutoCAD. The total quantifiable metric will be measured in acres.

Design Criteria

Demonstrating the slowing of peak flow should utilize industry acceptable hydrology methods such as rational method or computer-based programs such as HEC-HMS or USDA's TR-55 for small watershed hydrology. The calculation will be a pre-and post-peak flow calculation. The total quantifiable metric will be demonstrated by the anticipated reduction in peak flow rate in cfs.

Water temperature improvements can be performed utilizing ongoing empirical measurements with a temperature gauge at the site for baseline conditions and model future conditions using EPA SWMM or other industry accepted water temperature models. The total quantifiable metric will be measured in anticipated temperature reduction in Degrees (Fahrenheit or Celsius). For preliminary ranking, the anticipated temperature change will be described qualitatively as "increase, no change, or decrease."

Reduced Energy use and/or greenhouse gas emissions will consist of pre- and post-emission calculations. Industry standard EPA emission rates should be used in the calculations. The EPA Simplified GHG Emissions Calculator (EPA 2017) may be acceptable for use depending on the proposed project. The total quantifiable metric will be measured in pounds of emission reduced per year. For preliminary ranking, the anticipated energy use, or greenhouse gas emissions will be described qualitatively as "increase, no change, or decrease."

Design shall comply with the following potential permits:

- Local Building Codes
- Section 303(d) impaired water bodies,
- Total maximum daily loads (TMDLs),
- NPDES permits,
- General Construction Storm Water Pollution Prevention Plans (SWPPP),

Quantification for Community Benefits

Employment opportunities created will be based on actual jobs created from the proposed project. This benefit is intangible, and a narrative will be provided describing how the improvements associated with the project will likely increase the vibrancy and sustainability of the associated business that in the long run will be able to add and/or retain jobs. Anticipated Employment Opportunities will be qualitatively described as "none, low, medium, or high."

Public education will be based on the number of people reached and the effectiveness of the methods used to communicate the education efforts. Enhanced public education opportunities will be measured with a narrative of the program implemented and the anticipated intangible benefit it will provide to the community. Anticipated success of the Public Education element will be qualitatively described as "none, low, medium, or high."

Community Involvement will be based on the number of people attending community involvement events or directly engaged in activities determined to increase community involvement. The metric will be measured as an intangible benefit that can be described by observation of successful event organization and execution at the local level. Anticipated success of the Community Involvement element will be qualitatively described as "none, low, medium, or high."

Enhancement and/or creation of recreational and public use will require area calculations using spatially based software such ArcGIS or AutoCAD. The total quantifiable metric will be measured in acres.

5.2.6 Preliminary Calculation Results

Preliminary estimates for benefits from the selected projects have been performed on the projects. The estimates are based on the 10% to 15% design level and are considered preliminary in nature, consistent with the preliminary planning level of design that has been performed to date. Full models, of the projects were not created for the preliminary estimates. The design will need to be further refined to in order to create more detailed analysis. The estimates are limited in their accuracy and should be treated as such, further design and study should be performing to further refine the estimate as the projects progress. Table 5.2 through 5.6 show the preliminary calculation results for each SWRP benefit.

Table 5.2

Water Quality			
Project	**Increased filtration and/or treatment of runoff**	**Nonpoint source pollution control**	**Reestablished natural water drainage and treatment**
Old Channel Improvement Project	Pretreatment 100% of runoff. Total Runoff volume: treating an average of 14 inches of rain and 25 inches of snow per year Pollutant Load Reduction (filtration/treatment) = 9,400 lbs./year	100% treatment of oil and chemicals form parking lot runoff. (Non-point Source Control) = 9,400 lbs./year	Sediment reduction due to lined channel. Reduction in losses to infiltration and less diversion from natural drainage. 25%-50% conveyance improvement. Pollution Load Reduction = 9,400 lb./year
Janesville Park and Doyle Park Stormwater Project	Linear feet of washout now 100% treated. Doyle 600lf of washout	0% offsite runoff to 25% (onsite) pretreatment with infiltration trench. 2,100 lbs./year	~50%-75% less sediment due to channel with rip rap. 2,100 lbs./year
Paiute Lane and Susanville Ranch Park Stormwater Project	25%-50% more caught and treated water. 13,515 lbs./year	Channelizing the nonpoint source pollution, Estimated 15-%25% improvement. 2,385 lbs./year	~25%-50% less sediment in natural due to detention basin ~15,900 lbs. per year out of natural drainage
Lassen County Fairgrounds Storm Water Project	Pretreatment stormwater, 100% treated runoff. 200 lbs./year	Pretreatment swale 100% of treated runoff from manure pile and neighboring property runoff 200 lbs./yr.	
	100% pretreatment. 4,100 lbs./year	Conversion from nonpoint source to channelized treated drainage 4,100 lbs./year	
	100% pretreatment. 2,900 lbs./year	Conversion from nonpoint source to channelized treated drainage 2,900 lbs./year	

Susanville Road Shop Storm Water Project	100% pretreatment with addition of detention basin. 2870 lbs./year	100% chem/oil runoff pretreatment. 2870 lbs./year	Oil sur trap addition creating 100% pretreatment from 0%. 2870 lbs./year

Table 5.3

Water Supply			
Project	**Water supply reliability**	**Conjunctive use**	**Water conservation**
Old Channel Improvement Project	0.6 in/hr. infiltration previously to 0 in/hr. with concrete liner. 0.54 acft/day assume 3 months irrigation - 49 acft/year		Treated and lined channel 0% infiltration 49 acft/yr.
Janesville Park and Doyle Park Stormwater Project		Detention/infiltration pond 2 acft per year	2 acft of water reuse per year on green space (ball field)
Paiute Lane and Susanville Ranch Park Stormwater Project			
Lassen County Fairgrounds Storm Water Project		3,000 gallons/year (reduced use of spring/ground water)	3,000 gallons/year (3 full cisterns uses per year)
		Detention/infiltration pond 2 acre/ft per year	2 acft of water reuse per year
		1 acft infiltrated in retention/detention basin	3,000 gallons/year (3 full cisterns uses per year)
Susanville Road Shop Storm Water Project			

Table 5.4

Flood Management		
Project	**Decreased flood risk by reducing runoff rate and/or volume**	**Reduced sanitary sewer overflows**
Old Channel Improvement Project	~28 cfs may be diverted from the Susan River due to capacity increases in the channel and reduce downstream flooding on the river.	
Janesville Park and Doyle Park Stormwater Project	~83 cfs will be contained and not flood the park.	
Paiute Lane and Susanville Ranch Park Stormwater Project	25% to 50% flooded roadway mitigation	
Lassen County Fairgrounds Storm Water Project	Reduced flood by 64,000 cft with detention basin	
	Reduced flood by 64,000 cft with detention basin	
Susanville Road Shop Storm Water Project	Reduced flood by 7,500 cft with detention basin	

Table 5.5

Environmental					
Project	**Environmental and habitat protection and improvement, including; wetland enhancement/creation, riparian enhancement; and/or instream flow improvement**	**Increased urban green space**	**Reduced energy use, greenhouse gas emissions, or provides a carbon sink**	**Reestablishment of the natural hydrograph**	**Water temperature improvements**
Old Channel Improvement Project	Increase - green area / wetlands 2,400 sqft of bio-swale	Increase - total area of vegetated swale 2,400 sqft of bio-swale	Increase due to wetlands creation 0.35 ac	Restore - removing contaminants	Increase
Janesville Park and Doyle Park Stormwater Project	Increase - Detention basin, reduction of peak flow, and 2 acft of water reuse per year.	Increase - reuse of water to irrigate park	Increase - carbon sink at wetlands	Restore - reduce peak	Increase
Paiute Lane and Susanville Ranch Park Stormwater Project	Increase - 729 acres, in area, channel area ~ 2 to 3 acres			Restore - sediment trapped, Sheet flow trapped and reintroduced in ditch	Increase
Lassen County Fairgrounds Storm Water Project		Increase	Increase		Increase
Susanville Road Shop Storm Water Project			Dust suppression and irrigation use from 0% to 50% of parcel being treated.	Restore	

Table 5.6

Community				
Project	**Employment opportunities provided**	**Public Education**	**Community involvement**	**Enhance and/or create recreational and public use areas**
Old Channel Improvement Project		High	Low	Low, 0.35 acres
Janesville Park and Doyle Park Stormwater Project		High	Low	Medium, Refurbished park 1.5 to 2.5 acres out of total park area
Paiute Lane and Susanville Ranch Park Stormwater Project		High	Low	Medium, 2 to 3 acres
Lassen County Fairgrounds Storm Water Project		High	Low	Medium, Public use improved by 2 to 3 acres of improvement out of total property.
Susanville Road Shop Storm Water Project	High	High	Low	

5.3 Information and Data Management

Water Data is currently collected by various organizations throughout the region. Most of the data collection occurring in the region is generally related to discharge permits. Other special assessments have been called for as described in section 3, water quality, with regard to establishing TMDLs.

Types of data collected in the region include:

- Surface Water Quality, Runoff Volume, Flow,
- Surface Water Quantity (Reservoir Storage),
- River Flow,
- Open Channel Flow (related to irrigation and the Susan River Decree),
- Ground Water Quality and Quantity,
- Water Use, and
- Habitat Integrity.

Permitted monitoring programs related to NPDES compliance have been in place since 1990. Most of the data collection is performed by local agencies for the regional water quality board. Some various studies have been performed outside of the regional water quality board however they have generally been short term snapshots of water quality for specific reporting.

Local data and studies related to the SWRP, IRWMP, and SNMP can be found through the HLVRCD website. These various studies can be helpful for planning with a regional focus. The data can aid in preventing duplication of data efforts, provide access to plans, data, and information useful for water-related planning and management.

Generally, entities implementing projects are responsible for collecting, storing, performing quality assurance and quality control (QA/QC) reviews, analyzing, reporting incompatible formats, and disseminating the data. The HLVRCD and IRWM RWMG will assist in the dissemination of the data to support regional decision making, stakeholder interests, and public education and involvement through providing access to the data through the internet.

5.3.1 Data Storage and Management

Project sponsors implementing projects through the SWRP program will be required to prepare project-specific monitoring plans. The monitoring plans will clearly identify monitoring and analytical techniques, QA/QC procedures to be implemented and will describe how those techniques are compatible with the requirements of the statewide database(s) relevant to the project.

All project data resulting from the SWRP projects will be housed on the HLVRCD data clearinghouse. In addition, project sponsors will be responsible for submitting data to the applicable statewide data website.

Selected potentially applicable statewide databases are summarized below:

SWAMP - Projects collecting surface water data will be required to adhere to SWAMP data collection protocols. Typical data collection techniques for surface waters include both field measurements and laboratory analysis. Field measurements are either collected using meters or field kits for a common list of constituents including but not limited to: water temperature, pH, conductivity, dissolved oxygen, and turbidity. An example of a field data sheet and complete list of fields required in SWAMP is shown at the link below:

http://swamp.mpsl.mlml.calstate.edu/wpcontent/uploads/2009/04/swamp_sop_field_measures_water_sediment_collection_v1_0.pdf

There is a large list of possible constituents that are measured in surface waters that require laboratory analysis. Typical laboratory analysis includes fecal indicator bacteria, metals, nutrients, persistent organic pollutants, and turbidity. SWAMP provides guidance on methods and quality assurance. This guidance can be found at:

http://www.waterboards.ca.gov/water_issues/programs/swamp/docs/qapp/qaprp082209.pdf

Biological monitoring is helpful for determining the health of a system and whether it can sustain a diverse community of benthic macroinvertebrates. Standard operating procedures for determining a stream's physical/habitat condition and benthic invertebrate assemblages can be found at:

http://swamp.mpsl.mlml.calstate.edu/wp-content/uploads/2009/04/swamp_sop_bioassessment_collection_020107.pdf

GAMA - Projects collecting groundwater data will be required to adhere to GAMA data collection protocols. The GAMA Priority Basin Project is grouped into 35 groundwater basin groups called "study units." Each study unit is sampled for common contaminants regulated by CDPH and for unregulated chemicals. Testing for these chemicals—usually at detection levels well below those achieved by most laboratories—will help public and private groundwater users to manage this resource. Results from the Cascades/Modoc Plateau study unit, which includes the Lahontan Basin, can be found at http://pubs.er.usgs.gov/publication/ds688/. Some of the chemical constituents that are sampled by the GAMA Priority Basin Project include:

- Low-level volatile organic compounds (VOCs),
- Low-level pesticides,
- Stable isotopes of oxygen, hydrogen, and carbon,
- Emerging contaminants (pharmaceuticals, perchlorate, chromium VI, and other chemicals),
- Trace metals (arsenic, selenium, lead, and other metals),
- Radon, radium, and gross alpha/beta radioactivity,
- General ions (calcium, magnesium, fluoride),
- Nutrients, including nitrate and phosphates, and
- Bacteria: total and fecal coliform bacteria.

CASGEM - Projects collecting groundwater elevation should be compatible with the needs of the California Statewide Groundwater Elevation Monitoring (CASGEM) program. DWR's efforts collecting groundwater elevation data must provide well identification number, measurement date, reference point and land surface elevation, depth to water, the method of measuring water

depth and measurement quality codes. Additional information on the CASGEM program is available at: http://www.water.ca.gov/groundwater/casgem/

WRAMP - Projects involving wetland restoration must meet the criteria for and be compatible with WRAMP. WRAMP is intended to track trends in wetland extent and condition to determine the performance of wetland, stream, and riparian protection programs in California. The program defines standardized assessment methods and data management with the goal of minimizing new costs and maximizing public access to assessment information. Additional information on the WRAMP program can be found at the following location:

http://www.waterboards.ca.gov/mywaterquality/monitoring_council/wetland_workgroup/docs/2010/tenetsprogram.pdf

5.3.2 Data Access by Stakeholders and Public

Project sponsors shall make collected data available to stakeholders and the public by distributing the data online, according to statewide database requirements (CEDEN, Water Data Library, CASGEM, CEIC, and CERES).

Other data not housed above and related to regional studies from the IRWMP, SNMP, and SWRP will be housed on the HLVRCD website. SWRP specific data including project specific monitoring plans will be made available to the HLVRCD's data clearinghouse.

5.3.3 Assessment of Existing Water Quality and Water Quality Monitoring

The SWRP describes the methods to be used to assess monitoring data. SWRP Permittees will regularly assess its progress toward achieving the SWRP monitoring and assessment goals and schedules. This will be accomplished by evaluating the collected data, as well as information collected by individual participants.

Four primary assessments and their associated timeframes are summarized in Table 5.1. Based on the findings of the assessments, the water quality monitoring and assessment plans will be regularly updated. Updates will close data gaps, refine monitoring methods, revise monitoring locations, frequency of sampling, and incorporate new or enhanced predictive tools. Ultimately, all Monitoring and Assessment Program updates will be determined based on opportunities for Permittees to better assess its progress toward achieving the SWRP goals and schedules.

Table 5.7

Assessment Process	
Time Period	**Assessment**
Annual Assessment	NPDES MS4 Outfall Assessments TMDL Assessments (once in place) General WDR Permit Evaluation Annual report for each SWRP project (comparing reference values) Special Study Assessments (to be determined)
Five Year Permit Term 5	Integrated Assessment

5.3.4 Data Update Frequency

Dependent upon the specific SWRP project the data collection needs are anticipated to vary. The individual project, sponsored monitoring plans will include the data monitoring frequency, but shall, as a minimum, provide an annual monitoring report with total quantifiable units as outlined within the SWRP benefits category for two years post-project.

5.3.5 Data Gap Identification

Due to the relatively rural nature of the region, there are significant data gaps in the water quality and quantity for many water bodies and watercourses. With no established TMDLs the number of in-depth studies has been limited.

For each proposed project baseline data should be established prior to project implementation. It is anticipated that the baseline data will require some additional studies for all proposed projects. This will be determined in the proposed monitoring plan for the project. Baseline data will include, as a minimum, all proposed main and additional benefits categories as outlined in Section 3 of the SWRP, and as identified per the individual project application.

Data gaps encountered during proposed project baseline and monitoring plan studies are also anticipated. Through the assessment of monitoring data, data gaps that prevent more effective evaluation of priority water quality conditions or more effective implementation of water quality improvement strategies will be identified. As data gaps are identified, they will be documented and reported within the minimum required annual reporting.

6.0 Identification and Prioritization of Projects

6.1 Project Identification

The Storm Water Resource Plan (SWRP) Guidelines require a list of prioritized projects, ratified by Lahontan Regional Water Quality Control Board (LRWQCB) and the Lahontan Basin Regional Water Management Group (RWMG), to be included with the Plan. The projects must be ranked based on their ability to deliver Main and Additional Benefits to the Plan area. The guidelines do not specify a methodology to be used for ranking the projects, but state that a system of quantitative, score-able metrics must be used to evaluate the proposed projects.

The SWRP stakeholders, Storm Water program permittees, Integrated Regional Water Management (IRWM) participants, and watershed agencies, identify potential project types and locations with assistance from the functionally equivalent documents and based upon local water resource priorities and available resources. This Lahontan Basin SWRP prioritizes a subset of projects which meet the Lahontan Basin SWRP management priorities expressed in the functionally equivalent documents (i.e. the LRWQCB and RWMG Plans). Projects identified through jurisdictional and collaborative efforts to comply with NPDES, TMDL, and IRWM regulations and regional goals comprise the majority of prioritized projects. Projects proposed within the region could also be administered by non-profits, non-governmental agencies or water agencies to meet watershed-based goals that align with the management objectives of the SWRP.

The purpose of the project submittal form is to facilitate communication of stakeholder storm-water project needs and to identify potential projects for funding opportunities. The project submittal form was designed to solicit projects compatible with SWRP guidelines and requirements. The project submittal form facilitates the comparison of potential projects in several criteria, including but not limited to funding eligibility, main benefits, additional benefits, and project status. Appendix A contains a copy of the project submittal form, and copies of completed forms received from stakeholders.

6.2 Opportunities to Augment Local Water Supply

New stormwater recharge can be estimated using generally accepted methods for estimating infiltration, volume calculations, and or a more sophisticated modeling approach that estimates contribution to groundwater. In addition, water reuse such as rain barrels cisterns and green spaces can be quantified utilizing hydrology calculations for runoff and total storage or usage volumes.

Specific opportunities for augmentation of the local water supply in the first call for projects includes:

Old Channel Improvement Project – A portion of the channel through the urban corridor should be lined with concrete and overgrowth cleared. This would eliminate/reduce irrigation volume losses due to direct contact with soil and reduce runoff pollution providing better and more quality water for its intended purpose. The reduced diversion or water would then stay in the river, and continue to Honey Lake, a critical lake in the federal terminal lakes program, which also

controls groundwater levels for much of the Honey Lake Valley thus augmenting well water supply in more rural areas, more dependent on Honey Lake groundwater (basin 6-4) than Susanville. The water from the polluted runoff will run in to a new wetland swale and infiltrate into the ground supplementing local water supply through ground water recharge.

Janesville Park – Provide stormwater capture at the detention basin for on-site reuse at the ball field. Utilizing captured stormwater runoff for irrigation will reduce the need for municipal water and recharge the underlying aquafers.

6.3 Opportunities for Non-Point Pollution Source Control

The stormwater and dry-weather runoff recharge projects will reduce the quantity of storm and dry-weather runoff that reaches primary drainages that traverse the Lahontan Basin, thereby reducing pollutant loads. Opportunity included on:

Old Channel Improvement Project – untreated polluted parking lots will be treated through proposed pretreatment system, currently the canal has an oil sheen post rainfall event. The vegetated swale will create a small wetlands area that catches and naturally infiltrating polluted urban waters.

Janesville Park – This project will protect downstream water resources from significant sedimentation issues. The new system will also stop sections of runoff from crossing an existing parking lot and accumulating pollutants found at the parking area.

Doyle Park – This project will protect downstream Long Valley Creek and Honey Lake by reducing major sedimentation and downcutting in the stormwater channel. In addition to stopping the sedimentation movement during flooding, it will stop water from crossing the parking area which has pollutants that currently are moved down to Long Valley Creek in the large stormwater events.

Lassen County Fairgrounds - Protect downstream water resources by collecting and diverting non-peak and peak flows to storm water detention basin facilities. The detention basin will aid in cleaning the initial water quality volume (~1 inch of rainfall) to protect downstream waters that are currently receiving all the pollutants from the untreated fair grounds stormwater.

Susanville Road Shop - Improve water quality by treating the water from the maintenance yard. Currently the runoff from the storage of all the heavy equipment if very polluted. The improvements would treat the polluted runoff by utilizing a detention basin and a treatment system.

6.4 Projects that Re-establish or Mimic Natural Drainage Systems and Functions

The construction of new infiltration basins, restoration of existing drainage ways and improvements of existing stormwater infrastructure will increase stormwater and dry-weather recharge and offset, in part, the increase in imperviousness in the watershed due to urban development. Opportunity included on:

Doyle Park - Restoration of the site drainage ditch along the southern edge of the park. Reduce major blowouts due to stormwater introducing unnatural amounts of sedimentation material into the system.

Janesville Park - Replacement of undersized drainage culverts and the restoration of site drainage swales and ditches near the perimeter of the park. Reduce the sedimentation amount, that is choking the lower system.

Lassen County Fairgrounds & Fair Parking - The use of a detention basin will lower the high peak runoff that was created by the urban landscape thus returning it to a more natural watershed flow.

Susanville Road Shop - The use of a detention basin will lower the high peak runoff that was created by the urban landscape thus returning it to a more natural watershed flow.

6.5 Opportunities to Develop, Restore, or Enhance Habitat and Open Space

One of the considerations of the SWRP is to identify potential habitat areas and to create a mitigation bank to enable their protection and/or the creation of new habitat. Opportunity included on:

Old Channel Improvement Project – Piping part of the canal will eliminate an unattractive nuisance and create a safe flood control channel, capable of a reliable flow. The placement of a point source pollutant removal infrastructure would reduce the stormwater run-off pollution. With potentially three acres of wetlands and/or riparian habitat created or enhanced and approximately two acres of increased urban green space.

Janesville Park – This project will create and enhance the area around Janesville park through better management of the stormwater and sedimentation. The project will also improve the grass areas of the baseball field.

Paiute Lane and Susanville Ranch Park - Create and enhance natural water ways in this public open space through improvement of the storm drainage, and sediment control. Reduces sedimentation damage to natural waterways lower in the system.

6.6 Opportunities for Use of Existing Publicly Owned Lands

All projects are located on publicly owned land properties or on land secured by an easement. Opportunity included on:

Old Channel Improvement Project – Recreational and aesthetic enhancements made to the unutilized areas of the urban sections of the ditch will enhance the publics use, and reduce public funds spent in constantly restoring damage due to stormwater.

Doyle Park –Storm water improvements will keep the park functional after storm water events and will enhance the publics use of the park.

Janesville Park – This project will create and enhance recreational public areas with educational components/demonstration infrastructure. The project will also improve the grass areas of the baseball field improving the publicly owned lands.

Paiute Lane and Susanville Ranch Park - Create and enhance recreational public areas with educational components/demonstration infrastructure. Involve educational, volunteer and employment opportunities. Recreational and aesthetic enhancements made to the unutilized areas of the parks parking area will enhance the publics use of the park.

Lassen County Fairgrounds - Create and enhance recreational public areas with educational components/demonstration infrastructure. Involve educational, volunteer and employment opportunities (i.e. Lassen County Fair Advisory Board, Fair Patrons, and Construction. Recreational and aesthetic enhancements made to the unutilized areas of the fairgrounds north gate and parking area will enhance the publics use of the park.

6.7 New Development and Redevelopment Criteria and Practices

All projects will address effective impermeability within a watershed by creating permeable surfaces, retention basins, cisterns, and other storage for beneficial use. Projects will utilize onsite water storage techniques for beneficial use. Low-impact development for new and upgraded infrastructure will be implemented, and groundwater recharge will be increased through infiltration.

Within the location of this specific SWRP there are no County or City ordinances in place for impervious surfaces. However, through the Planning Commission and conditions of approval review process requirements are placed on impervious surfaces to restrict run-off to comply with predevelopment run-off rates or to the requirements of Caltrans if on Main Street and Ash Street (SR36/SR 139). Which have 25-year/24-hour storm requirements onsite.

The SWRP recommends that the local agencies adopt a minimum requirement of no increase in natural storm water flows due to development, Or Specifically; Post project storm water flows must match or be less than pre-project storm water flows.

New development and redevelopment criteria and practices opportunities included on:

Susanville Road Shop - Reduced municipal water use by the reuse of storm water, rather than municipal water, for dust suppression and irrigation, will equate to reduced energy use. Create and enhance urban green space. The creation of detention and/or retention ponds will allow for a decrease in the peak flow runoff. Utilize the captured storm water runoff for dust suppression. Infrastructure to capture and remove hydrocarbons from storm water run-off.

Paiute Lane and Susanville Ranch Park - Protect downstream water resources and reduce flood risk and by collecting or diverting non-peak and peak flows to storm water facilities. Flood risk will be reduced through the restoration of site drainage ditch along Paiute Lane and infiltration trench & basin at the trail head parking lot.

6.8 Activities Related to Storm Water Pollution

Projects will utilize low impact development and Best Management Practice (BMP)'s to mitigate pollutant loads and contamination due to livestock waste, vehicular traffic & pollutants, and lack of maintenance to existing infrastructure and facilities. Opportunity included on:

Old Channel Improvement Project - The placement of a point source pollutant removal infrastructure would reduce the stormwater run-off pollution.

Lassen County Fairground - Improve water quality by making non-point pollution control/best management practices improvements to infrastructure to capture, treat, infiltrate or reuse storm water.
North Gate & Parking: Relocate manure stockpiles and mitigate contaminated run-off to improve surface water and reduce sediment load.
Fair Parking: Reduction of peak and pollution in the detention basin.

Janesville Park - Reduced municipal water use by the reuse of storm water, rather than municipal water, for dust suppression and irrigation, will equate to reduced energy use. Create and enhance urban green space. The creation of urban green space will allow for a decrease in the peak flow runoff by utilizing the captured storm water runoff for irrigation.

Susanville Road Shop - Improve water quality by making non-point pollution control/best management practices improvements to existing infrastructure to capture, treat, infiltrate or reuse storm water. Oil sur trap will be placed at basin outlet to contain oils transported by storm water run-off.

6.9 Project Prioritization

To demonstrate the Plan's ability to implement stormwater and dry weather capture projects, the submitted projects must satisfy specific water management objectives and be able to deliver multiple benefits. Each project must identify at least two Main Benefits and as many Additional Benefits as possible.

The quantification of benefits and analysis of proposed projects will be evaluated using metrics for the five Main Benefit areas: Water Quality, Water Supply, Flood Management, Environmental, and Community. A simple scoring methodology was developed for scoring and ranking projects and project benefits shown below in Table 6.1. Depending on the amount of grant funding available, the selection team will choose the highest-ranking project that will fit within the allotted funding parameters.

Table 6.1

Storm Water Management Benefits		
Benefit Category	**Main Benefit**	**Additional Benefit**
Water Quality Contributing to compliance with the applicable permit and/or TMDL requirements	Increased filtration and/or treatment of runoff	Non-point source pollution control
		Reestablished natural water drainage and treatment
Water Supply Through groundwater management and/or runoff capture and use	Water supply reliability	Water conservation
	Conjunctive use/Water Reuse	
Flood Management	Decreased flood risk by reducing runoff rate and/or volume	Reduced sanitary sewer overflows
Environmental	Environmental and habitat protection and improvement, including: - wetland enhancement/creation, - riparian enhancement, and/or - instream flow improvement	Reduced energy use, greenhouse gas emissions, or provides a carbon sink
		Reestablishment of the natural hydrograph
Community	Increased urban green space	Water temperature improvements
	Employment opportunities provided	Community involvement
	Public education	Enhance and/or create recreational and public use areas

6.9.1 Main and Additional Benefits Scoring

The following metrics will be considered to evaluate how well proposed projects deliver the Main and Additional Benefits shown on pages 22-23 of the SWRP Guidelines:

Water Quality - Effects of the proposed projects on water quality include:

- Description of watershed-based outcomes using modeling, calculations, pollutant mass balances, water volumes balances, or other methods of analysis
- Description of how projects will contribute to the preservation, restoration, or enhancement of watershed processes
- Include projects in a summary matrix/table with scoring metrics
- Water quality (WQ) metric: Pollutant load reduction (lbs./day, mg/L, bacteria count per ml, etc.)
- WQ metric: Volume treated (million gallons per day [mgd], acre-feet per year [AFY])

Local Water Supplies - Effects of the proposed projects on local water supplies respond to:

- How do proposed projects capture, store, and use stormwater and dry weather runoff to recharge or replace groundwater or offset water imports?
- Include projects in a summary matrix/table with scoring metrics
- Water supply (WS) metric: Groundwater volume recharged or replaced, or runoff volume captured (mgd, AFY)

- WS metric: Augmentation/replacement of water supply or reduced dependence on imported water (mgd, AFY)
- WS metric: Cost of water supply augmentation ($/AFY)

Flood Management - Effects of the proposed project on flood management describe:

- How the project will reduce flood risk through a reduction in a stage of flood flows
- How flood water will be captured to maximize and/or augment water supply
- Projects in a summary matrix/table with scoring metrics
- Flood management (FM) metric: Reduction in flood risk (reduced flow in cfs, reduced stage in feet, reduced volume in AFY)
- FM metric: Reduction in sanitary sewer overflows (flow in cfs or volume in cubic feet or AFY)

Environment and Community - Effect of the proposed project on the environment and community analyze the benefits of creation and restoration of habitat, open space, parks, and recreational opportunities in disadvantaged communities.

6.10 Project Ranking Matrix

A Project Ranking Matrix has been filled out for the proposed projects submitted to the Plan. The combined scores of the Main and Additional Benefits for the proposed projects are summarized in Table 6.2.

6.11 Project Readiness Scoring

Practical factors were considered in developing the scoring methodology for the proposed projects. Table 6.3 Project Scoring Matrix contains a Project Readiness Checklist, and proposed projects were evaluated against five Project Readiness criteria listed in the table.

6.12 Prioritized List of Projects

Table 6.4 consists of the Prioritized List of the 5 proposed projects. They are ranked by their ability to deliver Main and Additional Benefits as well as their Project Readiness for construction. Table 6.4 is a summation of Tables 6.2 and 6.3. The Plan can be updated periodically with submittals of future projects or revisions to existing projects, correlated to future rounds of implementation grant funding opportunities.

The Stakeholders will be encouraged to comment on the ranking from their perspective. Future projects will be evaluated similarly with focus on funding opportunities, benefits, and readiness.

Table 6.2

Project Ranking Matrix

PROJECT		Old Channel Improvements Project		Lassen County Fairgrounds Storm Water Project		Janesville Park and Doyle Park Storm Water Project		Susanville Road Shop Storm Water Project		Paiute Lane and Susanville Ranch Park Storm Water Project	
MAIN AND ADDITIONAL BENEFITS CATEGORIES		MAIN	ADDITIONAL	MAIN	ADDITIONAL	MAIN	ADDITIONAL	MAIN	ADDITIONAL	MAIN	ADDITIONAL
WATER QUALITY											
MAIN	Increased filtration and/or treatment of runoff	5		4		5		5		5	
ADDITIONAL	Nonpoint source pollution control		2		2		2		3		3
	Reestablished natural water drainage and treatment		1		0		2		1		3
WATER SUPPLY											
MAIN	Water supply reliability	5		0		0		0		0	
	Conjunctive use	0		5		4		0		0	
ADDITIONAL	Water conservation		3		3		2		0		0
FLOOD MANAGEMENT											
MAIN	Decreased flood risk by reducing runoff rate and/or volume	4		4		5		5		5	
ADDITIONAL	Reduced sanitary sewer overflows		0		0		0		0		0
ENVIRONMENTAL											
MAIN	Environmental and habitat protection and improvement, including; wetland enhancement/creation, riparian enhancement; and/or instream flow improvement	4		0		4		0		4	
	Increased urban green space	5		4		4		0		0	
ADDITIONAL	Reduced energy use, greenhouse gas emissions, or provides a carbon sink		1		1		1		0		0
	Reestablishment of the natural hydrograph		2		1		2		2		3
	Water temperature improvements		3		2		1		2		3
COMMUNITY											
MAIN	Employment opportunities provided	0		0		0		4		0	
	Public education	4		4		4		4		4	
ADDITIONAL	Community involvement		1		1		1		2		2
	Enhance and/or create recreational and public use areas		2		2		3		0		3
Total Main Benefits		27		21		26		18		18	
Total Additional Benefits			15		12		14		10		17
Total Main + Additional Benefits		42		33		40		28		35	

Main Benefit Scoring Criteria
0 = Main benefit criteria does not apply
4 = Main benefit criteria mostly applies
5 = Main benefit criteria fully applies

Additional Benefit Scoring Criteria
0 = Additional benefit criteria does not apply
1 = Additional benefit criteria minimaly applies/expected to apply
2 = Additional benefit criteria mostly applies
3 = Additional benefit criteria fully applies

Table 6.3

Project Readiness					
PROJECT	Old Channel Improvements Project	Lassen County Fairgrounds Storm Water Project	Janesville Park and Doyle Park Storm Water Project	Susanville Road Shop Storm Water Project	Paiute Lane and Susanville Ranch Park Storm Water Project
Is the project ready to be implemented? (Complete=2), (Partial=1), (No=0)	1	1	1	1	1
Land ownership is in order? (Complete=2), (Partial=1), (No=0)	1	2	2	2	1
Is the environmental permitting process complete? (Complete=2), (Partial=1), (No=0)	0	0	0	0	0
Prior project work completed (e.g. plans)? (Complete=2), (Partial=1), (No=0)	1	1	1	1	1
Does the agency have a matching funds source? (Complete=2), (Partial=1), (No=0)	1	1	1	1	1
PROJECT READINESS SCORE	4	5	5	5	4

Note:
Zero also implies the information is currently unknown.

Table 6.4

Prioritized List of Projects								
Ranking	Sponsor Designator & Project No.	Type of Project	Project Sponsor	Project Name	Scoring			Stakeholder Comments
					Benefits	Readiness	Total	
1	SWRP	Conjunctive use/streambank stabilization	Honey Lake Valley Resource Conservation District	Old Channel Improvement Project	42	4	46	
2	SWRP	Detention basin/groins/ control structures/ bank armoring	Lassen County	Janesville Park and Doyle Park Storm Water Project	40	5	45	
3	SWRP	Detention basin/groins/ control structures/ bank armoring	Lassen County	Paiute Lane and Susanville Ranch Park Storm Water Project	35	4	39	
4	SWRP	Conjunctive use/recharged groundwater	Lassen County	Lassen County Fairgrounds Storm Water Project	33	5	38	
5	SWRP	Detention basin/groins/ control structures/ bank armoring	Lassen County	Susanville Road Shop Storm Water Project	28	5	33	

6.13 Summary of Proposed Storm Water Projects

6.13.1 Old Channel Improvement Project

Project Priority Score:	46
Improvement Description:	The Old Channel stormwater project involves re-establishing and lining the original irrigation channel with concrete to provide water conservation by preventing high water loss, during irrigation season, due to willows and sandy soil areas. The conserved water will flow to the Honey Lake and the Honey Lake ground water basin 6-4 which will aid in the overall groundwater health of the region. Additional green space will be provided by a vegetated swale that utilizes stormwater runoff to provide seasonal irrigation to the green space. Water quality will be improved by mitigating storm-water pollution from adjacent parking lots and urban areas using Continuous Deflection Separators. The stormwater sewer systems will run through the new pretreatment structures before discharging into the main channel. A maintenance road will be constructed along the channel that will provide multi-beneficial, multi-modal connectivity between existing public paths while providing access to maintain the stormwater improvements.
Technical Data:	The lined channel, vegetated swale, and pretreatment structures have been designed to facilitate the 25-year storm event.
Land Ownership:	There is private and public ownership of the land surrounding the project, which will require easement coordination.
Implementation Issues:	Construction must be performed in a manner that will not affect the irrigation season or water rights. Coordination with water users will be required. Assumed that the canal has a 50-ft prescriptive easement which must be verified in future design efforts.
Estimated Capital Cost:	$2,000,000.00

Figure 6.1: Old Channel

6.13.2 Janesville Park Storm Water Project

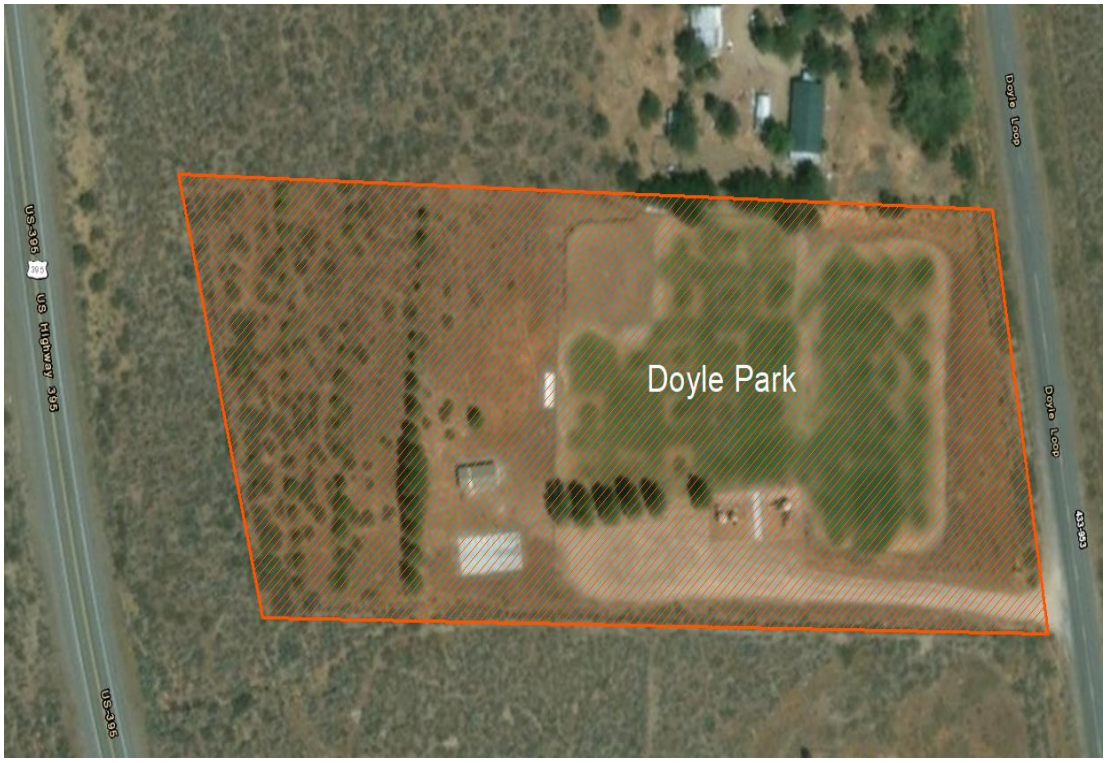
Project Priority Score:	45
Improvement Description:	Re-establish the existing drainage ditch running along the northern edge of Janesville Park. An infiltration trench will be constructed on the eastern edge of the property to control offsite runoff. A detention basin will be constructed in the center of the gravel parking area to slow peak runoff and provide stormwater reuse to seasonally supplement irrigation. The culvert, crossing the main access road the park, appears to be undersized and be contributing to the flooding.
Technical Data:	The infiltration and detention basins has been sized to facilitate the 25-year storm. The total watershed area impacting the park is 1,230 acres.
Land Ownership:	Land is owned by Lassen County.
Implementation Issues:	This project should be coordinated with the Lassen County Public Works Department and the Honey Lake Resource Conservation District.
Estimated Capital Cost:	$175,000.00 (Cost for Janesville Park only. This project will be combined with the Doyle Park Project)

Figure 6.2: Janesville Park

6.13.3 Doyle Park Storm Water Project

Project Priority Score:	45
Improvement Description:	Re-establish the existing drainage ditch running along the southern edge of Doyle Park. The ditch will be excavated to the proposed dimensions and lined with 6-inch riprap. The improved drainage ditch will convey stormwater away from the park and private residences continuing south along the Doyle Loop, effectively discharging into the drainage running under Highway 395. Two 42-inch corrugated metal pipe culverts will be required for the ditch crossing under two private driveways.
Technical Data:	This channel will be required to convey the 25-year storm discharge without affecting the private residences. The total watershed area impacting the park is 204 acres.
Land Ownership:	This project will include coordination with the owners of the private residences in which the ditch encroaches.
Implementation Issues:	This project should be coordinated with the Lassen County Public Works Department and the Honey Lake Resource Conservation District. This ditch eventually discharges into a drainage within the county right of way.
Estimated Capital Cost:	$210,000.00 (Cost for Doyle Park Project only. This project will be combined with the Janesville Park Project)

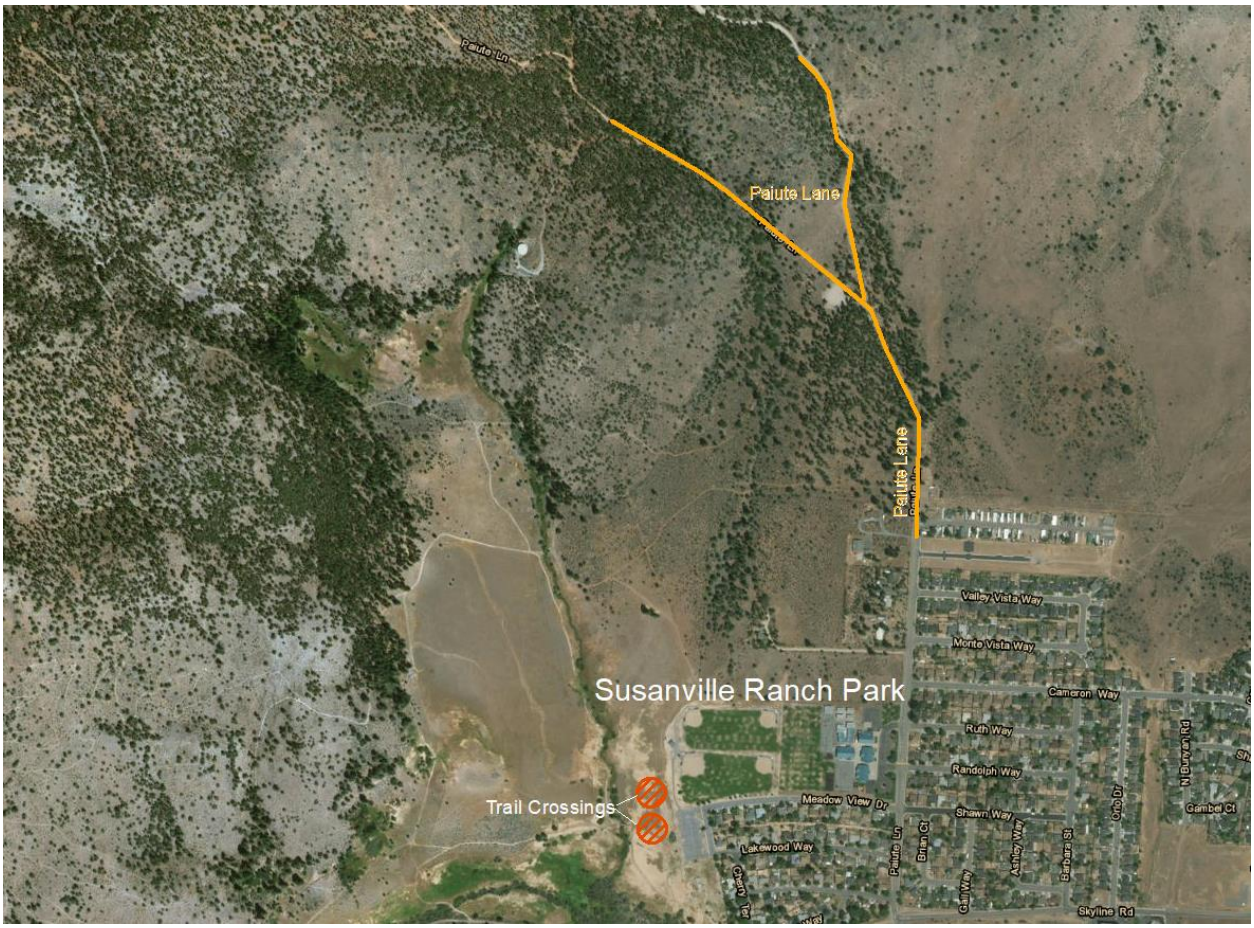
Figure 6.3: Doyle Park



6.13.4 Paiute Lane & Susanville Ranch Park Storm Water Project

Project Priority Score:	39
Improvement Description:	The drainage channel along Upper Paiute Lane will be re-established and improved to better convey stormwater runoff without affecting the road surface. The channel crossing culvert sizes will be increased and optimized. A detention basin will be constructed, as well as at the parking area, in order to protect the parking lot surface from erosion and collect sediment that will improve water quality and can be later utilized for trail maintenance. At Susanville Ranch Park, the two trail crossings will be reconstructed using reinforced concrete pipe culverts to improve stormwater passage across the trail.
Technical Data:	The pipe culverts, detention basins, and drainage ditch have been sized to convey the 25-year storm event.
Land Ownership:	Land is owned by Lassen County.
Implementation Issues:	This project should be coordinated with the Lassen County Public Works Department and the Honey Lake Resource Conservation District.
Estimated Capital Cost:	$320,000.00

Figure 6.4: Paiute Lane and Susanville Ranch Park



6.13.5 Lassen County Fairgrounds Storm Water Project

Project Priority Score:	38
Improvement Description:	Install parking area drainage swales to contain stormwater runoff from adjacent property owners. Re-establish drainage ditch, and rehabilitate underground storm drain junction structures. Dedicate area for manure stockpiling and surround with BMP's. Capture rooftop rainwater runoff with cisterns to be used for irrigation and/or dust suppression. Investigate potential contaminated (combined system or point source discharge) storm drain system on the east side of the property.
Technical Data:	The pipe and drainage swales have been sized to facilitate the 25-year storm. The total watershed area impacting the fairground is 19.2 acres.
Land Ownership:	Land is owned by Lassen County.
Implementation Issues:	This project should be coordinated with the Fair Ground Office, Lassen County Public Works Department and the Honey Lake Resource Conservation District.
Estimated Capital Cost:	$131,000.00

Figure 6.5: Lassen County Fairgrounds

6.13.6 Susanville Road Shop Storm Water Project

Project Priority Score:	33
Improvement Description:	Install underground storm drain pipe to convey existing flow from the drainage ditch and overland flows to a detention basin. The detention basin will allow for the settlement of solids and the outlet structure will have a sur-trap to contain floatable materials and hydrocarbons.
Technical Data:	The pipe and detention basin has been sized to facilitate the 25-year storm. The total watershed area impacting the road shop is 19.3 acres.
Land Ownership:	Land is owned by Lassen County.
Implementation Issues:	This project should be coordinated with the Lassen County Public Works Department and the Honey Lake Resource Conservation District.
Estimated Capital Cost:	$125,000.00

Figure 6.6 Susanville Road Shop

7.0 Implementation Strategy and Schedule

The SWRP is being funded by the State of California. Moving forward, it is anticipated that the Honey Lake Valley Resource Conservation District (HLVRCD) will maintain this document. It is anticipated that the Lahontan Basin Regional Water Management Group (RWMG) will potentially aid in the maintenance of this SWRP. The HLVRCD and the RWMG are committed to continuing to improve water management through the SWRP and the IRWMP. It is anticipated that the main form of funding for individual Plan Projects identified will be through competitive grant applications and shared budgets associated with the SWRP or IRWMP and the California State Water Resources Control Board (CSWRCB) and other Project Sponsors'.

Much of the Lahontan Basin consists of low-density development, rendering challenges when it comes to funding. Assuring sufficient funding will require regional participation and strategy. Potential sponsor sources can also be encouraged outside of the Lahontan Basin area. Projects will be incorporated into the allotted funding criteria as funding opportunities become available.

Various entities within the region have contributed significant time and resources to the stormwater resource plan.

Potential Plan Project Sponsors' will provide the appropriate local matching funds through a variety of potential resources. A list of available funding sources, in addition to Sponsors' general funds, is identified below.

7.1 Resources for Plan Implementation

7.1.1 Project Funding

Securing funding for the projects proposed in the Lahontan Basin SWRP is best accomplished with a focused packaging strategy. As seen from the descriptions below, there are many funding programs within and outside of the Lahontan Basin that could provide financial opportunities for the Sponsors' Plan Projects. As these funding opportunities become available, Plan Projects will be integrated to fit the funding criteria. In this manner, a process would be established for integrating packages of projects for future funding programs.

Grant and loan funding sources have been identified based on the current available information. However, due to the uncertainty of the State of California's budgets, the availability of many grant and loan programs are never guaranteed. Grant and loan programs dependent on the sale of California General Obligation bonds have been and will very likely continue to be limited in the amount of funding offered.

This section includes a discussion of funds available through various grant programs and specifies eligibility requirements. Although some of the programs listed below may not be directly related to stormwater projects, the plan projects may still have a nexus to these funding programs, warranting the project sponsor to consider applying to a funding program. Potential funding

sources for implementing projects are listed in Table 7.1, and the funding mechanisms are further described below including a timeline to secure financing in Table 7.2

Specific action by which Plan will be implemented include:

1. Plan Guidance to RWMG through review and updates

The RWMG will be the lead agency for plan execution. The SWRP will be used in conjunction with the IRWM planning documents. The RWMG will reference the plan for guidance during project selection and project implementation.

The RWMG will perform plan review and revisions on an annual basis to ensure applicably to current regional conditions. In addition the RWMG will perform additional calls for projects as needed directed by the RWMG.

2. Public Outreach

The RWMG will continue to perform public outreach as a component of the effort. Public outreach will include advertisement to DAC communities, and local media outlets. RWMG meetings will be publicly accessible. The project implementation may include public education components with signage that will enable to the public to connect with the RWMG as needed and learn of project potential applicable to individual situation and knowledge. Refer to sections 4 and 8 of the SWRP for additional public outreach and collaboration guidance.

3. Project Permitting & Implementation

The Following process generally outlines the project implementation process which is a major element in execution of this SWRP.

Permitting requirements shall be considered prior to the RWMG's selection of the project for the solicitation. The submitting agency will be responsible for permitting in conjunction with the design engineers/consultant, as engineering plans will be required for a portion of the permitting process in federal, state, and local permits. The process is anticipated to be as follows;

- Receive funding solicitation
- Consensus by RWMG on project to submit (best matching solicitation requirements)
- Consideration of federal, state, and local permitting process, and timeline (project dependent)
    a. General Permitting Timeline Guidance:
        i. Federal (ie. NEPA/USACE 404) – 12 to 18 months
        ii. State (ie. CEQA/Caltrans) – 6 to 12 months
        iii. Local (building, city, county) – 2 to 6 months
- Apply for funds utilizing details of project in this SWRP, including 10% preliminary plans,
- RWMG selected agency to execute contact and receiving funds,
- Solicit a consultant to finalize the design and prepare bid and construction documents, and aid will permitting as needed (project dependent)

- RWMG to approve the plans and oversee the implementation of the project
- On-going monitoring of the project performance

Table 7.1

Potential Funding Sources			
Funding Mechanisms	**Continued IRWM Plan**	**Project/Program Implementation**	**Certainty & Longevity of Funding**
User Rates/Recovery		✓	Dependent upon rate structure adopted by project proponents
Capacity Fees		✓	Dependent upon rate structure adopted by project proponents
User Fees		✓	Dependent upon rate structure adopted by project proponents
Special Assessments		✓	Dependent upon the ability to demonstrate direct and unique benefits to parcels. Once in place, this represents high certainty of funding
General or Capital Improvement Funds	✓	✓	Dependent upon budgets adopted by project proponents and participating agencies
Revenue Bonds		✓	Dependent upon debt carried by project proponents & bond market
Local, State, or General Grant Programs	✓	✓	Dependent upon future, state, and federal budgets, and success in application process
Low-interest Loan Programs		✓	Dependent upon future, state, and federal budgets, and success in application process

The Following table provides a timeline to be used a goal in securing financing. The table assumes a 2-year implementation for each project.

Table 7.2

Timeline Goal to Secure Financing					
Project	**1 Year**	**3 Years**	**5 Years**	**7 Years**	**9 Years**
Old Channel Improvement Project	✓				
Janesville Park Storm Water Project		✓			
Doyle Park Storm Water Project			✓		
Paiute Lane & Susanville Ranch Park Storm Water Project				✓	
Lassen County Fairgrounds Storm Water Project				✓	
Susanville Road Shop Storm Water Project					✓

7.1.2 User Rates/Rate Recovery

User rates or rate recovery pays for the operations and maintenance of a water agency or public utility's system. Within a water agency user rate, there is a fixed cost component that covers costs that do not vary with the amount of supplied water, such as labor and overhead expenses, and a variable cost component that covers costs that are based on the amount of pumping and treatment needed to meet the water demands of the customers. These costs, such as electrical and chemical costs, vary with the amount of supplied water. A water agency customer pays a monthly fixed rate and a variable rate based on the metered usage. In some cases, the variable rate includes an allowance for water use and the variable rate is charged only if the customer's usage exceeds the fixed allowance. In tiered water rates, the variable fee increases with water consumption. For services without meters, a single monthly rate is assessed based on assumed consumption. Unmetered customers may also be assessed miscellaneous fees, including charges for swimming pools.

Regional stakeholders understand the need to fully examine projects before passing the costs of projects onto ratepayers in the form of increased water and wastewater rates. Additionally, regional stakeholders have expressed the need for projects designed to address existing water management needs to be economically sustainable given the current population/ratepayers. As such, the certainty of funding for projects which propose rate increases will be largely dependent on the support garnered for the project and ratepayers understanding of the project need.

7.1.3 Capacity Fees

Capacity fees are used almost universally by water agencies as a measure to achieve and maintain equity among its past, present, and future customers. For a growing water agency, capacity fees can represent more than half of the total revenue in any given year, and as such are very important to existing, as well as future, customers. Capacity fees are typically charged per connection, measured in Equivalent Dwelling Units (EDUs). A single connection may encompass more than one EDU. In addition to the connection fee aspect of capacity fees, water agencies may also assess other fees, e.g., commercial acreage fees and other service fees.

In some cases, if a developer builds a water pipeline or large water facility, required by a water agency as a condition of development, then a partial or full payment for the water facility may be required. A water agency may also give fee credits to the developer in lieu of the developer paying fees. If the value of the water facility exceeds the number of credits, a reimbursement agreement is typically executed authorizing payment to the developer, for the remaining amount owed, over a specified period. Capacity fees can be controversial if not structured to achieve equity.

7.1.4 User Fees

Monthly user fees are assessed by water agencies when facilities are implemented that directly benefit existing customers. This is particularly true for water agencies that are developing conjunctive use water systems in which existing customers may have paid for the groundwater

component when they paid the development fee (through the purchase of the home). The surface water and/or recycled water component is a new water supply for a water agency that is needed for conjunctive use with groundwater supplies. Income from this monthly revenue source may be used to pay debt service on debt-financed assets.

7.1.5 Special Assessments

Upon compliance with Proposition 218, a government agency can impose a special assessment on properties that receive a special benefit from the public project that is being constructed.

As the region works to address critical flood management needs, it may be necessary to form a Flood Control District (FCD) comprised of agencies with authority over flood management. The FCD could focus on the creation of drainage areas, flood control zones, and other special assessment areas to support the design, construction, and maintenance of flood and stormwater management facilities.

An assessment district for maintaining the groundwater basin, such as the districts authorized under AB3030 could be created and properties could be assessed to support groundwater recharge projects and monetary cost of purchased recharge water.

7.1.6 General or Capital Improvement Funds

General or capital improvement funds are monies that an agency sets aside to fund general operations and/or facility improvements, upgrades, and at times development. These funds are usually part of the overall revenue stream and may or may not be project-specific.

7.1.7 Revenue Bonds

In cases in which large facilities are needed to support current services and future growth, revenue bonds may be issued to pay for new capital. In this way, large facilities can be paid for by bonded debt service at the time of construction with repayment of the debt service over a 20 to 30-year timeframe. This is a preferred approach to paying for high-cost facilities because it avoids the perceived over-collection of fees from past customers that go toward facilities that serve present and future customers. The drawback to bonded debt is that it cannot be accomplished with capacity fees alone, due to the variability and uncertainty of new development over time. A user rate is needed as a bond document covenant if development fees are not adequate to make the required annual payment for the debt service.

7.2 State Funding Programs

Grant programs typically require that local matching funds be available. The matching fund requirement demonstrates a local commitment to promoting and completing the study or project. Grants typically carry relatively high administration costs because extensive grant reporting may be required, and typically only a relatively small portion of the grant may be used to cover grant administration. The development of the Lahontan Basin IRWMP was partially funded through a Proposition 84 IRWMP Grant. Grant programs that project proponents within the region have used in the past and/or may consider for the future are included below.

7.2.1 Storm Water Resources Control Board Grant Program (SWRCB)

The SWRCB provides grant funds for multi-benefit stormwater management projects through the Proposition 1 Storm Water Grant Program (SWGP). Proposition 1 designated $200 million in grant funds for projects that improve regional water self-reliance and security and adapt to the effects on water supply arising from climate change. Stormwater and dry weather runoff are underutilized sources of water and may cause pollution or impairment of rivers, lakes, streams, and coastal waters. The SWGP will fund projects that have multiple benefits including water supply, flood control, habitat enhancement/restoration, and creating green spaces.

The SWGP has two types of grants available: Planning Grants and Implementation Grants. The Planning Grant had one funding round of $19 million (occurred in Spring 2016) that will be used for developing SWRPs and planning for specific projects throughout the state. Two rounds of Implementation Grant funding have been designated under Proposition 1. Approximately $80 million of funding was designated for Round 1 and $100 million is designated for Round 2 that will occur in 2018 and beyond. Implementation Grant awards can range from $250,000 to $10,000,000 per Plan Project. The local funding match is set at 50 percent of the project cost with reductions available for DACs or Economically Distressed Areas (EDAs).

7.2.2 Integrated Regional Water Management Implementation Grants (DWR)

The DWR is the state agency responsible for overseeing the IRWM programs statewide, which includes administering the Proposition 1 IRWM Grant Program, which provides funding for Projects that help meet the long-term water resource needs within IRWM Regions. Proposition 1 designates $510 million for IRWM grant funding; $2.7 million is available for the Lahontan Basin funding area. The first round of Proposition 1 implementation grant funding for specific projects is expected to begin in 2018 in the Lahontan Basin. Criteria for obtaining Proposition 1 grant funds include: assisting water infrastructure systems to mitigate impacts from climate change, providing incentives throughout each watershed to collaborate in managing a region's water resources and setting regional priorities for water infrastructure, and improving regional water self-reliance. Plan Projects are required to be included in their respective IRWMP and may be eligible for potential funding.

http://www.water.ca.gov/floodmgmt/funding/small-communities.cfm

7.2.3 Federal 319 Program

This program is a non-point source (NPS) pollution control program that is focused on controlling activities that impair beneficial uses and on limiting pollutant effects caused by those activities. The program is federally funded on an annual basis. Project proposals that address TMDL implementation and those that address problems in impaired waters are favored in the selection process. There is also a focus on implementing management activities that reduce and/or prevent the release of pollutants that impair surface and ground water. Nonprofit organizations, local government agencies including special districts, tribes, and educational institutions qualify.

State or federal agencies may qualify if they are collaborating with local entities and are involved in watershed management or proposing a statewide project.

7.2.4 Water Recycling Funding Grant and Loan Program

This is a long-term program operated by the CSWRCB that offers grants and low-interest loans for the planning, design, and construction of water recycling facilities. This program can also be used to fund groundwater recharge facilities for Indirect Potable Reuse (IPR). Grants are provided for facilities planning studies to determine the feasibility of using recycled water to offset the use of fresh/potable water from state and/or local supplies. Pollution control studies, in which water recycling is an alternative, are not eligible. Public agencies and privately-owned utilities regulated by the California Public Utilities Commission (CPUC) are eligible. The Water Recycling Funding Program receives funding from various sources, including Proposition 1 and the State Revolving Fund (SRF). Due to the varying funding sources, preferences for funding can vary.

7.2.5 Clean Water State Revolving Fund

The Federal Water Pollution Control Act (Clean Water Act or CWA), as amended in 1987, provides for the establishment of a Clean Water State Revolving Fund (CWSRF) program. The program is funded by federal grants, state funds (including Propositions 50, 84, and 1), and revenue bonds. The purpose of the CWSRF program is to implement the CWA and various state laws by providing financial assistance for the construction of facilities or the implementation of measures necessary to address water quality problems and to prevent pollution of the waters of the State.

The CWSRF Loan Program provides low-interest loan funding for construction of publicly-owned wastewater treatment facilities, local sewers, sewer interceptors, water recycling facilities, as well as, expanded use projects such as the implementation of NPS projects or programs, development and implementation of estuary Comprehensive Conservation and Management Plans, and stormwater treatment. Publicly owned treatment works, local public agencies, non-profit organizations, and private parties are eligible for funding. Matching funds are not required. Applications are continuously accepted and $200 to $300 million is available annually.

7.2.6 Infrastructure State Revolving Fund – I-Bank

The California Infrastructure and Economic Development Bank (I-Bank) program fund the public infrastructure projects deemed important to California communities. The financing is available to cities, counties, special districts, assessment districts, joint powers authorities, and redevelopment agencies. Eligible Plan Projects may include streets and highways, sewage collection and treatment, water treatment and distribution, drainage, flood control, solid waste collection, and disposal. The financing can be paired with other grant and loan programs to complete the funding of a project although no matching is required, and the funds may serve as the sole source for the project.

7.2.7 Safe Drinking Water State Revolving Fund (SDWSRF)

The Federal Safe Drinking Water Act (SDWA) Amendments of 1996 authorized the creation of a revolving fund program for public water system infrastructure needs specific to drinking water. There is similar state legislation and the SDWSRF reflects the intent of federal and state laws to provide grant funding or low-interest loans to correct deficiencies in public water systems based on a prioritized system. Highest priority is given to projects that address public health risk, projects that will assist a public water system with compliance with the SDWA, and projects that assist those public water systems most in need. Funding is available for construction/ enhancement of public water systems. The program is funded by federal grants, state funds (including Propositions 50 and 84), and revenue bonds. The program is administered by the CSWRCB Department of Drinking Water (DDW). The entity must be a public water system to be eligible and preference is given to DACs.

7.2.8 Agricultural Drainage Loan Program

The Agricultural Drainage Loan Program was created by the Water Conservation and Water Quality Bond Law of 1986 to address treatment, storage, conveyance, or disposal of agricultural drainage water that threaten waters of the State. The program is administered by CSWRCB.

7.2.9 Agricultural Use Efficiency Program

This grant program will fund agricultural water use efficiency projects. These water use efficiency Guidelines and Proposal Solicitation Package (PSP) directly support the California Water Plan - Action Number One: Make Conservation a California Way of Life, as well as supporting several other Actions, either directly or indirectly. Funding through this program is also directed towards agricultural water management planning and water use efficiency projects and programs developed pursuant to Part 2.8 (commencing with §10800) of Division 6 of the California Water Code.

http://www.water.ca.gov/wuegrants/SolicitationsProp1AG.cfm

7.2.10 Other State Programs

Additional State funding programs not described in detail here, but those which may be legitimate sources of funding include:

- California Department of Public Health (CDPH) Emergency Grants
- Proposition 1E, the Disaster Preparedness, and Flood Protection Bond Act of 2006 authorizes $4.09 billion in general obligation bonds to rebuild and repair California's most vulnerable flood control structures
- California State Parks Office of Grants and Local Service Annual Grant Programs
- Habitat Conservation Fund
- Land and Water Conservation Fund
- Recreational Trails Program

Several funding agencies provide low-interest loans for implementation of water resource-related projects. Low-interest loans can save the implementing agency significant amounts of money by reducing interest payments as compared with traditional bonds. CSWRCB offers low-interest loans for wastewater and recycled water projects through its Clean Water State Revolving Fund (CWSRF) loan program, CDPH administers a similar CWSRF loan program for drinking water-related projects, and the California Infrastructure and Economic Development Bank (I-Bank) administers the Infrastructure CWSRF loan program for financing implementation projects such as sewage collection and treatment, water treatment and distribution, and water supply projects.

The CWSRF program generally has approximately $200 to $300 million available in loans each year to help cities, towns, districts, Native American tribal governments, and any designated and approved management agency under Section 208 of the Clean Water Act to construct publicly-owned facilities including wastewater treatment, local sewers, water reclamation facilities, non-point source projects, and development and implementation of estuary comprehensive conservation and management plans. The interest rate is half of the most recent General Obligation (GO) Bond Rate at the time of the funding commitment. Over the last five years, the CWSRF loan interest rate has ranged from 1.8% to 3.0%. Amounts available through the CDPH Safe Drinking Water SRF loan program vary, but approximately $100 to $200 million is available annually.

7.3 Federal Funding Program

7.3.1 WaterSMART

The United State Bureau of Reclamation (USBR) Sustain and Manage America's Resources for Tomorrow Program (WaterSMART) was established for USBR to work with States, Tribes, local governments, and non-governmental organizations (NGOs) to secure and stretch water supplies for use by existing and future generations. In addition to sustainable water resources goals, the program also addresses adaptive measures needed to address climate change and future demands. The programs described below are part of the WaterSMART program.

7.3.2 Water and Energy Efficiency Grants

The Water and Energy Efficiency Grants program offered through USBR is an annual grant program for which the applicant will need to provide a minimum of a 50 percent funding match. The projects need to demonstrate both water and energy savings.

7.3.3 Grants to Develop Climate Analysis Tools (EPA)

These grants, offered annually by the US Environmental Protection Agency (EPA), provide funding to universities, non-profits, or entities with water or energy delivery authority in the Western United States for the development of tools to better manage water resources with the caveat the tool must consider climate change. Seven areas of research are listed as eligible under this program, with the ultimate goal of improved water resource management.

7.3.4 Advanced Water Treatment Grants (USBR)

The Advanced Water Treatment (ADWT) Grant Program offered by USBR funds demonstration and pilot projects which utilize advanced water treatment systems. The purpose of this program is to create a new economically feasible water supply from brackish groundwater, seawater, or impaired waters. The ADWT grant encourages water agencies to accelerate the adoption of advanced water technologies including reverse osmosis, filtration, electrodialysis, pretreatment methods, advanced oxidation, concentrate disposal or any other process that removes dissolved and suspended matter such as salts, viruses, bacteria or any other difficult to remove matter. The projects should not be the full-scale plant but a pilot to demonstrate the viability of the project. Operations and maintenance (O&M) costs are not included in the funding, cost sharing is required, and the projects must be completed within the specified timeframe of the grant.

7.3.5 Cooperative Watershed Management Program

The Cooperative Watershed Management Program (CWMP) contributes to the WaterSMART strategy by providing funding to watershed groups to encourage diverse stakeholders to form local solutions to address their water management needs. By providing this funding, Reclamation is promoting the sustainable use of water resources and improving the ecological resilience of rivers and streams using collaborative conservation efforts. Funding is provided on a competitive basis for:

Development of Watershed Groups - In 2012, Reclamation began providing funding for the establishment or further development of watershed groups (Phase I). A watershed group is a self-sustaining, non-regulatory, consensus-based group that is composed of a diverse array of stakeholders, which may include, but is not limited to, private property owners, non-profit organizations, Federal, State, or local agencies, and Tribes. As part of Phase I activities, applicants may use the funding to develop bylaws, a mission statement, watershed management project concepts, and a watershed restoration plan. For Phase I projects, Reclamation will award a successful applicant up to $50,000 per year for a period of up to two years without non-Federal cost-share requirements.

Implementation of Watershed Management Projects - Reclamation provides cost-shared financial assistance to watershed groups to implement watershed management projects (Phase II). These on-the-ground projects, collaboratively developed by members of a watershed group, will address critical water supply needs, water quality, and ecological resilience, helping water users meet competing demands and avoid conflicts over water. Program criteria will prioritize projects that contribute to the ecological resilience of the watershed. Reclamation will award up to $100,000 per project over a two-year period. For Phase II projects, applicants must contribute at least 50% of the total project costs.

Drought Resiliency Project Grants and Drought Contingency Planning Grants - The Program establishes a framework to provide federal leadership and assistance for using water efficiently, integrating water and energy policies to support the sustainable use of all-natural resources, and

coordinating the water conservation activities of various U.S. Department of the Interior (DOI) bureaus and offices. Through the program, the DOI is working to achieve a sustainable water strategy to meet the nation's water needs. The objective of this Program is to invite States, Tribes, irrigation districts, water districts, and other organizations with water or power delivery authority to leverage their money and resources by cost-sharing Drought Contingency Planning with USBR to build resilience to drought in advance of a crisis.

Title XVI Feasibility Study Funding - The objective of this Program is to invite applicants to submit proposals to develop new Title XVI feasibility studies. Applicants must provide 50 percent non-federal cost share for the proposed activity. Under Title XVI of Public Law 102-575, USBR works to identify and investigate opportunities to reclaim and reuse wastewaters and naturally impaired ground and surface water in the 17 Western States and Hawaii. Title XVI also provides authority for USBR to provide up to 50 percent of the costs of studies to determine the feasibility of water reclamation and reuse projects. Prior to construction funding of any project authorized under Title XVI, USBR must determine that a feasibility study for the project complies with the provisions of Title XVI. Under this Program, funding is being made available to assist project sponsors with the development of new Title XVI feasibility studies.

California Emergency Management Agency (FEMA) - FEMA (Federal Emergency Management Agency), through the California Emergency Management Agency, fund grants to improve existing infrastructure to increase protection from hazards (such as wildfires, earthquakes, etc.). The intent is to improve infrastructure, particularly lifeline infrastructure (water systems, hospitals, fire) to reduce injuries, loss of life, and the damage and destruction of property. Grants are also available for the creation of Local Hazard Mitigation Plans. Grant funds will remain available until September 30, 2019.

North American Wetlands Conservation Act Grant - This grant provides funds for projects that provide long-term protection of wetlands and the fish and wildlife that depend upon wetlands. Applicants must provide a local match equal to that requested. Entities that are eligible include organizations and individuals who have developed partnerships to carry out wetlands conservation projects in the U.S., Canada, and Mexico. Applications are continuously accepted by the USFWS for this grant.

Environmental Protection Agency - The EPA has made several grant programs available in the past which may continue for the next few years; however, funding for these projects is under consideration and additional time is needed to determine the availability. These grants include:

- Pollution Prevention (P2, formerly Pollution Prevention Incentives): The purpose of the P2 Grant Program is to give States and Tribes the capability to assist businesses and industries in identifying better environmental strategies and solutions for complying with Federal and State environmental regulations.
- Source Reduction Assistance: The purpose of this program is to prevent the generation of pollutants at the source and ultimately provide an overall benefit to the environment.

- Wetland Program Development: This program seeks projects that promote the coordination and acceleration of research, investigations, experiments, training, demonstrations, surveys, and studies relating to the causes, effects, extent, prevention, reduction, and elimination of water pollution. The EPA has identified three priority areas: (1) the development of a comprehensive monitoring and assessment program; (2) the improvement of the effectiveness of compensatory mitigation; and (3) the refinement of the protection of vulnerable wetlands and aquatic resources. Eligible entities include States, Tribes, local governments, interstate associations, intertribal consortia, and national non-profit, NGOs.

Watershed Protection and Flood Prevention Grant - Natural Resources Conservation Service (NRCS) grants are available for watershed protection and flood prevention. The purpose of this program is to support activities that promote soil conservation and the preservation of the watersheds of rivers and streams throughout the U.S. This program seeks to preserve and improve land and water resources via the prevention of erosion, floodwater, and sediment damages. The program supports the improvement of (1) flood prevention including structural and land treatment measures; (2) conservation, development, utilization, and disposal of water; or (3) conservation and proper utilization of land. Successful applicants under this program receive support for watershed surveys and planning, as well as watershed protection and flood prevention operations. Funding for watershed surveys and planning is intended to assist in the development of watershed plans to identify solutions that use conservation practices, including nonstructural measures, to ultimately solve problems.

Matching funds are not required; however, applicants must generally provide matches ranging from 0 to 50 percent in cash or in-kind resources depending on such factors as the project type and the kinds of structural measures which a project proposes.

Eligible entities include States, local governments, and other political subdivisions, soil or water conservation districts, flood prevention or control districts, and Tribes. Potential applicants must be able to obtain all appropriate land and water rights and permits to successfully implement proposed projects.

Water and Waste Disposal Program - The Water and Waste Disposal Program provides financial assistance through the U.S. Department of Agriculture (USDA) in the form of grants and loans for the development and rehabilitation of water, wastewater, and storm drain systems within rural communities. Funds may be used for costs associated with planning, design, and construction of new or existing water, wastewater, and storm drain systems. Eligible projects include storage, distribution systems, and water source development. Projects must benefit cities, towns, public bodies, and census-designated places with a population of less than 10,000 persons. The intent of the program is to improve rural economic development and improve public health and safety.

Rural Development Program - The USDA, through its Rural Development Program, offers grants and financing for utilities in communities of less than 10,000 persons. Public agencies and Native

American Tribes are eligible grantees. Eligible utilities include electric, telecommunications, water, and environmental (wastewater, solid waste, storm drainage).

Rural Water Supply Program - Through this program, USBR assists rural communities in the western United States with planning and design of projects to develop and deliver potable water supplies. Public agencies and Native American Tribes serving communities of less than 50,000 persons are eligible to receive funding for appraisal investigations and feasibility studies related to water supply.

Agricultural Water Conservation Grants - The USBR and the NRCS collaborate to make federal funding available in California to improve the efficiency of agricultural water use throughout the state. The projects funded through this partnership are intended to help communities build resilience to drought, including the modernization of their water infrastructure and efficiently using scarce water resources, while supporting the agricultural economy. USBR has the authority to provide financial assistance to entities with water or power delivery authority, including water districts and irrigation districts, whereas NRCS has the authority to provide on-farm assistance.

Other Federal Grant Programs - Additional Federally funding programs not described in detail here, but which may be a legitimate source of funding include:

- U.S. Environmental Protection Agency Environmental Justice Grants and Cooperative
- Agricultural Management Assistance
- Agricultural Water Enhancement Program
- Conservation Innovation Grants
- Environmental Quality Incentives Program
- Wildlife Habitat Incentive Program
- Farm and Ranch Lands Protection Program
- U.S. Fish & Wildlife Grant Programs
- Cooperative Conservation Initiative
- The Nature Conservancy
- Community Alliance with Family Farms

7.4 Implementation Strategy

The objectives and goals as stated in Section 1 will be assessed as projects undergo implementation. The production of this plan was promoted using information and resources of local entities and organizations. Collaborative data and plans issued for review affirmed the material presented in the Lahontan Basin SWRP accurately reflected the regional stakeholders and other contributor's expectations. The objectives and data provided by committees contributing to the SWRP will assist in the monitoring of projects and impacts that provide multiple benefits to the area.

Much of the Lahontan Basin region consists of low-density development, rendering challenges to funding and implementation. Assuring implementation will require regional participation and strategy. Projects are anticipated to be submitted and implemented through the IRWMP or specific SWRP related grants.

The beneficiaries of the Lahontan Basin SWRP are the residents of the region represented by the Plan stakeholders and include water agencies; local, State, and Federal agencies; NGOs, businesses, wildlife organizations, the agricultural/farm industry, and others within the Lahontan Basin SWRP region. Through project implementation, the plan will ensure regional multiple benefits. Projects included in this Plan are discussed in the Prioritization Memo (Section 6 of the SRWP). The funding sources briefly discussed in the section above will help ensure the Plan is implemented. These chosen Plan Projects will be submitted under the direction of their respective IRWMPs and directed for implementation.

7.4.1 Decision Support Tools, Monitoring, and Information Management

The SWRP Metrics-based analysis supports the integrated analysis of projects and provides a basis to prioritize projects based on the multiple benefits the projects would achieve. These benefits were received using a checklist in the application process. The project information provided as part of the metrics may be updated based on specific grant application requirements. Chapter 5 provides more detailed discussion of the SWRP metrics-based analysis tools including the Project Eligibility Support Tool and the data that supports it.

Progress toward meeting SWRP objectives is directly tied to the implementation of projects. The implementation of projects, along with associated monitoring data, will be tracked using a Data Management System (DMS) that takes advantage of database systems developed by statewide efforts. Because neither the Lahontan Basin Area SWRP nor the IRWM Plan have ongoing, secure funding sources for data management, the RWMG has opted to utilize existing State database frameworks including, for surface water quality, those developed by the California Surface Water Ambient Monitoring Program (SWAMP) and by the California Environmental Data Exchange Network (CEDEN). Wetland and riparian habitat conditions will be measured and documented using the California Rapid Assessment Methods (CRAM), and applicable groundwater data will reside in GeoTracker using the Groundwater Ambient Monitoring and Assessment (GAMA) database.

The DMS for the IRWM region includes data validation and quality assurance for the set of standardized key metadata fields. The data system provides a portal to data sets (measurements) hosted by the data generating organizations or those that have been integrated to regional, statewide, or national databases, including Wetland Tracker, CalDUCs, and CEDEN. The RWMG and its designated Data Coordinator is responsible for ensuring that data gets uploaded to the appropriate State database.

If a project requires monitoring, the project proponent is responsible for both development of the project-specific monitoring plans and for all monitoring activities. The project-specific

monitoring plan requirements will vary based on the type of project being implemented. All projects must adhere to certain State guidelines for monitoring to be implemented through the IRWM Plan, and by extension, the SWRP. Through project-specific monitoring efforts, the Conservation Action Tracker, and measurable objectives, the RWMG intends to demonstrate over time that the IRWM Plan and SWRP are meeting their goals and objectives.

The project-specific monitoring plan requirements will vary based on the type of project being implemented. All projects must adhere to certain State guidelines for monitoring to be implemented through the IRWM Plan and the SWRP. These include:

- Projects that involve surface water quality must meet the criteria for and be compatible with SWAMP,

  (http://www.waterboards.ca.gov/water_issues/programs/swamp/tools.shtml).

- All projects that involve groundwater quality must meet the criteria for and be compatible with GAMA, (http://www.waterboards.ca.gov/gama/).
- All projects that involve wetland restoration must meet the criteria for and be compatible with the State Wetland and Riparian Area Monitoring Plan (WRAMP, http://www.waterboards.ca.gov/mywaterquality/monitoring_council/wetland_workgroup/docs/2010/tenetsprogram.pdf)

Any projects that do not fall into one of the above categories must, at minimum, address the following:

1. Clearly and concisely (in a table format) describe what is being monitored for each project. Examples include photo monitoring, water depth, flood frequency, and effects the project may have on habitat or particular species (before and after construction), etc.
2. Measures to remedy or react to problems encountered during monitoring. An example would be to coordinate with the Department of Fish and Game if a species or its habitat is adversely impacted during construction or after implementation of a project.
3. Location of monitoring (with a map).
4. Monitoring frequency.
5. Monitoring protocols/methodologies, including who will perform the monitoring. 6. Procedures to ensure the monitoring schedule is maintained and that adequate resources (budget) are available to maintain monitoring of the project throughout the scheduled monitoring timeframe

7.4.2 Mechanisms to Adapt Project Operations and Plan Implementation

Through project-specific monitoring efforts, the Conservation Action Tracker, and measurable objectives, the RWMG will adapt project operations and plan implementation to ensure that IRWM Plan and SWRP goals and objectives are being met. Plan Performance Review discussed in Section 6.3 includes an adaptive management process that will enable the RWMG to respond to lessons learned from the project monitoring efforts and to utilize new information, particularly as new data regarding climate change impacts and vulnerabilities for the GMC region become

available. With this information, the RWMG may choose to modify IRWM Plan and SWRP objectives, the measurability of those objectives, the use of resource management strategies, or the project review process; and these decisions will, in turn, dictate the types of projects that will be prioritized and implemented in the future. 6.4.5 Mechanisms to Share Performance Data The DMS for the GMC IRWM region provides a portal to data sets (measurements) hosted by the data generating organizations or those that have been integrated to regional, statewide, or national databases such as:

- Central Coast Action Tracker: The Central Coast Action Tracker is an effort between the RWMG and the Central Coast Resource Conservation Districts. The Action Tracker will be an online tool (currently under construction) that will allow project proponents to register and update information on conservation projects across the region in order to track efforts and improve stakeholders' ability to evaluate collective impacts and effectiveness. The vision is to create a new website which will detail information on various conservation and water quality related projects throughout the Central Coast, including those from the IRWM Plan. Website: https://www.ccactiontracker.org/
- GAMA: All projects that involve groundwater quality must meet the criteria for and be compatible with Gama. Website:

  http://www.waterboards.ca.gov/gama/geotracker_gama.shtml

- SWAMP: Projects that involve surface water quality must meet the criteria for and be compatible with SWAMP. Website:

  http://www.waterboards.ca.gov/water_issues/programs/swamp/tools.shtml

- CEDEN: CEDEN was created by the State Water Resources Control Board with support from the Surface Water Ambient Monitoring Program (SWAMP) to include all available statewide data (such as that produced by research and volunteer organizations). Website: http://www.ceden.org/ • Wetland Tracker: Projects that involve wetland restoration must be uploaded to the California Wetland Tracker. Website:

  http://www.californiawetlands.net/tracker/

- CalEEMod: CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and greenhouse gas (GHG) emissions associated with both construction and operations from a variety of land use projects. We are requiring all IRWM Plan projects to do the CalEEMod assessment, summaries of which can be entered in the Action Tracker. Website: http://www.caleemod.com/

7.5 Project Management & Monitoring

Storm Water Resource Plan (SWRP) project management is stakeholder driven and is non-regulatory based. Each Plan Project will build on the local stormwater management objectives.

By the nature of the project origination, management will focus on watersheds with objectives and priorities that may enhance environmental criteria, provide flood protection and recreational opportunities, improve water quality, provide groundwater recharge and capture, and treat or reuse stormwater runoff. The managers will be the stakeholders.

The Plan Projects must be responsible to establish project goals and guidelines which are consistent with the SWRP. Project proponents must identify their objectives and establish operating guidelines to obtain those objectives. A Plan Project management implementation strategy and schedule must be proposed for acceptance of the Plan Project. Goals and Objectives are presented in the SWRP (See Section 1.0).

Projects will be added to or removed from the SWRP through the submittal and review process and added to the agenda of regularly-scheduled Lahontan Basin IRWMP meetings. The Lahontan Basin RWMG will review all accepted Plan Projects on a routine basis to identify accomplishments and compliance with the project objectives and guidelines of the SWRP. One of the Plan goals and requirements of the guidelines is to produce a living document which can be used for many years and adapted to the changing needs and resource goals for the Lahontan Basin region.

7.5.1 Adaptive Management

The SWRP was developed through the assistance of stakeholders and other public participation and feedback to provide planning and beneficial impacts based on current regional needs and circumstances. As projects progress and surrounding requirements evolve, the SWRP will be revised to adequately address the changes presented while remaining within the context of the CSWRCB guidelines. As needs change, Plan Projects may be added or removed during the submittal process. Meetings are to be scheduled regularly to optimize collaboration and communication between stakeholders and assess adaptive agendas.

The SWRP can be revised and modifications can be applied throughout the plan management process. The following procedure outlines the plan revision process. The outline identifies the process that simply adds or removes a project without external provisions.

1. Adoption and Acceptance of the Lahontan Basin SWRP:
    a. To adopt the Lahontan Basin SWRP, a notice must be issued by the stakeholder's group to respective participants of the IRWMP of acceptance intentions. A vote will take place among group members. A list will be kept of individuals and organizations that provided comments and suggestions for the draft SWRP document.
    b. When the majority of stakeholders vote to accept the plan, the SWRP shall be adopted.
        i. Plan acceptance includes subjection to the internal policies and regulations of each entity.
2. Amendments to the Lahontan Basin SWRP:

a. Any participant in the stakeholder group may propose amendments to the Plan.

b. Plan amendments shall include:

   i. Simple majority vote approval of stakeholders.

   ii. Once amended, the Plan shall be adopted or accepted by another majority vote of the participating stakeholders showing favor of the revision.

c. Amendments to the Plan's appendices shall not require re-adoption or stakeholder permission.

7.6 Project Monitoring

The objectives and goals as stated in the SWRP (See Section 1.0) will be assessed as Plan Projects undergo implementation. The production of this plan was promoted using information and resources of local entities and organizations. Performance monitoring aligned with individual project performance based on the metrics and goals set for Plan Projects shall be submitted to Lahontan Basin RWMG.

Collaborative data and plans issued for review affirm the material presented in the Lahontan Basin SWRP accurately reflects the regional stakeholders and other contributor's expectations. The objectives and data provided by committees contributing to the SWRP will assist in the monitoring of projects and impacts that provide multiple benefits to the area.

The Plan Projects set benefit targets to meet the goals set forth at the inception of the project improvements. All Plan Projects will be reported to the Lahontan Basin IRWMG on a routine basis. The group will review goals, objectives, benefit targets and schedule to monitor performance.

7.6.1 Implementation Status Tracking

Plan performance tracking of the SWRP will be conducted every two years or as appropriate as part of the IRWM Plan Performance Review. The review will evaluate progress made toward achieving IRWM Plan and by extension, SWRP objectives. Progress toward meeting IRWM Plan and SWRP objectives is directly tied to the implementation of projects, which will be tracked using a Data Management System described below. Two tables will be generated with each Plan Performance Review to show: 1) that the RWMG is implementing projects listed in the IRWM Plan/SWRP, and 2) that the RWMG is efficiently making progress towards meeting the objectives of the IRWM Plan/SWRP. As appropriate, project implementation will be tracked using a database.

7.6.1.1 Implementation Strategy

a.) Timeline for submitting Plan into existing plans, as applicable
b.) Specific actions by which Plan will be implemented – when Grant funding is applied and RWMG in TAC project sponsor.
c.) All entities responsible for project implementation

d.) Description of community participation strategy – public outreach and educational signage.
e.) Procedures to track status of each project – RWMG meeting updates.
f.) Timelines for all active or planned projects
g.) Procedures for ongoing review, updates, and adaptive management of the Plan – RWMG
h.) A strategy and timeline for obtaining necessary federal, state, and local permits – All projects sponsors will be responsible for their own permitting.

7.6.2 Timeline/Schedule

The mechanisms needed to implement the Lahontan Basin SWRP, including funding strategies, responsibilities, tracking, and participation is identified and has been in place through the RWMG, which will ensure SWRP implementation.

Implementation of specific projects identified in the SWRP is primarily dependent on funding, as well as project status. Table 7.2 below summarizes the funding status and when benefits are expected to be realized for each of the SWRP projects that were prioritized.

Table 7.2

SWRP Project Status and Completion Timeline			
Project		**Status**	**Completion Timeline***
1	Old Channel Improvement Project	Planned	0-5 Years
2	Janesville Park and Doyle Park Storm Water Project	Planned	0-5 Years
3	Paiute Lane and Susanville Ranch Park Storm Water Project	Planned	0-5 Years
4	Lassen County Fairgrounds Storm Water Project	Planned	0-5 Years
5	Susanville Road Shop Storm Water Project	Planned	0-5 Years

* Assumes adequate funding and access to property.

8.0 Education, Outreach, and Public Participation

8.1 Public Outreach and Participation Opportunities

The many water resources-related challenges facing the Lahontan Basin region will be best addressed through cooperation and collaboration among a diverse group of stakeholders across the region. Indeed, identification of stakeholders with disparate and even conflicting interests is critical to the long-term success of the Storm Water Resource Plan (SWRP). Communication of information about the region and SWRP planning process is key to effective stakeholder identification and participation.

The purpose of the SWRP communication efforts is to ensure that the SWRP is developed based on input and involvement from a diverse group of informed local stakeholders from across the region, including, as much as possible, traditionally under-represented interests, such as Tribal interests and economically disadvantaged communities (DACs). Coordination of any environmental justice concerns is addressed by ensuring that all stakeholders have access to the SWRP planning decision-making process and that minority and/or low-income populations do not bear disproportionate adverse human health or environmental impacts from plan and project implementation.

The Department of Water Resources (DWR) has developed a web-based application to assist local agencies and other interested parties in evaluating disadvantaged community (DAC) status throughout the State, using the definition provided by Proposition 84 IRWM Guidelines (2015). The DAC Mapping Tool is an interactive map application that allows users to overlay the following three US Census geographies as separate data layers:

- Census Place
- Census Tract
- Census Block Group

A map of the DAC census tracts is displayed in Figure 8.1. <https://gis.water.ca.gov/app/dacs/>

8.1.1 Communication Strategy and Methods – Planning Phase

The overall communication strategy is to “cast a wide net” at the beginning of the planning process, see who wants to participate constructively in plan development as an SWRP stakeholder, work closely with those stakeholders, and inform and seek input from the general public at key milestones. Many representatives of DACs, such as local officials and agency personnel, will be included on the general SWRP contacts list and receive information through those avenues. Project team members will conduct outreach efforts as appropriate.

During the planning phase the SWRP grant award was announced via a public service announcement within local news outlets. The Honey Lake Valley RCD website was launched and

referenced to act as a public communication tool in order for stakeholders to stay up to date with plan developments, TAC meetings, and project solicitations. The Honey Lake Valley RCD compiled of list of specific stakeholders as they pertain to local ratepayers, developers, locally regulated commercial and industrial stakeholders, nonprofit organizations and the general public. This list is identified in Table 8-1. Targeted outreach was utilized within the list of stakeholders in order to garner as much locally specific feedback as possible during SWRP development.

Table 8.1

Targeted Audiences for SWRP Outreach	
Organization	**Statutory Authority**
Herlong Public Utilities District	Water supply, water quality management
Lake Forest Community Service District	Water supply, water quality management
Lassen Irrigation Company	Water supply
Spaulding Community Service District	Water supply, water quality management, wastewater treatment
Leavitt Lake Community Services District	Water supply, water quality management, wastewater treatment
Stones Landing Community Service District	Water supply, water quality management
Susanville Consolidated Sanitary District	Waste water treatment
West Patton Village Community Service District	Water supply, water quality management
Municipal and County Governments and Special Districts	
City of Susanville	Water supply, water quality management, flood management/control, storm water management
Honey Lake Valley Resource Conservation District (RCD)	Water supply
Lassen County Department of Planning and Building Services	Groundwater management, flood management/control, storm water management, well permitting process, water exportation and extraction permits
Sierra County Planning Department	Groundwater management, flood management/control, stormwater management
Regulatory and Resource Agencies – State and Federal	
California Department of Conservation (DOC)	Not applicable
California Department Fish and Game (CDFG)	Water quality management
California Department of Public Health (DPH)	Water quality management
California Department of Water Resources (DWR)	Water quality management
Federal Emergency Management Agency (FEMA)	Emergency Preparedness
Lahontan Regional Water Quality Control Board (LRWQCB)	Water quality management
Sierra Army Depot (SIAD)	Water supply, water quality management, flood management, stormwater management
Sierra Nevada Conservancy (SNC)	Not applicable
United States Department of Agriculture (USDA) Forest Service, Lassen National Forest (LNF)	Water quality management

United States Department of Agriculture Natural Resource Conservation Service (NRCS), Susanville District	Water quality management
United States Department of Health and Human Services (DHHS), Indian Health Services (IHS)	Water quality management
United States Department of Interior Bureau of Indian Affairs (BIA), Redding Regional Office	Water quality management
United States Environmental Protection Agency (EPA), Tribal Programs Office	Water quality management
University of California Cooperation Extension, Lassen County	Not applicable
United States Department of Interior Bureau of Land Management, Eagle Lake Field Office	Water quality management
Tribal Governments	
Honey Lake Maidu	Not applicable
Honey Lake Paiute (Wadatukuta)	Not applicable
Susanville Indian Rancheria (SIR)	Water supply, water quality management, flood management, stormwater management
Pit River Tribe	Not applicable
Washoe Tribe of Nevada and California	Not applicable
Recreational and Environmental Entities	
Lassen Land and Trails Trust	Not applicable
Community Representatives/Social Justice Organizations/Public and Private Interests	
Eagle Lake Coordination Committee	Not applicable
Eagle Lake Guardians	Not applicable
Honey Lake Valley RCD Watermaster Advisory Committee	Not applicable
Lassen County Special Weed Action Team (SWAT)	Not applicable
Susan River Watershed Group (SRWG	Not applicable
Pine Creek Coordinated Resource Management Plan (CRMP)	Not applicable
Lassen County Fire Safe Council (LCFSC)	Not applicable
Lassen County Times	Not applicable
Lassen Ground Water Advisory Committee	Not applicable
Sierra Radio Network	Not applicable
Susanville Indian Rancheria (SIR) Tribal Historic Preservation Office (THPO)	Not applicable
Sierra County Fire Safe and Watershed Council	Not applicable
Agricultural Interests	
Lassen County Farm Bureau	Not applicable
Lassen County Cattlemen's Association	Not applicable
Sierra County Farm Bureau	Not applicable
Sierra County Cattlemen's Association	Not applicable

Stakeholder involvement is a central element to the SWRP process. Numerous stakeholder groups throughout the region were identified and contacted, and several public announcements were published in regional newspapers to reach the general public. These outreach efforts were

successful in obtaining stakeholder input during the planning process. Stakeholders have participated in various stakeholder meetings and regular correspondence with the TAC to develop, influence, and complete the SWRP and subsequent project applications. It is anticipated that active stakeholder involvement will continue during the implementation of the SWRP.

The purpose of the SWRP communication efforts is to ensure that the SWRP program is developed based on input and involvement from a diverse group of informed local stakeholders from across the region, including, as much as possible, traditionally under-represented interests, such as Tribal interests and economically disadvantaged communities (DACs).

Intended results of the communication efforts include:

- The general public has had opportunities to become aware that a regional stormwater resources planning effort is underway, and to learn about the purpose, potential opportunities, and value of creating an SWRP;
- Interested persons had access to materials to inform their participation (e.g., information about the watershed itself, the plan development process);
- There is greater understanding and documentation of the diverse needs of the watershed and its people;
- Many points of view will have been considered in development of the plan and its projects; including, to the extent possible, the points of view of interests traditionally under-represented in SWRP processes;
- Local stakeholder interests and concerns will have been represented in the plan;
- Timely communication will have occurred between the TAC (or its representatives) and the public, especially in those cases where public notice is required for meetings; and
- Constructive stakeholder relationships will have been developed and strengthened within the region, and between the region and adjacent regions.

Professionally facilitated meetings will be held at the sub-regional and regional levels to make it easy for the general public to attend in this large geographic region. Public meetings will include a mix of presentations, discussions, and small-group interaction, and be conducted at key points in the planning process. Information will be designed specifically to inform and educate, and/or to encourage participation, feedback, and input by the general public. Public announcements will be disseminated as broadly as possible, and as early as possible, using the methods identified above, but no later than one week prior to the meeting, action, or decision date. Public comment opportunities and due dates will be broadly announced. The schedule outlining the engagement above is shown in Figure 8.2.

Table 8.2

SWRP Public Engagement and Education Schedule	
Milestone	**Date**
PSA before SWRP grant awarded	01-2017
SWRP Request for Qualifications	02-21-2017
PSA when SWRP grant awarded	03-2017
SWRP Website goes live	05-2017
Public notice for call for projects	06-20-2017
TAC Meeting 1	06-28-2017
TAC Meeting 2	09-27-2017
Public notice for SWRP comments	03-20-2018
DAC/Tribal Outreach Meeting	04-10-2018
TAC Meeting 3	04-16-2018
RWMG Meeting	04-19-2018
RWMG Meeting	04-30-2018
Public Engagement Meeting/SWRP Review/RWMG Meeting/TAC Meeting	06/05/2018
TAC Meeting 4	07/10/2018
TAC Meeting 5	08/07/2018

Outreach and communication efforts will take many forms, depending on the need (e.g., provide general background information, provide notice of upcoming public meeting) and target audience (e.g., general public, stakeholders). Communication methods will include, but are not necessarily limited to:

- Traditional media: When required or appropriate, press releases will be distributed to the Media List in time to meet deadlines for local newspapers and radio Public Service Announcements (PSAs) (KSUE Radio) to inform the general public.
- Electronic media (Website): Background information, notice of public meetings, and information on Plan process and content will be posted on the Honey Lake Valley RCD website https://www.honeylakevalleyrcd.org/swrp/. To facilitate access to the SWRP website and its information, computers, and printers may be in several local communities.
- Contact lists: Will be developed and notices and information will be sent (via email, U.S. mail or phone, as appropriate) to those who have provided their contact information, (e.g., through sign-up sheets at meetings).
- Personal communication: Local representatives of the SWRP team and consultants will communicate directly with stakeholders and interested persons (via email, telephone, or U.S. mail), as appropriate and necessary.

- Meetings and workshops: Meetings and workshops will be conducted at various locations within the region, and for various purposes (e.g., work groups, public meetings), as needed and appropriate.
- Printed materials: Printed materials will be used throughout the SWRP development process for increasing awareness and understanding. Materials may take many forms, including educational materials provided at meetings, a limited number of hard copies of SWRP documents as they become available, and meeting handouts to facilitate public understanding and participation.

In the Lahontan Basin SWRP region, under-represented interests include economically disadvantaged communities and communities where Environmental Justice (EJ) issues exist or may exist, such as with Tribes and Latino/Hispanic communities. EJ consideration seeks to address inequitable distribution of environmental burdens (e.g., dumping of environmental wastes) and access to environmental goods (e.g., clean water, parks, and recreation facilities). SWRP project team members worked to assess the capacity of under-represented interests and, where necessary, help increase their capacity to participate.

DAC and EJ communities were key target audiences for outreach and communication efforts from the inception of the planning process. The capacity-building effort was kicked off in early 2017 when the SWRP grant and initial sub-regional meetings were announced via email, phone, and local media. Conversations about interest and capacity to participate began at that time. Early outreach messages to DAC and EJ interests focused on building an understanding of the SWRP process, as well as on how participation in the planning process could augment their existing efforts and activities.

- When the TAC was prepared to announce the first call for projects for the SWRP, public notices were distributed region wide. Additional public outreach was surveyed during the call for projects as HLVRCD staff and consultants attended various public meetings where SWRP updates and project developments were discussed. In addition, HLVRCD staff and consultants extended the outreach to individual water resources stakeholders via phone calls and emails.

8.1.2 Communication Strategy and Methods – Implementation Phase

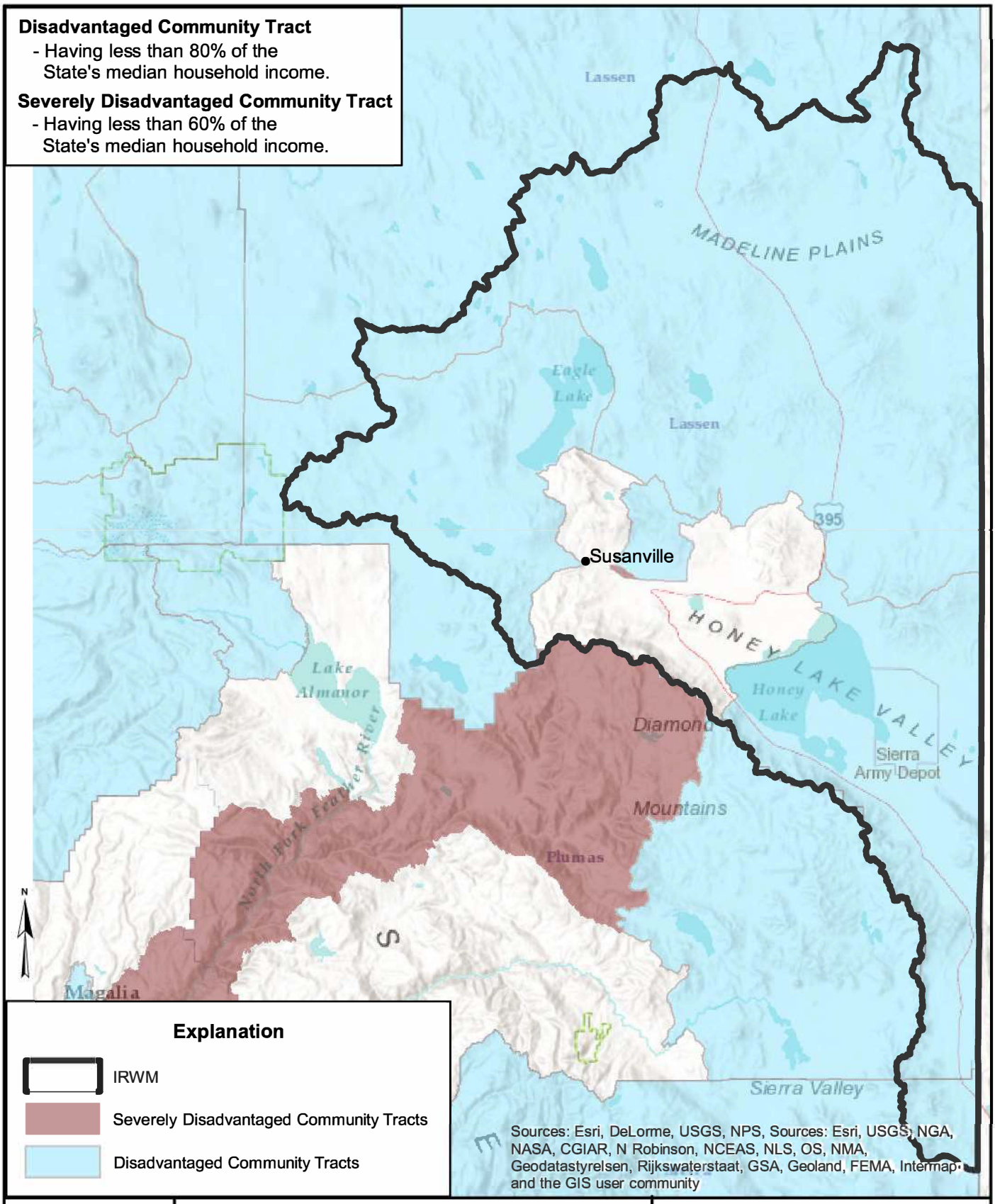
To ensure the long-term success of the SWRP, it will be important to have continued participation by interested communities for the life of the document, including during SWRP project implementation and for future revisions. Two key efforts were undertaken to help ensure sustained participation of these communities including the under-represented interests: 1) establishment of a continuing forum for information sharing and problem-solving, and 2) development of a project development application.

The Lahontan Basin SWRP process is built upon the premise that future implementation of an SWRP and identified projects would not be possible unless the strategies and options were first

identified, prioritized and developed by the affected stakeholders. As a result, stakeholder involvement is a central element to the SWRP process and implementation success will involve stormwater management strategies that address the concerns of local communities and reflect the public's interests and values within the region.

The first form of involvement is to help coordinate and/or communicate the SWRP to other stakeholders not only within the region but to neighboring agencies. Another form of involvement is to assist in the implementation of the SWRP through facilitation or active project involvement. The final form of involvement is through granting of necessary regulatory approvals. In many cases, a given agency can be involved in SWRP implementation in these ways.

The TAC and the Honey Lake Valley RCD will maintain the SWRP page of the HLVRCD website updated as the SWRP moves into implementation phase. The website will act as a data clearinghouse in order to garner additional project solicitations as well as inform the public as new SWRP grants are made available.



Job No.
CCC-JJJ-TTT

Date
1/31/2018

Figure No.
8-1

Honey Lake Valley RCD

Lahontan Basins DAC Regions

DYER ENGINEERING CONSULTANTS
9160 Double Diamond Pkwy. Ste. A
Reno, Nevada 89521 Phone: 1-775-852-1440

V:\Projects\HLVRCD\03-SWRP\04-CAD\Figures\DAC_Regions.mxd

Appendix A

Submitted Project Applications

NORTH LAHONTAN BASIN
Storm Water Resources Plan (SWRP)
Project Application Form

The North Lahontan Basin Storm Water Resources Plan (SWRP) region is accepting projects to be considered for future funding and implementation. To have projects considered for inclusion, the applicant must read and complete this Project Solicitation Form. If the applicant has multiple projects, each individual project will need a separate form. Information on this form will be used in the ranking process for project prioritization.

The deadline for project submission is **Monday, July 10, 2017**. Completed Project Solicitation Forms should be sent via email to Mr. Ian Sims at isims@honeylakevalleyrcd.us. If you have any questions, please contact Mr. Ian Sims or Mr. Jeff Weagel at jweagel@dyerengineering.com or 775-852-1440. Assistance is available for the preparation of this application.

The California Storm Water Grant Program is a part of the 2014 Proposition 1 that authorized $7.545 billion in general obligation bonds for water projects. Prop 1 (Section 79747) provides $200 million in grant funds for multi-benefit storm water management projects.

Water Code section 79747 identifies funds available for multi-benefit storm water management projects which may include, but shall not be limited to: green infrastructure, rainwater and storm water capture projects and storm water treatment facilities. Storm Water Resource Plans, or functionally equivalent plan(s), are required to obtain grant funds for storm water and dry weather capture projects. Additional information is available online at http://www.waterboards.ca.gov/water_issues/programs/grants_loans/swgp/prop1/.

Your Project must be "Storm Water" or "Dry Weather Runoff" related to be eligible for funding. Storm Water is defined in the SWRP Guidelines as: "temporary surface water runoff and drainage generated by immediately preceding storms". Dry Weather Runoff is defined as: "surface runoff flow produced by non-storm water resulting from irrigation and other residential, commercial, and industrial activities".

Applicant must complete the following check list and form;

PART 1 – PROJECT ELIGIBILITY

TABLE 1 – PROJECT ELIGIBILITY CHECKLIST	
1. Is the applicant one of the following: Per Water Code Section 79712(a). (Check all that apply, 1 minimum)	☒ Public Agency ☐ 501(c)(3) Nonprofit Organization ☐ Public Utility ☐ Federally recognized Indian Tribe ☐ State Indian Tribe listed on the Native American Heritage Commission's Tribal Consultation List ☐ Mutual Water Company ☐ Groundwater Sustainability Agencies (GSAs) formed in accordance with the Sustainable Groundwater Management Act are eligible applicants if they are a public agency or other eligible applicant type as listed above.

<table>
<tr><td>2. Does the project fit the following criteria?

(All are required)</td><td colspan="2">☒ Is an implementation / construction project. (not planning)
☒ Responds to climate change
☒ Contributes to regional water security
☒ Contains at least two main benefits from section 3 (next section)
(as listed in Section III. G – Storm Water Management Benefits (SWGP guidelines);</td></tr>
<tr><td rowspan="5">3. Projects shall be multi-beneficial, designed to infiltrate, filter, store, evaporate, treat, or retain storm water or dry weather runoff. Preference will be given to projects that capture and “re-purpose” storm water for a variety of potential benefits including, but not limited to;

(Check all that apply)</td><td>Main Benefit Category
(2 minimum)</td><td>Additional Benefits / the project provides_____.
(check all that apply)</td></tr>
<tr><td>☒ Water Quality</td><td>☒ Increased water quality
☐ Non-point source pollution control
☒ Increased filtration/ runoff treatment
☐ Reestablished Natural water drainage</td></tr>
<tr><td>☒ Water Supply</td><td>☒ Increased water supply
☒ Increased water supply reliability
☒ Increased water conservation
☐ Conjunctive use (combining use of groundwater and or groundwater storage with surface water)
☒ Storm Water Reuse</td></tr>
<tr><td>☒ Flood Management</td><td>☒ Decreased flood risk
☒ Reduced peak flows
☐ Reestablished natural drainage and treatment
☐ Reduced sanitary sewer overflows</td></tr>
<tr><td>☒ Environmental</td><td>☒ Environmental improvement
☒ Habitat restoration or improvement
☐ Reestablishment of the natural hydrograph
☐ Water temperature improvements
☐ Reduced energy use, greenhouse gas emissions, or provides a carbon sink
☐ Water Temperature Improvements</td></tr>
<tr><td>☒ Community Stewardship</td><td>☒ Employment opportunities
☐ Public education
☒ Community involvement
☐ Enhance and /or create relational public use areas
☐ Increased urban green space</td></tr>
<tr><td>4. Required Criteria:

(Both are required)</td><td colspan="2">☒ Does it demonstrate the capability of contributing to sustained, long-term water benefits for a minimum period of 20 years?
☒ Does it demonstrate adequate rights-of-way for the useful life (20-year minimum) of the project?</td></tr>
<tr><td>5. Does the project meet the Funding Requirements?

(Check all that apply)</td><td colspan="2">☒ Minimum grant amount $250,000, maximum $10,000,000
☒ Does the project have a matching funds source? Local (Non-State) Match includes (but is not limited to; check funding source):
☒ Donated and volunteer (“in-kind”) services;</td></tr>
</table>

	☐ Planning, engineering, and design specific to the implementation project; ☐ Permitting; ☐ Environmental documentation and mitigation; ☐ Easements and land purchases made by the applicant; ☐ Project implementation (purchase of material, equipment, construction); ☐ Project effectiveness monitoring; ☒ Education and outreach is a component of the project construction.

Local match must be:

- 50% of project cost,
- or if Disadvantaged Community (DAC/EDA) see Table 2 for reduced match information: (Generally the majority of Lassen County can be considered a DAC, excluding Janesville and portions of Susanville see https://gis.water.ca.gov/app/dacs for DAC mapping)

TABLE 2 - REDUCED MATCH DAC AND EDA*

Match Requirement [1,2]
Group A: Small & Severely DAC Storm Water Service Area and 100% of the Project Benefits the Small & Severely DAC 5% match if population is less than 20,000 persons **AND** median household income (MHI) is less than 60% of the Statewide MHI **Group B: DAC or EDA Storm Water Service Area and 100% of the Project Benefits the DAC or EDA** 10% match if the community meets the definitions **Group C: Greater than 50% of the Project Construction Occurs in and Benefits a DAC/EDA** i) 20% match, if 100% of the construction occurs in and benefits the DAC or EDA; ii) 25% match, if at least 75% (but less than 100%) of the construction occurs in and benefits the DAC or EDA; or iii) 30% match, if at least 50% (but less than 75%) of the construction occurs in and benefits the DAC or EDA.
[1] Match is calculated based on the *total project cost*, **not** on the grant amount. Total Project Cost x %Match = Required Match i.e. - $3,750,000 (Total Project Cost) x 10% (Percent Match) = $375,000 Match [2] See definitions in Appendix D

*Source: CA SWRP guidelines

PART 2 - PROJECT DESCRIPTION FORM

I. PROJECT SPONSOR INFORMATION

Implementing Agency:	Honey Lake Valley Resource Conservation District
Agency Address:	170 Russell Ave., Suite C. Susanville CA 96130
Point of Contact (Name / Title):	Ian Sims, District Manager
Telephone:	775-313-1222
Email:	isims@honeylakevalleyrcd.us

II. PROJECT INFORMATION

Project Title:	Old Channel Improvement Project
Project Budget (Estimated):	$2,000,000
Project Funding Match with sources from Non-State of California matching funds:	We hope to obtain cash matching funds from Walmart, Baxter Auto Parts and other vendors who contribute to the pollution of the project area. The Honey Lake Valley RCD will contribute in-kind labor costs as additional project match.
Project Location Description:	From head gate on Susan River all along Old Johnstonville Rd to Travis Lane. See maps of Susan River Decree #4573. The area served by the Old Channel is just outside the city limits of Susanville, in a zoned agricultural area.
Latitude:	700570.38 m E
Longitude:	4475694.88 m N
Land Ownership:	Mixed public/private
County:	Lassen
City/Community:	Outside Susanville city limits
Watershed/Sub-Watershed:	Susan River
Groundwater Basin:	Honey Lake Valley
Project Description:	

Flood control of upper River system, is limited and badly needed locally. Flooding is often a problem along the Susan River. This project would allow Old Channel to safely handle a portion of the flood water, diverting it into channels other than the Susan River as needed, to lighten the loads placed on the Johnstonville Dam and AB Canal. Old Channel rejoins the Susan River below Johnstonville Dam.

High water loss, during irrigation season, due to willows and sandy soil areas. Inflow of pollutants harmful to crops, from storm drains, drop inlets of City roads, old pollution plumes from petroleum plants. Continued pollution from bordering commercial establishments. Pollution run-off from soil where log deck used to be near ABC mini storage.

Continued encroachment of City projects, will further limit access to current open ditches for maintenance and they will be more of an attractive nuisance to children.

Piping part of the canal will eliminate an attractive nuisance and create a safe flood control channel, capable of a reliable flow. In addition, loss due to direct contact with soil will be eliminated. Concreting the canal where the piping ends, will eliminate run-off pollution in those areas. Direct contact with soil through the commercial area, will eliminate much of the pollution issues.

The project will greatly reduce loss and pollution intrusion, providing more quality water for its intended purpose.

II. ADDITIONAL PROJECT INFORMATION

Cooperating Agencies (List agencies that will cooperate, or provide written support for project)	Honey Lake Valley RCD, City of Susanville, Lassen County, and Lassen County Farm Bureau
Project work completed (Check boxes that apply and explain any additional work or studies that have been performed to date)	☐ Conceptual Plans ☐ Easements, Land ownership in order, completed ☒ Preliminary Plans ☐ CEQA NEPA Permitting ☐ Final Engineering Design, Construction drawings <u>Other Work Performed:</u> Bid documents (Conceptual Plans) CEQA Planning Easements, Land ownership in order

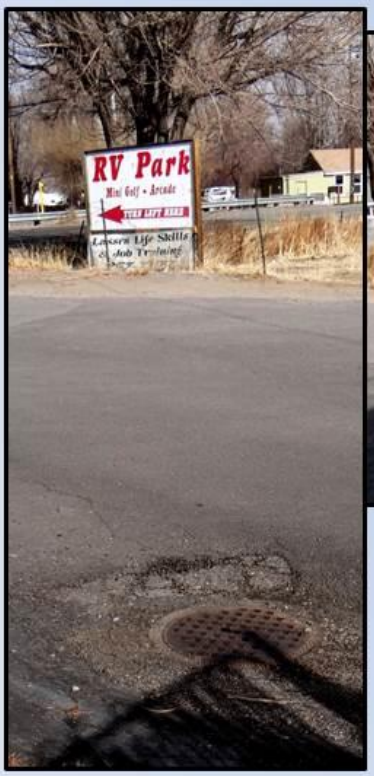
Required Permits (Outline Require Permits and approvals needed on the project)	
Multiple Benefit Narrative (write a description of how the project is multi-beneficial, include elements that were not in the check list if any)	▪ Promote water conservation, conjunctive use, reuse and recycling ▪ Eliminate polluted irrigation and stock water ▪ Improve landscape and agricultural irrigation efficiencies ▪ Achieve long term reduction of water use ▪ Efficient groundwater basin management ▪ Increase urban and agricultural water use efficiency measures such as conservation and recycling ▪ Adaptation to Climate Change: Use and reuse water more efficiently ▪ Reduce Energy Consumption: Water use efficiency ▪ Expand environmental stewardship to protect and enhance the environment by improving watershed, floodplain, and instream functions and to sustain water and flood management ecosystems ▪ Improved flood protection ▪ More sustainable flood and water management systems ▪ Protecting and restoring surface water and groundwater quality to safeguard public and environmental health and secure water supplies for beneficial uses

III. ADDITIONAL RELEVANT INFOMATION

Write additional information that is relevant to the project here. Attach photos and additional data as needed (studies, plans, unique project data etc.)

Undocumented fill, prior owner hauled in loads of broken concrete and filled part of Old Channel to make more parking area on his land then sold it.

Two large culverts are Old Channel, small culvert below tree is from Baxter parking lot



Baxter
Auto Parts
Parking lot
drains into
Old Channel

Old Channel where diversion for Jensen Slough is located, good place to measure flow in each with the two weirs.

Jensen Slough culvert under old Johnstonville Rd. by White House Restaurant.

Old Channel behind Motel near Pizza Factory

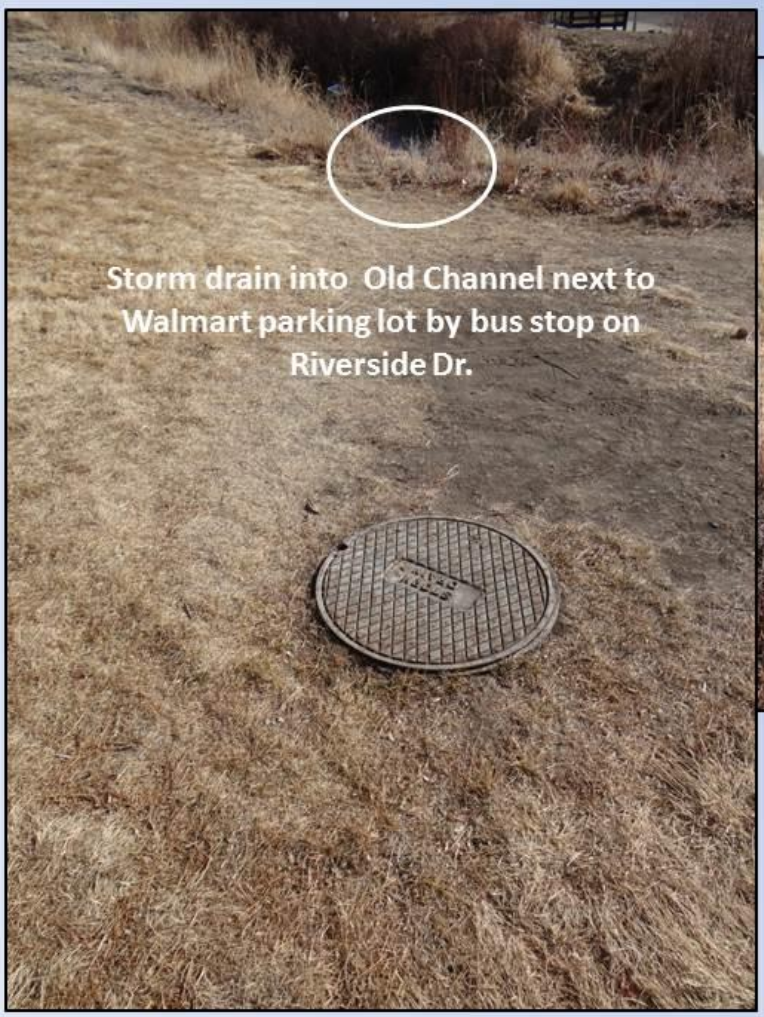
Potential flood hazard to houses behind Motel in low area along Old Johnstonville Rd. By Old Channel/Jensen split.

Culvert under main St.
from both sides

Old Channel from foot bridge in Safeway parking lot looking toward Riverside Dr.

From foot bridge looking at culvert under Main St.


Toward Main St.
Walmart
Old channel from
Big O parking lot



Old Channel behind bus stop on
Riverside Dr. looking
toward Big O


Old Channel culvert under Riverside Dr.
Old Channel from Riverside Dr. toward bike path

Storm drains &
drop inlet into
Old Channel
@ Riverside Dr.

Old Channel from Bike path to Riverside Dr.

Old Channel headgate

Woodstock/Old Channel Dam & headgate on Susan River and under bike path toward Riverside Dr.
Pictures taken 1-23-2014

IV. PROJECT BENEFIT QUANTIFICATION

1. The following benefits quantification will aid in ranking the projects. Quantifiable benefits are required per the SWRP Guidelines.
2. **Benefit Narrative**: briefly explain the element of the project from which the benefit is derived.
3. **Estimated benefit**: should be calculated to the best of the project proponent's ability.
4. **Assumptions and Calculation Comments**: assumptions should be stated here, and other relevant calculation comments.

Water Quality – Examples are: 303d pollutant load reduction, improved groundwater quality, improved surface water quality, reduce non-point sources, sediment load reduced, reestablish natural drainage and waterways, incorporates strategies from existing plans.

Benefit Narrative: Improve water quality by making non-point pollution control/best management practices improvements to existing infrastructure to capture, treat, infiltrate or reuse storm water. Identify potential channel point source pollution outlets and implement storm drain infrastructure to mitigate poor water quality.
Vegetated Swale: Sediment ▲; Nutrients •; Trash •; Metals ▲; Bacteria •; Oil and Grease ▲; Organics ▲.
Vegetated Buffer Strip: Sediment ♦; Nutrients •; Trash ▲; Metals ♦; Bacteria •; Oil and Grease ♦; Organics ▲.
Vortex Separator: Sediment ▲; Nutrients •; Trash; Metals •; Oil and Grease; Organics.
Drain Inlet Inserts: Sediment; Nutrients; Trash; Metals; Oil and Grease; Organics.

Metric	Unit	Estimated Benefit
Pollutant Load Reduction (Filtration/Treatment)	lb/year, MPN/Year	T.B.D. lb/year
Pollutant Load Reduction (Non-point Source Control)	lb/year, MPN/Year	T.B.D. lb/year
Sediment Load Reduction	lb/year	T.B.D. lb/year
Storm water diverted through infiltration or evapotranspiration	acre-feet/year	T.B.D. acre-feet/year

Assumptions and Calculation Comments:
Roof = 4.40 acres, AC Parking & Roadway = 17.51 acres, Range = 5.49 acres, Ditch = 3.65 acres

Legend (Removal Effectiveness): ♦ High; ▲ Medium; • Low

Water Supply - increased reliability, further conjunctive use, incorporates strategies from existing plans.

Benefit Narrative: A portion of the channel through the urban corridor should be lined (concrete) and overgrowth cleared. This would eliminate/reduce irrigation volume losses due to direct contact with soil and reduce runoff pollution providing more and better-quality water for its intended purpose.

Metric	Unit	Estimated Benefit
Conjunctive Use - Volume of Storm water Collected/Reused	acre-feet/year	T.B.D. acre-feet/year
Volume of Storm water Infiltrated	acre-feet/year	T.B.D. acre-feet/year
Increased Efficiency, Volume of Water Conserved	acre-feet/year	T.B.D. acre-feet/year

Assumptions and Calculation Comments:
Roof = 4.40 acres, AC Parking & Roadway = 17.51 acres, Range = 5.49 acres, Ditch = 3.65 acres

Flood Management - Reduce known flooding and risk, reduce anticipated flooding and risk, reduce damage & costs, incorporates strategies form existing plans, improve water quality during flooding events.

Benefit Narrative: Concrete lining and rehabilitating the channel would increase flow and reduce the burden on the surrounding drainages, thus reduce flood risk by diverting peak flows during major events.

Metric	Unit	Estimated Benefit
Peak Flow Reduction	cfs	T.B.D. cfs
Flood Volume Reduced	acre-feet	T.B.D. acre-feet

Assumptions and Calculation Comments:
Roof = 4.40 acres, AC Parking & Roadway = 17.51 acres, Range = 5.49 acres, Ditch = 3.65 acres

Environmental - Wetlands enhancement, increased urban greenspace, re-establishment of natural hydrograph, improved habitat, reduction in energy consumption and GHG emissions Incorporates strategies from existing plans

Benefit Narrative: Create and enhance urban green space and Wetlands enhancement and improved habitat.

Metric	Unit or Rating	Estimated Benefit
Area of wetlands and/or riparian habitat created or enhanced	acres	Potential 3 acres
Increased urban green space	acres	2 acres
Slowing peak flow - (Restore Natural Hydrograph)	Degrade, No Change, or Restore	Restore
Water Temperature Improvement	Increase, No Change, or Decrease	Restore
Energy use, or greenhouse emissions	Increase, No Change, or Decrease	Decrease

Assumptions and Calculation Comments: Piping part of the canal will eliminate an attractive nuisance and create a safe flood control channel, capable of a reliable flow. Point source pollutant removal infrastructure would reduce the storm water run-off pollution.

C**ommunity** - Job Creation, increased public awareness, increased community involvement, improving DAC communities, incorporates strategies from existing plan.

Benefit Narrative: Create and enhance recreational public areas with educational components/demonstration infrastructure. Involve educational, volunteer and employment opportunities.

Metric	Unit or Rating	Estimated Benefit

Employment Opportunities Created	None, Low, Medium, or High	Low
Public Education	None, Low, Medium, or High	Medium
Community involvement	None, Low, Medium, or High	High
Enhance and/or create recreational and public use area	acres	2 acres
Assumptions and Calculation Comments: Recreational and aesthetic enhancements made to the unutilized areas of the urban sections of the ditch will enhance the publics use.		

NORTH LAHONTAN BASIN
Storm Water Resources Plan (SWRP)
Project Application Form

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The deadline for project submission is **Monday, July 10, 2017**. Completed Project Solicitation Forms should be sent via email to Mr. Ian Sims at isims@honeylakevalleyrcd.us. If you have any questions, please contact Mr. Ian Sims or Mr. Jeff Weagel at jweagel@dyerengineering.com or 775-852-1440. Assistance is available for the preparation of this application.

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Water Code section 79747 identifies funds available for multi-benefit storm water management projects which may include, but shall not be limited to: green infrastructure, rainwater and storm water capture projects and storm water treatment facilities. Storm Water Resource Plans, or functionally equivalent plan(s), are required to obtain grant funds for storm water and dry weather capture projects. Additional information is available online at http://www.waterboards.ca.gov/water_issues/programs/grants_loans/swgp/prop1/.

Your Project must be "Storm Water" or "Dry Weather Runoff" related to be eligible for funding. Storm Water is defined in the SWRP Guidelines as: "temporary surface water runoff and drainage generated by immediately preceding storms". Dry Weather Runoff is defined as: "surface runoff flow produced by non-storm water resulting from irrigation and other residential, commercial, and industrial activities".

Applicant must complete the following check list and form;

PART 1 – PROJECT ELIGIBILITY

TABLE 1 – PROJECT ELIGIBILITY CHECKLIST	
1. Is the applicant one of the following: Per Water Code Section 79712(a). (Check all that apply, 1 minimum)	☒ Public Agency ☐ 501(c)(3) Nonprofit Organization ☐ Public Utility ☐ Federally recognized Indian Tribe ☐ State Indian Tribe listed on the Native American Heritage Commission's Tribal Consultation List ☐ Mutual Water Company ☐ Groundwater Sustainability Agencies (GSAs) formed in accordance with the Sustainable Groundwater Management Act are eligible applicants if they are a public agency or other eligible applicant type as listed above.

2. Does the project fit the following criteria? (All are required)	☒ Is an implementation / construction project. (not planning) ☒ Responds to climate change ☒ Contributes to regional water security ☒ Contains at least two main benefits from section 3 (next section) (as listed in Section III. G – Storm Water Management Benefits (SWGP guidelines);	
3. Projects shall be multi-beneficial, designed to infiltrate, filter, store, evaporate, treat, or retain storm water or dry weather runoff. Preference will be given to projects that capture and "re-purpose" storm water for a variety of potential benefits including, but not limited to; (Check all that apply)	Main Benefit Category (2 minimum)	Additional Benefits / the project provides_____. (check all that apply)
	☒ Water Quality	☒ Increased water quality ☒ Non-point source pollution control ☒ Increased filtration/ runoff treatment ☒ Reestablished Natural water drainage
	☒ Water Supply	☒ Increased water supply ☒ Increased water supply reliability ☒ Increased water conservation ☐ Conjunctive use (combining use of groundwater and or groundwater storage with surface water) ☒ Storm Water Reuse
	☒ Flood Management	☒ Decreased flood risk ☒ Reduced peak flows ☒ Reestablished natural drainage and treatment ☐ Reduced sanitary sewer overflows
	☒ Environmental	☒ Environmental improvement ☐ Habitat restoration or improvement ☐ Reestablishment of the natural hydrograph ☐ Water temperature improvements ☒ Reduced energy use, greenhouse gas emissions, or provides a carbon sink ☐ Water Temperature Improvements
	☒ Community Stewardship	☒ Employment opportunities ☒ Public education ☒ Community involvement ☒ Enhance and /or create relational public use areas ☒ Increased urban green space
4. Required Criteria: (Both are required)	☒ Does it demonstrate the capability of contributing to sustained, long-term water benefits for a minimum period of 20 years? ☒ Does it demonstrate adequate rights-of-way for the useful life (20-year minimum) of the project?	
5. Does the project meet the Funding Requirements?	☒ Minimum grant amount $250,000, maximum $10,000,000 ☒ Does the project have a matching funds source? Local (Non-State) Match	

(Check all that apply)	includes (but is not limited to; check funding source): ☒ Donated and volunteer ("in-kind") services; ☒ Planning, engineering, and design specific to the implementation project; ☒ Permitting; ☒ Environmental documentation and mitigation; ☒ Easements and land purchases made by the applicant; ☒ Project implementation (purchase of material, equipment, construction); ☒ Project effectiveness monitoring; ☒ Education and outreach is a component of the project construction.

Local match must be:

- 50% of project cost,
- or if Disadvantaged Community (DAC/EDA) see Table 2 for reduced match information: (Generally the majority of Lassen County can be considered a DAC, excluding Janesville and portions of Susanville see https://gis.water.ca.gov/app/dacs for DAC mapping)

TABLE 2 - REDUCED MATCH DAC AND EDA*

Match Requirement [1,2]
Group A: Small & Severely DAC Storm Water Service Area and 100% of the Project Benefits the Small & Severely DAC 5% match if population is less than 20,000 persons **AND** median household income (MHI) is less than 60% of the Statewide MHI
Group B: DAC or EDA Storm Water Service Area and 100% of the Project Benefits the DAC or EDA 10% match if the community meets the definitions
Group C: Greater than 50% of the Project Construction Occurs in and Benefits a DAC/EDA i) 20% match, if 100% of the construction occurs in and benefits the DAC or EDA; ii) 25% match, if at least 75% (but less than 100%) of the construction occurs in and benefits the DAC or EDA; or iii) 30% match, if at least 50% (but less than 75%) of the construction occurs in and benefits the DAC or EDA.
[1] Match is calculated based on the *total project cost*, **not** on the grant amount. Total Project Cost x %Match = Required Match i.e. - $3,750,000 (Total Project Cost) x 10% (Percent Match) = $375,000 Match [2] See definitions in Appendix D

*Source: CA SWRP guidelines

PART 2 - PROJECT DESCRIPTION FORM

I. PROJECT SPONSOR INFORMATION

Implementing Agency:	Lassen County Public Works C/O County of Lassen
Agency Address:	707 Nevada Street, Suite 4, Susanville, CA 96130
Point of Contact (Name / Title):	Larry Millar, Director
Telephone:	530-251-8288

Email:	lmillar@co.lassen.ca.us

II. PROJECT INFORMATION

Project Title:	Janesville Park and Doyle Park Parking Areas Storm Water Project
Project Budget (Estimated):	Unknown
Project Funding Match with sources from Non-State of California matching funds:	TBD
Project Location Description:	Janesville Park: 710-095 McKinley Ave., Janesville, CA 96114 Doyle Park: 433-895 Doyle Loop Road, Doyle, CA 96109
Latitude:	
Longitude:	
Land Ownership:	County of Lassen
County:	Lassen
City/Community:	Janesville and Doyle
Watershed/Sub-Watershed:	
Groundwater Basin:	

Project Description:
Infrastructure improvements to unpaved roads and unpaved parking areas to treat and capture storm water to provide storm water infiltration, filtering, storing, evaporation, treatment, retention and reuse. All work is to be completed on site. Both of these sites received substantial storm damage from the flooding events in February 2017. Work has been completed to restore these areas to a pre-storm condition. The proposed work would include infrastructure improvements.

Janesville Park:
The main roadway and parking lot leading to the Janesville Park is paved however the interior roadways and parking areas for the ballfield and horse areas are unsurfaced (i.e. dirt or pavement grindings) without storm water best management practices/low impact development infrastructure.

Doyle Park:
Roadway and parking areas are unsurfaced (i.e. dirt) without storm water best management practices/low impact development infrastructure.

The Project will:

- **Improve water quality by making non-point pollution control/best management practices improvements to existing infrastructure to capture, treat, infiltrate or reuse storm water.**
- **Provide storm water capture for on-site reuse (dust suppression, green area watering) for water conservation (e.g. reduce municipal water use).**
- **Protect downstream water resources and reduce flood risk and by collecting or diverting non-peak and peak flows to storm water facilities.**

-) **Reduced municipal water use by the reuse of storm water, rather than municipal water, for dust suppression and irrigation, will equate to reduced energy use.**
-) **Create and enhance urban green space/recreational public areas with educational components/demonstration infrastructure:**
  -) **bio-retention/bio-filtration basin**
  -) **infiltration basin/infiltration trench**
  -) **dry well**
  -) **permeable pavement (i.e. concrete pavers)**
  -) **rain barrel/cistern**
  -) **vegetated swales/extended detention basin**
-) **Involve educational, volunteer and employment opportunities**

II. ADDITIONAL PROJECT INFORMATION

Cooperating Agencies (List agencies that will cooperate, or provide written support for project)	TBD
Project work completed (Check boxes that apply and explain any additional work or studies that have been performed to date)	☐ Conceptual Plans ☐ Easements, Land ownership in order, completed ☐ Preliminary Plans ☐ CEQA NEPA Permitting ☐ Final Engineering Design, Construction drawings Other Work Performed:
Required Permits (Outline Require Permits and approvals needed on the project)	TBD

Multiple Benefit Narrative (write a description of how the project is multi-beneficial, include elements that were not in the check list if any)	Improvements to infrastructure will collect storm water runoff and divert it to storm water facilities for infiltration and retention to improve water quality, enhance the community, and facilitate water conservation by reusing storm water for dust suppression and irrigation. The project will include low impact development/best management practices which can be utilized as a pilot project to demonstrate and provide educational opportunities to the Janesville and Doyle communities.

III. ADDITIONAL RELEVANT INFOMATION

Write additional information that is relevant to the project here. Attach photos and additional data as needed (studies, plans, unique project data etc.)

LASSEN COUNTY PARKS

1. Bieber
2. Little Valley
3. Stones Boat Ramp
4. Spaulding Boat Ramp
5. Lake Forest
6. Susanville Ranch
7. Johnstonville
8. Janesville
9. Lake Leavitt
10. Milford
11. Cowboy Joe
12. Dixon
13. Doyle
14. Clear Creek


Janesville Park
Drainage Mods
Legend
U.S. Hwy 395
395
Google earth
N
300 ft

Doyle Park


Doyle Park

Doyle Park

IV. PROJECT BENEFIT QUANTIFICATION

1. The following benefits quantification will aid in ranking the projects. Quantifiable benefits are required per the SWRP Guidelines.
2. **Benefit Narrative**: briefly explain the element of the project from which the benefit is derived.
3. **Estimated benefit**: should be calculated to the best of the project proponent's ability.
4. **Assumptions and Calculation Comments**: assumptions should be stated here, and other relevant calculation comments.

Water Quality – Examples are: 303d pollutant load reduction, improved groundwater quality, improved surface water quality, reduce non-point sources, sediment load reduced, reestablish natural drainage and waterways, incorporates strategies from existing plans.

Benefit Narrative: This project will be designed to improve water quality by making non-point pollution control/best management practices improvements to existing infrastructure to capture, treat, infiltrate or reuse storm water.
Janesville Park:
Extended detention basins: Sediment ▲; Nutrients •; Trash ♦; Metals ▲; Bacteria ▲; Oil and Grease ▲; Organics ▲.
Doyle Park:
Vegetated Buffer Strip: Sediment ♦; Nutrients •; Trash ▲; Metals ♦; Bacteria •; Oil and Grease ♦; Organics ▲.

Metric	Unit	Estimated Benefit
Pollutant Load Reduction (Filtration/Treatment)	lb/year, MPN/Year	Janesville Park: T.B.D. lb/year Doyle Park: T.B.D. lb/year
Pollutant Load Reduction (Non-point Source Control)	lb/year, MPN/Year	Janesville Park: T.B.D. lb/year Doyle Park: T.B.D. lb/year
Sediment Load Reduction	lb/year	Janesville Park: T.B.D. lb/year Doyle Park: T.B.D. lb/year
Storm water diverted through infiltration or evapotranspiration	acre-feet/year	Janesville Park: T.B.D. acre-feet/year Doyle Park: T.B.D. acre-feet/year

Assumptions and Calculation Comments:
Janesville Park: Gravel Parking = 2.29 acres, Range = 4.34 acres
Doyle Park: Gravel Parking = 0.51 acres, Range = 5.49 acres

Legend (Removal Effectiveness): ♦ High; ▲ Medium; • Low

Water Supply - increased reliability, further conjunctive use, incorporates strategies from existing plans.

Benefit Narrative: Provide storm water capture (detention basins, vegetated buffer strips) for on-site reuse (dust suppression, green area watering). Utilizing captured storm water runoff for irrigation will reduce the need for municipal water and recharge the underlying aquafers.

Metric	Unit	Estimated Benefit
Conjunctive Use - Volume of storm water Collected/Reused	acre-feet/year	Janesville Park: T.B.D. acre-feet/year Doyle Park: T.B.D. acre-feet/year
Volume of storm water Infiltrated	acre-feet/year	Janesville Park: T.B.D. acre-feet/year Doyle Park: T.B.D. acre-feet/year
Increased Efficiency, Volume of Water Conserved	acre-feet/year	Janesville Park: T.B.D. acre-feet/year Doyle Park: T.B.D. acre-feet/year

Assumptions and Calculation Comments:
Janesville Park: Gravel Parking = 2.29 acres, Range = 4.34 acres
Doyle Park: Gravel Parking = 0.51 acres, Range = 5.49 acres

Flood Management - Reduce known flooding and risk, reduce anticipated flooding and risk, reduce damage & costs, incorporates strategies form existing plans, improve water quality during flooding events.

Benefit Narrative: Protect downstream water resources and reduce flood risk and by collecting or diverting non-peak and peak flows to storm water facilities.

Metric	Unit	Estimated Benefit
Peak Flow Reduction	cfs	Janesville Park: T.B.D. cfs Doyle Park: T.B.D. cfs
Flood Volume Reduced	acre-feet	Janesville Park: T.B.D. acre feet Doyle Park: T.B.D. acre-feet

Assumptions and Calculation Comments:
Janesville Park: Flood risk will be reduced through the replacement of undersized drainage culverts and the restoration of site drainage swales and ditches near the perimeter of the park.

Doyle Park: Flood risk will be reduced through the restoration of site drainage ditch along the southern edge of the park.

Environmental - Wetlands enhancement, increased urban greenspace, re-establishment of natural hydrograph, improved habitat, reduction in energy consumption and GHG emissions Incorporates strategies from existing plans

Benefit Narrative: Reduced municipal water use by the reuse of storm water, rather than municipal water, for dust suppression and irrigation, will equate to reduced energy use. Create and enhance urban green space.

Metric	Unit or Rating	Estimated Benefit
Area of wetlands and/or riparian habitat created or enhanced	acres	Janesville Park: N/A Doyle Park: N/A
Increased urban green space	acres	Janesville Park: 0.5 acre Doyle Park: N/A
Slowing peak flow - (Restore Natural Hydrograph)	Degrade, No Change, or Restore	Janesville Park: Restore Doyle Park: Restore
Water Temperature Improvement	Increase, No Change, or Decrease	Janesville Park: Increase Doyle Park: Increase
Energy use, or greenhouse emissions	Increase, No Change, or Decrease	Janesville Park: Decrease Doyle Park: No Change

Assumptions and Calculation Comments: The creation of urban green space will allow for a decrease in the peak flow runoff by utilizing the captured storm water runoff for irrigation.

C**ommunity** - Job Creation, increased public awareness, increased community involvement, improving DAC communities, incorporates strategies from existing plan.		
Benefit Narrative: Create and enhance recreational public areas with educational components/demonstration infrastructure. Involve educational, volunteer and employment opportunities.		
Metric	Unit or Rating	Estimated Benefit
Employment Opportunities Created	None, Low, Medium, or High	Janesville Park: Medium Doyle Park: Medium
Public Education	None, Low, Medium, or High	Janesville Park: High Doyle Park: High
Community involvement	None, Low, Medium, or High	Janesville Park: High Doyle Park: High
Enhance and/or create recreational and public use area	acres	Janesville Park: 0.5 acre Doyle Park: 0.75 acre
Assumptions and Calculation Comments: Recreational and aesthetic enhancements made to the unutilized areas of the parks parking area will enhance the publics use of the park.		

NORTH LAHONTAN BASIN
Storm Water Resources Plan (SWRP)
Project Application Form

The North Lahontan Basin Storm Water Resources Plan (SWRP) region is accepting projects to be considered for future funding and implementation. To have projects considered for inclusion, the applicant must read and complete this Project Solicitation Form. If the applicant has multiple projects, each individual project will need a separate form. Information on this form will be used in the ranking process for project prioritization.

The deadline for project submission is **Monday, July 10, 2017**. Completed Project Solicitation Forms should be sent via email to Mr. Ian Sims at isims@honeylakevalleyrcd.us. If you have any questions, please contact Mr. Ian Sims or Mr. Jeff Weagel at jweagel@dyerengineering.com or 775-852-1440. Assistance is available for the preparation of this application.

The California Storm Water Grant Program is a part of the 2014 Proposition 1 that authorized $7.545 billion in general obligation bonds for water projects. Prop 1 (Section 79747) provides $200 million in grant funds for multi-benefit storm water management projects.

Water Code section 79747 identifies funds available for multi-benefit storm water management projects which may include, but shall not be limited to: green infrastructure, rainwater and storm water capture projects and storm water treatment facilities. Storm Water Resource Plans, or functionally equivalent plan(s), are required to obtain grant funds for storm water and dry weather capture projects. Additional information is available online at http://www.waterboards.ca.gov/water_issues/programs/grants_loans/swgp/prop1/.

Your Project must be "Storm Water" or "Dry Weather Runoff" related to be eligible for funding. Storm Water is defined in the SWRP Guidelines as: "temporary surface water runoff and drainage generated by immediately preceding storms". Dry Weather Runoff is defined as: "surface runoff flow produced by non-storm water resulting from irrigation and other residential, commercial, and industrial activities".

Applicant must complete the following check list and form;

PART 1 – PROJECT ELIGIBILITY

TABLE 1 – PROJECT ELIGIBILITY CHECKLIST	
1. Is the applicant one of the following: Per Water Code Section 79712(a). (Check all that apply, 1 minimum)	☒ Public Agency ☐ 501(c)(3) Nonprofit Organization ☐ Public Utility ☐ Federally recognized Indian Tribe ☐ State Indian Tribe listed on the Native American Heritage Commission's Tribal Consultation List ☐ Mutual Water Company ☐ Groundwater Sustainability Agencies (GSAs) formed in accordance with the Sustainable Groundwater Management Act are eligible applicants if they are a public agency or other eligible applicant type as listed above.

<table>
<tr><td></td><td colspan="2"></td></tr>
<tr><td>2. Does the project fit the following criteria?

(All are required)</td><td colspan="2">☒ Is an implementation / construction project. (not planning)
☒ Responds to climate change
☒ Contributes to regional water security
☒ Contains at least two main benefits from section 3 (next section) (as listed in Section III. G – Storm Water Management Benefits (SWGP guidelines);</td></tr>
<tr><td rowspan="6">3. Projects shall be multi-beneficial, designed to infiltrate, filter, store, evaporate, treat, or retain storm water or dry weather runoff. Preference will be given to projects that capture and "re-purpose" storm water for a variety of potential benefits including, but not limited to;

(Check all that apply)</td><td>Main Benefit Category (2 minimum)</td><td>Additional Benefits / the project provides_____. (check all that apply)</td></tr>
<tr><td>☒ Water Quality</td><td>☒ Increased water quality
☒ Non-point source pollution control
☒ Increased filtration/ runoff treatment
☒ Reestablished Natural water drainage</td></tr>
<tr><td>☒ Water Supply</td><td>☒ Increased water supply
☒ Increased water supply reliability
☒ Increased water conservation
☐ Conjunctive use (combining use of groundwater and or groundwater storage with surface water)
☒ Storm Water Reuse</td></tr>
<tr><td>☒ Flood Management</td><td>☒ Decreased flood risk
☒ Reduced peak flows
☒ Reestablished natural drainage and treatment
☐ Reduced sanitary sewer overflows</td></tr>
<tr><td>☒ Environmental</td><td>☒ Environmental improvement
☐ Habitat restoration or improvement
☐ Reestablishment of the natural hydrograph
☐ Water temperature improvements
☒ Reduced energy use, greenhouse gas emissions, or provides a carbon sink
☐ Water Temperature Improvements</td></tr>
<tr><td>☒ Community Stewardship</td><td>☒ Employment opportunities
☒ Public education
☒ Community involvement
☒ Enhance and /or create relational public use areas
☒ Increased urban green space</td></tr>
<tr><td>4. Required Criteria:

(Both are required)</td><td colspan="2">☒ Does it demonstrate the capability of contributing to sustained, long-term water benefits for a minimum period of 20 years?
☒ Does it demonstrate adequate rights-of-way for the useful life (20-year minimum) of the project?</td></tr>
<tr><td>5. Does the project meet the Funding Requirements?</td><td colspan="2">☒ Minimum grant amount $250,000, maximum $10,000,000
☒ Does the project have a matching funds source? Local (Non-State) Match</td></tr>
</table>

(Check all that apply)	includes (but is not limited to; check funding source): ☒ Donated and volunteer ("in-kind") services; ☒ Planning, engineering, and design specific to the implementation project; ☒ Permitting; ☒ Environmental documentation and mitigation; ☒ Easements and land purchases made by the applicant; ☒ Project implementation (purchase of material, equipment, construction); ☒ Project effectiveness monitoring; ☒ Education and outreach is a component of the project construction.

Local match must be:

- 50% of project cost,
- or if Disadvantaged Community (DAC/EDA) see Table 2 for reduced match information: (Generally the majority of Lassen County can be considered a DAC, excluding Janesville and portions of Susanville see https://gis.water.ca.gov/app/dacs for DAC mapping)

TABLE 2 - REDUCED MATCH DAC AND EDA*

Match Requirement [1,2]
Group A: Small & Severely DAC Storm Water Service Area and 100% of the Project Benefits the Small & Severely DAC 5% match if population is less than 20,000 persons **AND** median household income (MHI) is less than 60% of the Statewide MHI **Group B: DAC or EDA Storm Water Service Area and 100% of the Project Benefits the DAC or EDA** 10% match if the community meets the definitions **Group C: Greater than 50% of the Project Construction Occurs in and Benefits a DAC/EDA** i) 20% match, if 100% of the construction occurs in and benefits the DAC or EDA; ii) 25% match, if at least 75% (but less than 100%) of the construction occurs in and benefits the DAC or EDA; or iii) 30% match, if at least 50% (but less than 75%) of the construction occurs in and benefits the DAC or EDA.
[1] Match is calculated based on the *total project cost*, **not** on the grant amount. Total Project Cost x %Match = Required Match i.e. - $3,750,000 (Total Project Cost) x 10% (Percent Match) = $375,000 Match [2] See definitions in Appendix D

*Source: CA SWRP guidelines

PART 2 - PROJECT DESCRIPTION FORM

I. PROJECT SPONSOR INFORMATION

Implementing Agency:	Lassen County Public Works C/O County of Lassen
Agency Address:	707 Nevada Street, Suite 4, Susanville, CA 96130
Point of Contact (Name / Title):	Larry Millar, Director
Telephone:	530-251-8288

Email:	lmillar@co.lassen.ca.us

II. PROJECT INFORMATION

Project Title:	Susanville Ranch Park- Paiute Lane Storm Water Project
Project Budget (Estimated):	$687,500
Project Funding Match with sources from Non-State of California matching funds:	TBD
Project Location Description:	Susanville Ranch Park –Paiute Lane, Susanville, CA 96130
Latitude:	
Longitude:	
Land Ownership:	County of Lassen
County:	Lassen
City/Community:	Susanville
Watershed/Sub-Watershed:	
Groundwater Basin:	

Project Description:
Infrastructure improvements to unpaved road and upper equestrian parking lot to treat and capture storm water to provide storm water infiltration, filtering, storing, evaporation, treatment, retention and reuse. All work is to be completed on site. This site received substantial storm damage from the flooding events in January and February 2017. Work has been completed to restore these areas to a pre-storm condition. The proposed work would include infrastructure improvements.

The Project will:

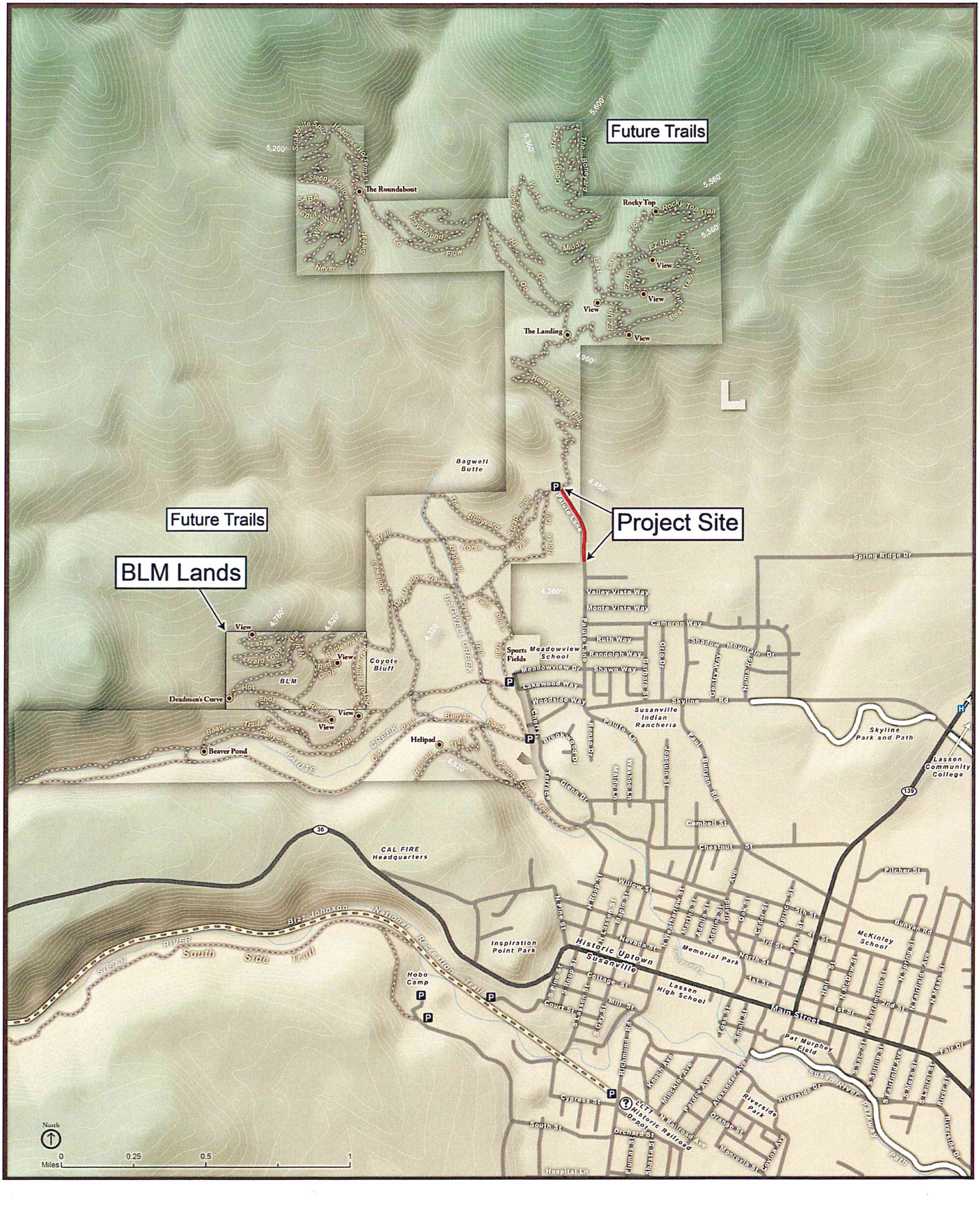
- **-) Improve water quality by making non-point pollution control/best management practices improvements to existing infrastructure to capture, treat, infiltrate or reuse storm water.**
- **-) Provide storm water capture for on-site reuse (green area watering) for water conservation (e.g. reduce municipal water use).**
- **-) Protect downstream water resources and reduce flood risk and by collecting or diverting non-peak and peak flows to storm water facilities.**
- **-) Create and enhance urban green space/recreational public areas with educational components/demonstration infrastructure:**
  - **-) bio-retention/bio-filtration basin**
  - **-) infiltration basin/infiltration trench**
  - **-) dry well**
  - **-) rain barrel/cistern**
  - **-) vegetated swales/extended detention basin**
- **-) Involve educational, volunteer and employment opportunities**

II. ADDITIONAL PROJECT INFORMATION

Cooperating Agencies (List agencies that will cooperate, or provide written support for project)	TBD
Project work completed (Check boxes that apply and explain any additional work or studies that have been performed to date)	☐ Conceptual Plans ☐ Easements, Land ownership in order, completed ☐ Preliminary Plans ☐ CEQA NEPA Permitting ☐ Final Engineering Design, Construction drawings <u>Other Work Performed:</u>
Required Permits (Outline Require Permits and approvals needed on the project)	TBD
Multiple Benefit Narrative (write a description of how the project is multi-beneficial, include elements that were not in the check list if any)	Improvements to infrastructure will collect storm water runoff and divert it to storm water facilities for infiltration and retention to improve water quality, enhance the community, and facilitate water conservation by reusing storm water for irrigation. The project will include low impact development/best management practices which can be utilized as a pilot project to demonstrate and provide educational opportunities to not only the Susanville area but county-wide.

III. ADDITIONAL RELEVANT INFOMATION

Write additional information that is relevant to the project here. Attach photos and additional data as needed (studies, plans, unique project data etc.)



Future Trails
Project Site
Future Trails
BLM Lands
The Roundabout
Rocky Top
Rocky Top Trail
The Landing
Heart Attack Hill
Bagwell Butte
Coyote Bluff
Sports Fields
Meadowview School
Deadman's Curve
Beaver Pond
Helipad
PAIUTE CREEK
BAGWELL CREEK
Spring Ridge Dr
Valley Vista Way
Monte Vista Way
Cameron Way
Ruth Way
Randolph Way
Shawn Way
Meadowview Dr
Lakewood Way
Woodside Way
Shadow Mountain Dr
Skyline Rd
Susanville Indian Rancheria
Skyline Park and Path
Lassen Community College
CAL FIRE Headquarters
Inspiration Point Park
Historic Uptown Susanville
Memorial Park
Lassen High School
McKinley School
Main Street
Pat Murphey Field
Riverside Park
Hobo Camp
Bizz Johnson National Recreation Trail
SUSAN RIVER
South Side Trail
Susan River Parkway Path
LLTT Historic Railroad Depot
Chestnut St
Cambell St
Willow St
Nevada St
Cottage St
Mill St
Court St
Cypress St
South St
Orchard St
Hospital Ln
North
Miles
0
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0.5
1

SUSANVILLE RANCH PARK
PAIUTE LANE ACCESS

Existing roadway from the end of Paiute Lane to the Susanville Ranch Park Equestrian Parking area is approximately ¼ mile in length. There appears to be a 32' wide right-of-way through this section however additional right-of-way may be needed to provide the required drainage. Much of the property through this section of the road passes through property owned by Lassen County however there appears to be other ownership at the beginning (end of City maintained Paiute Lane).

Project Scope:

Total reconstruction of existing roadway to provide drainage, proper roadway section and an all weather surfacing. It is proposed that the roadway section consist of 1 – 2 feet of sub-base material, 6" of Class 2 Base material and the placement of 3" of asphalt concrete.

The roadway section would consist of two (2) 11' travel lanes with 3' of aggregate shoulders on each side of the roadway along with drainage ditches. Work would also include the removal of the existing cattle guard and the installation of a wider structure as well as moving a couple of power poles to allow sufficient area for the roadway section.

Project Cost Estimate:

Environmental Clearance and Permitting		$20,000
PS&E		$25,000
Right-of –Way		$10,000
Relocate Power Poles		$55,000
Construction		$577,500
Clearing and Grubbing (includes temp. culvert)	$100,00	
Grading/Sub-base, Base	$285,000	
Asphalt Concrete (3' depth)	$70,000	
Shoulder Backing	$70,000	
Sub-Total	$525,000	
Contingency (10%)	$52,500	
Total	$577,500	

Total Project Cost = $687,500


01/12/2017


01/12/2017

IV. PROJECT BENEFIT QUANTIFICATION

1. The following benefits quantification will aid in ranking the projects. Quantifiable benefits are required per the SWRP Guidelines.
2. **Benefit Narrative**: briefly explain the element of the project from which the benefit is derived.
3. **Estimated benefit**: should be calculated to the best of the project proponent's ability.
4. **Assumptions and Calculation Comments**: assumptions should be stated here, and other relevant calculation comments.

Water Quality – Examples are: 303d pollutant load reduction, improved groundwater quality, improved surface water quality, reduce non-point sources, sediment load reduced, reestablish natural drainage and waterways, incorporates strategies from existing plans.

Benefit Narrative: Improve water quality by making non-point pollution control/best management practices improvements to existing infrastructure to treat or infiltrate storm water.
Infiltration Basin: Sediment ♦; Nutrients ♦; Trash ♦; Metals ♦; Bacteria ♦; Oil and Grease ♦; Organics ♦.
Infiltration Trench: Sediment ♦; Nutrients ♦; Trash ♦; Metals ♦; Bacteria ♦; Oil and Grease ♦; Organics ♦.
Vegetated Swale: Sediment ▲; Nutrients •; Trash •; Metals ▲; Bacteria •; Oil and Grease ▲; Organics ▲.

Metric	Unit	Estimated Benefit
Pollutant Load Reduction (Filtration/Treatment)	lb/year, MPN/Year	T.B.D. lb/year
Pollutant Load Reduction (Non-point Source Control)	lb/year, MPN/Year	T.B.D. lb/year
Sediment Load Reduction	lb/year	T.B.D. lb/year
Storm water diverted through infiltration or evapotranspiration	acre-feet/year	T.B.D. acre-feet/year

Assumptions and Calculation Comments:
Gravel Parking & Roadway = 1.65 acres, Range = 729.6 acres

Legend (Removal Effectiveness): ♦ High; ▲ Medium; • Low

Water Supply - increased reliability, further conjunctive use, incorporates strategies from existing plans.

Benefit Narrative: Utilize the current drainage patterns to provide storm water capture for infiltration to reduce sediment transportation.

Metric	Unit	Estimated Benefit
Conjunctive Use - Volume of Storm water Collected/Reused	acre-feet/year	T.B.D. acre-feet/year
Volume of Storm water Infiltrated	acre-feet/year	T.B.D. acre-feet/year
Increased Efficiency, Volume of Water Conserved	acre-feet/year	T.B.D. acre-feet/year

Assumptions and Calculation Comments:
Gravel Parking & Roadway = 1.65 acres, Range = 729.6 acres

Flood Management - Reduce known flooding and risk, reduce anticipated flooding and risk, reduce damage & costs, incorporates strategies form existing plans, improve water quality during flooding events.

Benefit Narrative: Protect downstream water resources and reduce flood risk and by collecting or diverting non-peak and peak flows to storm water facilities. Flood risk will be reduced through the restoration of site drainage ditch along Paiute Lane and infiltration trench & basin at the trail head parking lot.

Metric	Unit	Estimated Benefit
Peak Flow Reduction	cfs	T.B.D. cfs
Flood Volume Reduced	acre-feet	T.B.D. acre-feet

Assumptions and Calculation Comments:
Gravel Parking & Roadway = 1.65 acres, Range = 729.6 acres

Environmental - Wetlands enhancement, increased urban greenspace, re-establishment of natural hydrograph, improved habitat, reduction in energy consumption and GHG emissions Incorporates strategies from existing plans

Benefit Narrative: Reduced municipal water use by the reuse of storm water, rather than municipal water, for dust suppression and irrigation, will equate to reduced energy use. Create and enhance urban green space.

Metric	Unit or Rating	Estimated Benefit
Area of wetlands and/or riparian habitat created or enhanced	acres	N/A
Increased urban green space	acres	N/A
Slowing peak flow - (Restore Natural Hydrograph)	Degrade, No Change, or Restore	Restore
Water Temperature Improvement	Increase, No Change, or Decrease	Increase
Energy use, or greenhouse emissions	Increase, No Change, or Decrease	Decrease

Assumptions and Calculation Comments: The creation of detention and/or retention ponds will allow for a decrease in the peak flow runoff.

C**ommunity** - Job Creation, increased public awareness, increased community involvement, improving DAC communities, incorporates strategies from existing plan.

Benefit Narrative: Create and enhance recreational public areas with educational components/demonstration infrastructure. Involve educational, volunteer and employment opportunities.

Metric	Unit or Rating	Estimated Benefit
Employment Opportunities Created	None, Low, Medium, or High	Low
Public Education	None, Low, Medium, or High	High
Community involvement	None, Low, Medium, or High	Medium
Enhance and/or create recreational and public use area	acres	0.5
Assumptions and Calculation Comments: Recreational and aesthetic enhancements made to the unutilized areas of the parks parking area will enhance the publics use of the park.		

NORTH LAHONTAN BASIN
Storm Water Resources Plan (SWRP)
Project Application Form

The North Lahontan Basin Storm Water Resources Plan (SWRP) region is accepting projects to be considered for future funding and implementation. To have projects considered for inclusion, the applicant must read and complete this Project Solicitation Form. If the applicant has multiple projects, each individual project will need a separate form. Information on this form will be used in the ranking process for project prioritization.

The deadline for project submission is **Monday, July 10, 2017**. Completed Project Solicitation Forms should be sent via email to Mr. Ian Sims at isims@honeylakevalleyrcd.us. If you have any questions, please contact Mr. Ian Sims or Mr. Jeff Weagel at jweagel@dyerengineering.com or 775-852-1440. Assistance is available for the preparation of this application.

The California Storm Water Grant Program is a part of the 2014 Proposition 1 that authorized $7.545 billion in general obligation bonds for water projects. Prop 1 (Section 79747) provides $200 million in grant funds for multi-benefit storm water management projects.

Water Code section 79747 identifies funds available for multi-benefit storm water management projects which may include, but shall not be limited to: green infrastructure, rainwater and storm water capture projects and storm water treatment facilities. Storm Water Resource Plans, or functionally equivalent plan(s), are required to obtain grant funds for storm water and dry weather capture projects. Additional information is available online at http://www.waterboards.ca.gov/water_issues/programs/grants_loans/swgp/prop1/.

Your Project must be "Storm Water" or "Dry Weather Runoff" related to be eligible for funding. Storm Water is defined in the SWRP Guidelines as: "temporary surface water runoff and drainage generated by immediately preceding storms". Dry Weather Runoff is defined as: "surface runoff flow produced by non-storm water resulting from irrigation and other residential, commercial, and industrial activities".

Applicant must complete the following check list and form;

PART 1 – PROJECT ELIGIBILITY

TABLE 1 – PROJECT ELIGIBILITY CHECKLIST	
1. Is the applicant one of the following: Per Water Code Section 79712(a). (Check all that apply, 1 minimum)	☒ Public Agency ☐ 501(c)(3) Nonprofit Organization ☐ Public Utility ☐ Federally recognized Indian Tribe ☐ State Indian Tribe listed on the Native American Heritage Commission's Tribal Consultation List ☐ Mutual Water Company ☐ Groundwater Sustainability Agencies (GSAs) formed in accordance with the Sustainable Groundwater Management Act are eligible applicants if they are a public agency or other eligible applicant type as listed above.

<table>
<tr><td>2. Does the project fit the following criteria?

(All are required)</td><td colspan="2">☒ Is an implementation / construction project. (not planning)
☒ Responds to climate change
☒ Contributes to regional water security
☒ Contains at least two main benefits from section 3 (next section)
(as listed in Section III. G – Storm Water Management Benefits (SWGP guidelines);</td></tr>
<tr><td rowspan="6">3. Projects shall be multi-beneficial, designed to infiltrate, filter, store, evaporate, treat, or retain storm water or dry weather runoff. Preference will be given to projects that capture and “re-purpose” storm water for a variety of potential benefits including, but not limited to;

(Check all that apply)</td><td>Main Benefit Category
(2 minimum)</td><td>Additional Benefits / the project provides_____.
(check all that apply)</td></tr>
<tr><td>☒ Water Quality</td><td>☒ Increased water quality
☒ Non-point source pollution control
☒ Increased filtration/ runoff treatment
☐ Reestablished Natural water drainage</td></tr>
<tr><td>☒ Water Supply</td><td>☒ Increased water supply
☒ Increased water supply reliability
☒ Increased water conservation
☐ Conjunctive use (combining use of groundwater and or groundwater storage with surface water)
☒ Storm Water Reuse</td></tr>
<tr><td>☒ Flood Management</td><td>☒ Decreased flood risk
☒ Reduced peak flows
☐ Reestablished natural drainage and treatment
☒ Reduced sanitary sewer overflows</td></tr>
<tr><td>☒ Environmental</td><td>☒ Environmental improvement
☐ Habitat restoration or improvement
☐ Reestablishment of the natural hydrograph
☐ Water temperature improvements
☒ Reduced energy use, greenhouse gas emissions, or provides a carbon sink
☐ Water Temperature Improvements</td></tr>
<tr><td>☒ Community Stewardship</td><td>☒ Employment opportunities
☒ Public education
☒ Community involvement
☒ Enhance and /or create relational public use areas
☒ Increased urban green space</td></tr>
<tr><td>4. Required Criteria:

(Both are required)</td><td colspan="2">☒ Does it demonstrate the capability of contributing to sustained, long-term water benefits for a minimum period of 20 years?
☒ Does it demonstrate adequate rights-of-way for the useful life (20-year minimum) of the project?</td></tr>
<tr><td>5. Does the project meet the Funding Requirements?

(Check all that apply)</td><td colspan="2">☒ Minimum grant amount $250,000, maximum $10,000,000
☒ Does the project have a matching funds source? Local (Non-State) Match includes (but is not limited to; check funding source):
☒ Donated and volunteer (“in-kind”) services;</td></tr>
</table>

	☒ Planning, engineering, and design specific to the implementation project; ☒ Permitting; ☒ Environmental documentation and mitigation; ☒ Easements and land purchases made by the applicant; ☒ Project implementation (purchase of material, equipment, construction); ☒ Project effectiveness monitoring; ☒ Education and outreach is a component of the project construction.

Local match must be:

- 50% of project cost,
- or if Disadvantaged Community (DAC/EDA) see Table 2 for reduced match information: (Generally the majority of Lassen County can be considered a DAC, excluding Janesville and portions of Susanville see https://gis.water.ca.gov/app/dacs for DAC mapping)

TABLE 2 - REDUCED MATCH DAC AND EDA*

Match Requirement [1,2]
Group A: Small & Severely DAC Storm Water Service Area and 100% of the Project Benefits the Small & Severely DAC 5% match if population is less than 20,000 persons **AND** median household income (MHI) is less than 60% of the Statewide MHI
Group B: DAC or EDA Storm Water Service Area and 100% of the Project Benefits the DAC or EDA 10% match if the community meets the definitions
Group C: Greater than 50% of the Project Construction Occurs in and Benefits a DAC/EDA i) 20% match, if 100% of the construction occurs in and benefits the DAC or EDA; ii) 25% match, if at least 75% (but less than 100%) of the construction occurs in and benefits the DAC or EDA; or iii) 30% match, if at least 50% (but less than 75%) of the construction occurs in and benefits the DAC or EDA.
[1] Match is calculated based on the *total project cost*, not on the grant amount. Total Project Cost x %Match = Required Match i.e. - $3,750,000 (Total Project Cost) x 10% (Percent Match) = $375,000 Match [2] See definitions in Appendix D

*Source: CA SWRP guidelines

PART 2 - PROJECT DESCRIPTION FORM

I. PROJECT SPONSOR INFORMATION

Implementing Agency:	Lassen County Fair C/O County of Lassen
Agency Address:	195 Russel Ave
Point of Contact (Name / Title):	Jim Wolcott, Fair Manager
Telephone:	(530) 251-8900
Email:	JWolcott@co.lassen.ca.us

II. PROJECT INFORMATION

Project Title:	Lassen County Fair North Gate and Parking Areas Storm Water Capture and Reuse Project
Project Budget (Estimated):	Unknown
Project Funding Match with sources from Non-State of California matching funds:	TBD
Project Location Description:	See attached
Latitude:	
Longitude:	
Land Ownership:	Same as Applicant (County of Lassen)
County:	Lassen
City/Community:	Susanville
Watershed/Sub-Watershed:	
Groundwater Basin:	

Project Description:
Infrastructure improvements to unpaved roads, unpaved parking areas and roofs to treat and capture storm water to provide storm water infiltration, filtering, storing, evaporation, treatment, retention and reuse. All activities to occur on-site.

The North Gate access road and existing parking areas are unsurfaced (i.e. dirt or pavement grindings) and existing roofs drain without storm water best management practices/low impact development infrastructure. The Project will:

- **Improve water quality by making non-point pollution control/best management practices improvements to existing infrastructure to capture, treat, infiltrate or reuse storm water**
- **Provide storm water capture for on-site reuse (dust suppression, green area watering) for water conservation (e.g. reduce municipal water use)**
- **Protect downstream water resources and reduce flood risk and by collecting or diverting non-peak and peak flows to storm water facilities**
- **Reduced municipal water use by the reuse of storm water, rather than municipal water, for dust suppression and irrigation, will equate to reduced energy use**
- **Create and enhance urban green space/recreational public areas with educational components/demonstration infrastructure:**
  - **bio-retention/bio-filtration basin;**
  - **infiltration basin/infiltration trench**
  - **dry well**
  - **permeable pavement (likely to be concrete pavers)**
  - **rain barrels/cistern**
  - **vegetated swales/extended detention basin**
- **Involve educational, volunteer and employment opportunities (i.e. Lassen County Fair Advisory Board (unpaid), Fair Patrons (educational), and Construction (paid).**

II. ADDITIONAL PROJECT INFORMATION

Cooperating Agencies (List agencies that will cooperate, or provide written support for project)	TBD
Project work completed (Check boxes that apply and explain any additional work or studies that have been performed to date)	☐ Conceptual Plans ☐ Easements, Land ownership in order, completed ☐ Preliminary Plans ☐ CEQA NEPA Permitting ☐ Final Engineering Design, Construction drawings <u>Other Work Performed:</u> TBD

Required Permits (Outline Require Permits and approvals needed on the project)	TBD, likely only SWRCB Construction General Permit
Multiple Benefit Narrative (write a description of how the project is multi-beneficial, include elements that were not in the check list if any)	Improvements to infrastructure will collect storm water runoff and divert it to storm water facilities for infiltration and retention to improve water quality, enhance the community, and facilitate water conservation by reusing storm water for dust suppression and irrigation. The project will include low impact development/best management practices demonstrational components to provide educational opportunities to visitors to the Lassen County Fair.

III. ADDITIONAL RELEVANT INFOMATION

Write additional information that is relevant to the project here.

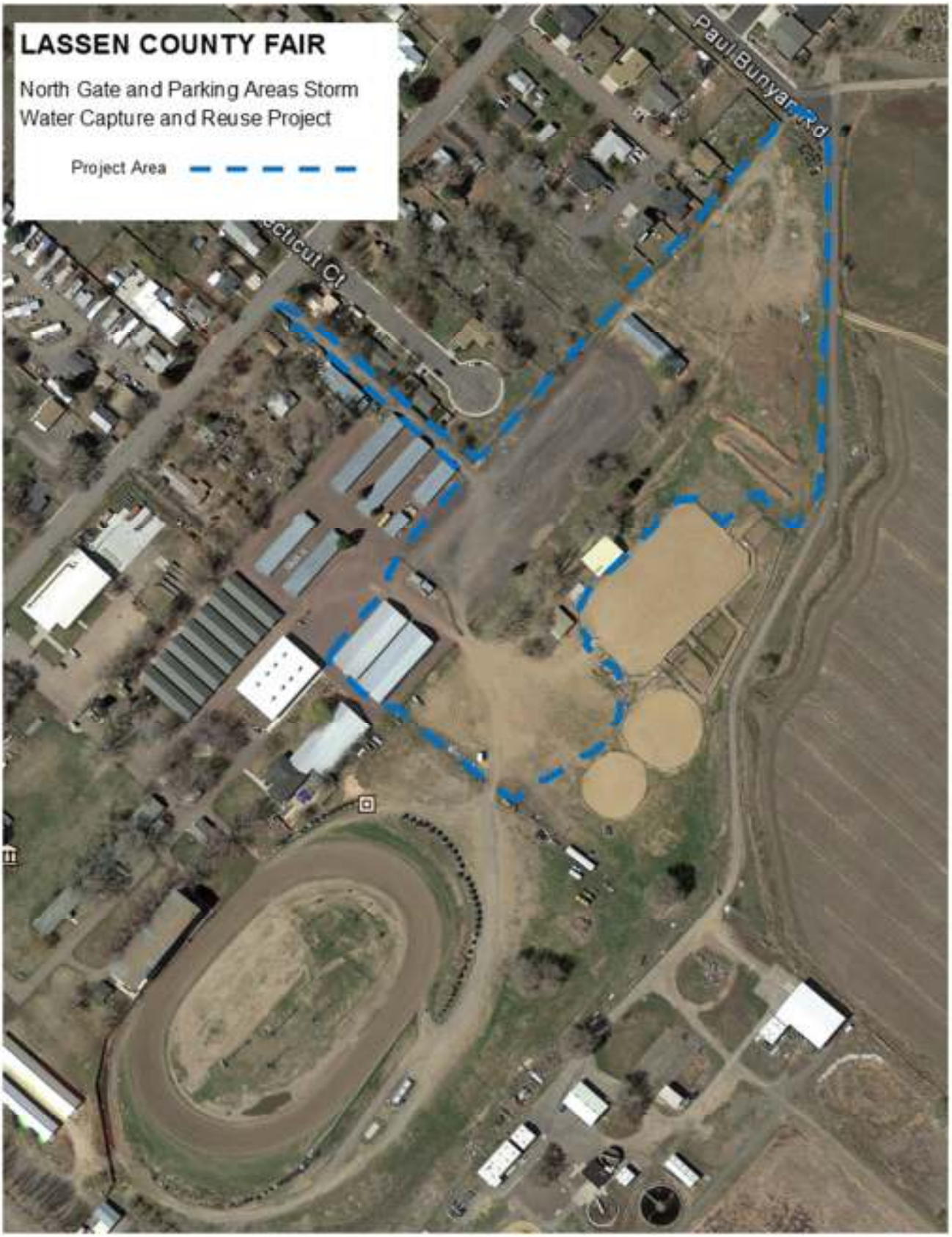
LASSEN COUNTY FAIR
North Gate and Parking Areas Storm Water Capture and Reuse Project
Project Area
Paul Bunyan Rd

Figure 1 Parking area, looking east.

Figure 2 Parking area, looking south toward race track and grandstands

Figure 3 Parking Area, looking south toward livestock area

Figure 4, North Gate Roadway, portion

Figure 5 North Gate Roadway, portion

Figure 6, North Gate Roadway, portion

NORTH LAHONTAN BASIN
Storm Water Resources Plan (SWRP)
Project Application Form

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☒ Does the project have a matching funds source? Local (Non-State) Match includes (but is not limited to; check funding source):
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*Source: CA SWRP guidelines

PART 2 - PROJECT DESCRIPTION FORM

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Implementing Agency:	Lassen County Fair C/O County of Lassen
Agency Address:	195 Russel Ave
Point of Contact (Name / Title):	Jim Wolcott, Fair Manager
Telephone:	(530) 251-8900
Email:	JWolcott@co.lassen.ca.us

II. PROJECT INFORMATION

Project Title:	Lassen County Fair Parking Area Storm Water Capture and Reuse Project
Project Budget (Estimated):	Unknown
Project Funding Match with sources from Non-State of California matching funds:	TBD
Project Location Description:	See attached
Latitude:	
Longitude:	
Land Ownership:	Same as Applicant (County of Lassen)
County:	Lassen
City/Community:	Susanville
Watershed/Sub-Watershed:	
Groundwater Basin:	

Project Description:
Infrastructure improvements to capture storm water from the main Lassen County Fair Parking Area (Jensen Hall) and roofs to reduce flood risk and provide for storm water infiltration, filtering, storing, evaporation, treatment, retention and reuse. All activities to occur on-site.

The Project will:

- **Improve water quality by providing non-point pollution control/best management practices features for infiltration and runoff treatment of storm water from existing facilities**
- **Provide storm water capture for on-site reuse (dust suppression, green area watering) for water conservation (e.g. reduce municipal water use)**
- **Reduce flood risk and by diverting non-peak and peak flows to storm water facilities**
- **Reduced municipal water use will equate to reduced energy use**
- **Create and enhance urban green space/recreational public areas with educational components**
- **Involve educational, volunteer and employment opportunities (i.e. Lassen County Fair Advisory Board (unpaid), Fair Patrons (educational), Construction (paid).**

II. ADDITIONAL PROJECT INFORMATION

Cooperating Agencies (List agencies that will cooperate, or provide written support for project)	TBD
Project work completed (Check boxes that apply and explain any additional work or studies that have been performed to date)	☐ Conceptual Plans ☐ Easements, Land ownership in order, completed ☐ Preliminary Plans ☐ CEQA NEPA Permitting ☐ Final Engineering Design, Construction drawings <u>Other Work Performed:</u> TBD

Required Permits (Outline Require Permits and approvals needed on the project)	TBD, likely only SWRCB Construction General Permit
Multiple Benefit Narrative (write a description of how the project is multi-beneficial, include elements that were not in the check list if any)	Improvements to infrastructure will collect storm water runoff and divert it to storm water facilities for infiltration and retention to improve water quality, enhance the community, and facilitate water conservation by reusing storm water for dust suppression and irrigation. The project will include low impact development/best management practices demonstrational components to provide educational opportunities to visitors to the Lassen County Fair.

III. ADDITIONAL RELEVANT INFOMATION

Write additional information that is relevant to the project here.


LASSEN COUNTY FAIRGROUNDS
Parking Area Storm Water Capture and Reuse Project
Project Area
Fairgrounds Rd

Figure 1 Jensen Hall Parking, North-East Gate, looking south

Figure 2 Jensen Hall Parking, Eastern fence, Curb (note lack of drainage infrastructure adjacent to mobile home park).

Figure 3 Jensen Hall RV parking area at North-East Gate looking north toward the "race track" gate.

Figure 4, Jensen Hall RV Parking

Figure 5, Drain Inlet and Race Track Road

Figure 6 Drain Inlet to Drainage Ditch

Figure 7 Storm Water from Jensen Hall Parking and area drains to this area – Background is Susanville Sanitary District Waste Water Treatment Facility. Not seen on left side of image is the Lassen County Fair Race Track.

IV. PROJECT BENEFIT QUANTIFICATION

1. The following benefits quantification will aid in ranking the projects. Quantifiable benefits are required per the SWRP Guidelines.
2. **Benefit Narrative**: briefly explain the element of the project from which the benefit is derived.
3. **Estimated benefit**: should be calculated to the best of the project proponent's ability.
4. **Assumptions and Calculation Comments**: assumptions should be stated here, and other relevant calculation comments.

Water Quality – Examples are: 303d pollutant load reduction, improved groundwater quality, improved surface water quality, reduce non-point sources, sediment load reduced, reestablish natural drainage and waterways, incorporates strategies from existing plans.

Benefit Narrative: Improve water quality by making non-point pollution control/best management practices improvements to existing infrastructure to capture, treat, infiltrate or reuse storm water.
North Gate & Parking:
Relocate manure stockpiles and mitigate contaminated run-off to improve surface water and reduce sediment load.
Fair Parking:
Identify potential of effluent point source pollution contamination in storm drain system.
Vegetated Swale: Sediment ▲; Nutrients •; Trash •; Metals ▲; Bacteria •; Oil and Grease ▲; Organics ▲.

Metric	Unit	Estimated Benefit
Pollutant Load Reduction (Filtration/Treatment)	lb/year, MPN/Year	North Gate & Parking: T.B.D. lb/year Fair Parking: T.B.D. lb/year
Pollutant Load Reduction (Non-point Source Control)	lb/year, MPN/Year	North Gate & Parking: T.B.D. lb/year Fair Parking: T.B.D. lb/year
Sediment Load Reduction	lb/year	North Gate & Parking: T.B.D. lb/year Fair Parking: T.B.D. lb/year
Storm water diverted through infiltration or evapotranspiration	acre-feet/year	North Gate & Parking: T.B.D. acre-feet/year Fair Parking: T.B.D. acre-feet/year

Assumptions and Calculation Comments:
North Gate & Parking:
Roof = 0.10 acres, Gravel Parking & Roadway = 9.94 acres
Fair Parking:
Roof = 0.53 acres, Gravel Parking & Roadway = 7.05 acres, Range = 1.52 acres

Legend (Removal Effectiveness): ♦ High; ▲ Medium; • Low

Water Supply - increased reliability, further conjunctive use, incorporates strategies from existing plans.

Benefit Narrative: Provide storm water capture for on-site reuse (dust suppression, green area watering). Use of cisterns and rain barrels could be used to capture the roof area rainfall for use as dust suppression and reduce the need for municipal water.
North Gate & Parking:
Fair Parking:
Establishing a drainage swale for the parking lot will divert storm water and protect adjacent properties.
Reestablishing the drainage ditch at the outfall of the storm drain system will reduce system surcharge and backflow thus reducing potential flood risk.

Metric	Unit	Estimated Benefit

Conjunctive Use - Volume of storm water Collected/Reused	acre-feet/year	North Gate & Parking: T.B.D. acre-feet/year Fair Parking: T.B.D. acre-feet/year
Volume of storm water Infiltrated	acre-feet/year	North Gate & Parking: T.B.D. acre-feet/year Fair Parking: T.B.D. acre-feet/year
Increased Efficiency, Volume of Water Conserved	acre-feet/year	North Gate & Parking: T.B.D. acre-feet/year Fair Parking: T.B.D. acre-feet/year
Assumptions and Calculation Comments: North Gate & Parking: Roof = 0.10 acres, Gravel Parking & Roadway = 9.94 acres Fair Parking: Roof = 0.53 acres, Gravel Parking & Roadway = 7.05 acres, Range = 1.52 acres		

Flood Management - Reduce known flooding and risk, reduce anticipated flooding and risk, reduce damage & costs, incorporates strategies form existing plans, improve water quality during flooding events.

Benefit Narrative: Protect downstream water resources and reduce flood risk and by collecting or diverting non-peak and peak flows to storm water facilities.
North Gate & Parking:
Fair Parking:
Establishing a drainage swale for the parking lot will divert storm water and protect adjacent properties.
Reestablishing the drainage ditch at the outfall of the storm drain system will reduce system surcharge and backflow thus reducing potential flood risk.

Metric	Unit	Estimated Benefit
Peak Flow Reduction	cfs	North Gate & Parking: T.B.D. cfs Fair Parking: T.B.D. cfs
Flood Volume Reduced	acre-feet	North Gate & Parking: T.B.D. acre-feet Fair Parking: T.B.D. acre-feet
Assumptions and Calculation Comments: North Gate & Parking: Roof = 0.10 acres, Gravel Parking & Roadway = 9.94 acres Fair Parking: Roof = 0.53 acres, Gravel Parking & Roadway = 7.05 acres, Range = 1.52 acres		

Environmental - Wetlands enhancement, increased urban greenspace, re-establishment of natural hydrograph, improved habitat, reduction in energy consumption and GHG emissions Incorporates strategies from existing plans

Benefit Narrative: Reduced municipal water use by the reuse of storm water, rather than municipal water, for dust suppression and irrigation, will equate to reduced energy use. Create and enhance urban green space.

Metric	Unit or Rating	Estimated Benefit
Area of wetlands and/or riparian habitat created or enhanced	acres	North Gate & Parking: N/A Fair Parking: Potential 1 acre
Increased urban green space	acres	North Gate & Parking: 1.5 acres Fair Parking: N/A
Slowing peak flow - (Restore Natural Hydrograph)	Degrade, No Change, or Restore	North Gate & Parking: Restore Fair Parking: No Change

Water Temperature Improvement	Increase, No Change, or Decrease	North Gate & Parking: Increase Fair Parking: Increase
Energy use, or greenhouse emissions	Increase, No Change, or Decrease	North Gate & Parking: Decrease Fair Parking: Decrease

Assumptions and Calculation Comments:
North Gate & Parking:
The creation of urban green space will allow for a decrease in the peak flow runoff by utilizing the captured storm water runoff for irrigation and dust suppression.
Fair Parking:
Locating the potential source for contaminated storm drain system (sewer odor) could remove the chance for human contact with contaminated water.

C**ommunity** - Job Creation, increased public awareness, increased community involvement, improving DAC communities, incorporates strategies from existing plan.

Benefit Narrative: Create and enhance recreational public areas with educational components/demonstration infrastructure. Involve educational, volunteer and employment opportunities (i.e. Lassen County Fair Advisory Board, Fair Patrons, and Construction.

Metric	Unit or Rating	Estimated Benefit
Employment Opportunities Created	None, Low, Medium, or High	North Gate & Parking: Medium Fair Parking: Low
Public Education	None, Low, Medium, or High	North Gate & Parking: Low Fair Parking: Medium
Community involvement	None, Low, Medium, or High	North Gate & Parking: High Fair Parking: High
Enhance and/or create recreational and public use area	acres	North Gate & Parking: 1.5 acres Fair Parking: N/A

Assumptions and Calculation Comments: Recreational and aesthetic enhancements made to the unutilized areas of the fairgrounds north gate and parking area will enhance the publics use of the park.

NORTH LAHONTAN BASIN
Storm Water Resources Plan (SWRP)
Project Application Form

The North Lahontan Basin Storm Water Resources Plan (SWRP) region is accepting projects to be considered for future funding and implementation. To have projects considered for inclusion, the applicant must read and complete this Project Solicitation Form. If the applicant has multiple projects, each individual project will need a separate form. Information on this form will be used in the ranking process for project prioritization.

The deadline for project submission is **Monday, July 10, 2017**. Completed Project Solicitation Forms should be sent via email to Mr. Ian Sims at isims@honeylakevalleyrcd.us. If you have any questions, please contact Mr. Ian Sims or Mr. Jeff Weagel at jweagel@dyerengineering.com or 775-852-1440. Assistance is available for the preparation of this application.

The California Storm Water Grant Program is a part of the 2014 Proposition 1 that authorized $7.545 billion in general obligation bonds for water projects. Prop 1 (Section 79747) provides $200 million in grant funds for multi-benefit storm water management projects.

Water Code section 79747 identifies funds available for multi-benefit storm water management projects which may include, but shall not be limited to: green infrastructure, rainwater and storm water capture projects and storm water treatment facilities. Storm Water Resource Plans, or functionally equivalent plan(s), are required to obtain grant funds for storm water and dry weather capture projects. Additional information is available online at http://www.waterboards.ca.gov/water_issues/programs/grants_loans/swgp/prop1/.

Your Project must be "Storm Water" or "Dry Weather Runoff" related to be eligible for funding. Storm Water is defined in the SWRP Guidelines as: "temporary surface water runoff and drainage generated by immediately preceding storms". Dry Weather Runoff is defined as: "surface runoff flow produced by non-storm water resulting from irrigation and other residential, commercial, and industrial activities".

Applicant must complete the following check list and form;

PART 1 – PROJECT ELIGIBILITY

TABLE 1 – PROJECT ELIGIBILITY CHECKLIST	
1. Is the applicant one of the following: Per Water Code Section 79712(a). (Check all that apply, 1 minimum)	☒ Public Agency ☐ 501(c)(3) Nonprofit Organization ☐ Public Utility ☐ Federally recognized Indian Tribe ☐ State Indian Tribe listed on the Native American Heritage Commission's Tribal Consultation List ☐ Mutual Water Company ☐ Groundwater Sustainability Agencies (GSAs) formed in accordance with the Sustainable Groundwater Management Act are eligible applicants if they are a public agency or other eligible applicant type as listed above.

<table>
<tr><td></td><td colspan="2"></td></tr>
<tr><td>2. Does the project fit the following criteria?

(All are required)</td><td colspan="2">☒ Is an implementation / construction project. (not planning)
☒ Responds to climate change
☒ Contributes to regional water security
☒ Contains at least two main benefits from section 3 (next section) (as listed in Section III. G – Storm Water Management Benefits (SWGP guidelines);</td></tr>
<tr><td rowspan="6">3. Projects shall be multi-beneficial, designed to infiltrate, filter, store, evaporate, treat, or retain storm water or dry weather runoff. Preference will be given to projects that capture and "re-purpose" storm water for a variety of potential benefits including, but not limited to;

(Check all that apply)</td><td>Main Benefit Category (2 minimum)</td><td>Additional Benefits / the project provides_____. (check all that apply)</td></tr>
<tr><td>☒ Water Quality</td><td>☒ Increased water quality
☒ Non-point source pollution control
☒ Increased filtration/ runoff treatment
☒ Reestablished Natural water drainage</td></tr>
<tr><td>☒ Water Supply</td><td>☒ Increased water supply
☒ Increased water supply reliability
☒ Increased water conservation
☐ Conjunctive use (combining use of groundwater and or groundwater storage with surface water)
☒ Storm Water Reuse</td></tr>
<tr><td>☒ Flood Management</td><td>☒ Decreased flood risk
☒ Reduced peak flows
☒ Reestablished natural drainage and treatment
☐ Reduced sanitary sewer overflows</td></tr>
<tr><td>☒ Environmental</td><td>☒ Environmental improvement
☐ Habitat restoration or improvement
☐ Reestablishment of the natural hydrograph
☐ Water temperature improvements
☒ Reduced energy use, greenhouse gas emissions, or provides a carbon sink
☐ Water Temperature Improvements</td></tr>
<tr><td>☒ Community Stewardship</td><td>☒ Employment opportunities
☒ Public education
☒ Community involvement
☒ Enhance and /or create relational public use areas
☒ Increased urban green space</td></tr>
<tr><td>4. Required Criteria:

(Both are required)</td><td colspan="2">☒ Does it demonstrate the capability of contributing to sustained, long-term water benefits for a minimum period of 20 years?
☒ Does it demonstrate adequate rights-of-way for the useful life (20-year minimum) of the project?</td></tr>
<tr><td>5. Does the project meet the Funding Requirements?</td><td colspan="2">☒ Minimum grant amount $250,000, maximum $10,000,000
☒ Does the project have a matching funds source? Local (Non-State) Match</td></tr>
</table>

(Check all that apply)	includes (but is not limited to; check funding source): ☒ Donated and volunteer ("in-kind") services; ☒ Planning, engineering, and design specific to the implementation project; ☒ Permitting; ☒ Environmental documentation and mitigation; ☒ Easements and land purchases made by the applicant; ☒ Project implementation (purchase of material, equipment, construction); ☒ Project effectiveness monitoring; ☒ Education and outreach is a component of the project construction.

Local match must be:

- 50% of project cost,
- or if Disadvantaged Community (DAC/EDA) see Table 2 for reduced match information: (Generally the majority of Lassen County can be considered a DAC, excluding Janesville and portions of Susanville see https://gis.water.ca.gov/app/dacs for DAC mapping)

TABLE 2 - REDUCED MATCH DAC AND EDA*

Match Requirement [1,2]
Group A: Small & Severely DAC Storm Water Service Area and 100% of the Project Benefits the Small & Severely DAC 5% match if population is less than 20,000 persons **AND** median household income (MHI) is less than 60% of the Statewide MHI
Group B: DAC or EDA Storm Water Service Area and 100% of the Project Benefits the DAC or EDA 10% match if the community meets the definitions
Group C: Greater than 50% of the Project Construction Occurs in and Benefits a DAC/EDA i) 20% match, if 100% of the construction occurs in and benefits the DAC or EDA; ii) 25% match, if at least 75% (but less than 100%) of the construction occurs in and benefits the DAC or EDA; or iii) 30% match, if at least 50% (but less than 75%) of the construction occurs in and benefits the DAC or EDA.
[1] Match is calculated based on the *total project cost*, **not** on the grant amount. Total Project Cost x %Match = Required Match i.e. - $3,750,000 (Total Project Cost) x 10% (Percent Match) = $375,000 Match [2] See definitions in Appendix D

*Source: CA SWRP guidelines

PART 2 - PROJECT DESCRIPTION FORM

I. PROJECT SPONSOR INFORMATION

Implementing Agency:	Lassen County Public Works C/O County of Lassen
Agency Address:	707 Nevada Street, Suite 4, Susanville, CA 96130
Point of Contact (Name / Title):	Larry Millar, Director
Telephone:	530-251-8288

Email:	lmillar@co.lassen.ca.us

II. PROJECT INFORMATION

Project Title:	Susanville, Standish and Doyle Road Shops Storm Water Project
Project Budget (Estimated):	TBD
Project Funding Match with sources from Non-State of California matching funds:	TBD
Project Location Description:	Susanville Road Shop: 801 Hospital Lane, Susanville, CA 96130 Standish Road Shop: Hwy. 395 & Church Street, Standish, CA 96128 Doyle Road Shop: 434-685 Doyle Drive, Doyle, CA 96109
Latitude:	
Longitude:	
Land Ownership:	County of Lassen – Road Department
County:	Lassen
City/Community:	Susanville, Standish and Doyle
Watershed/Sub-Watershed:	
Groundwater Basin:	

Project Description:
Infrastructure improvements to unpaved road shop yard and parking areas to treat and capture storm water to provide storm water infiltration, filtering, storing, evaporation, treatment, retention and reuse. All work is to be completed on site. The proposed work would include infrastructure improvements to unsurfaced (i.e. dirt or pavement grindings) without storm water best management practices/low impact development infrastructure.

The Project will:

- -) Improve water quality by making non-point pollution control/best management practices improvements to existing infrastructure to capture, treat, infiltrate or reuse storm water.
- -) Provide storm water capture for on-site reuse (dust suppression, green area watering) for water conservation (e.g. reduce municipal water use).
- -) Protect downstream water resources and reduce flood risk and by collecting or diverting non-peak and peak flows to storm water facilities.
- -) Reduced municipal water use by the reuse of storm water, rather than municipal water, for dust suppression and irrigation, will equate to reduced energy use.
- -) Create and enhance urban green space/recreational public areas with educational components/demonstration infrastructure:
  - -) bio-retention/bio-filtration basin
  - -) infiltration basin/infiltration trench
  - -) dry well
  - -) rain barrel/cistern
  - -) vegetated swales/extended detention basin
- -) Involve educational, volunteer and employment opportunities

II. ADDITIONAL PROJECT INFORMATION

Cooperating Agencies (List agencies that will cooperate, or provide written support for project)	TBD
Project work completed (Check boxes that apply and explain any additional work or studies that have been performed to date)	☐ Conceptual Plans ☐ Easements, Land ownership in order, completed ☐ Preliminary Plans ☐ CEQA NEPA Permitting ☐ Final Engineering Design, Construction drawings <u>Other Work Performed:</u>
Required Permits (Outline Require Permits and approvals needed on the project)	TBD

Multiple Benefit Narrative (write a description of how the project is multi-beneficial, include elements that were not in the check list if any)	Improvements to infrastructure will collect storm water runoff and divert it to storm water facilities for infiltration and retention to improve water quality, enhance the community, and facilitate water conservation by reusing storm water for dust suppression and irrigation. The project will include low impact development/best management practices which can be utilized as a pilot project to demonstrate and provide educational opportunities to the Susanville, Standish and Doyle communities.

III. ADDITIONAL RELEVANT INFOMATION

Write additional information that is relevant to the project here. Attach photos and additional data as needed (studies, plans, unique project data etc.)

Susanville Road Shop

Standish Road Shop

Doyle Road Shop

IV. PROJECT BENEFIT QUANTIFICATION

1. The following benefits quantification will aid in ranking the projects. Quantifiable benefits are required per the SWRP Guidelines.
2. **Benefit Narrative**: briefly explain the element of the project from which the benefit is derived.
3. **Estimated benefit**: should be calculated to the best of the project proponent's ability.
4. **Assumptions and Calculation Comments**: assumptions should be stated here, and other relevant calculation comments.

Water Quality – Examples are: 303d pollutant load reduction, improved groundwater quality, improved surface water quality, reduce non-point sources, sediment load reduced, reestablish natural drainage and waterways, incorporates strategies from existing plans.

Benefit Narrative: Improve water quality by making non-point pollution control/best management practices improvements to existing infrastructure to capture, treat, infiltrate or reuse storm water.
Infiltration Basin: Sediment ♦; Nutrients ♦; Trash ♦; Metals ♦; Bacteria ♦; Oil and Grease ♦; Organics ♦.
Oil sur trap will be placed at basin outlet to contain oils transported by storm water run-off.
Infiltration Trench: Sediment ♦; Nutrients ♦; Trash ♦; Metals ♦; Bacteria ♦; Oil and Grease ♦; Organics ♦.

Metric	Unit	Estimated Benefit
Pollutant Load Reduction (Filtration/Treatment)	lb/year, MPN/Year	Susanville Park: T.B.D. lb/year Standish Park: T.B.D. lb/year Doyle Park: T.B.D. lb/year
Pollutant Load Reduction (Non-point Source Control)	lb/year, MPN/Year	Susanville Park: T.B.D. lb/year Standish Park: T.B.D. lb/year Doyle Park: T.B.D. lb/year
Sediment Load Reduction	lb/year	Susanville Park: T.B.D. lb/year Standish Park: T.B.D. lb/year Doyle Park: T.B.D. lb/year
Storm water diverted through infiltration or evapotranspiration	acre-feet/year	Susanville Park: T.B.D. acre-feet/year Standish Park: T.B.D. acre-feet/year Doyle Park: T.B.D. acre-feet/year

Assumptions and Calculation Comments:
Susanville Road Shop: Roof = 0.55 acres, Gravel Parking = 5.39 acres, Range = 12.47 acres
Standish Road Shop: Roof = 0.09 acres, Gravel Parking = 1.65 acres
Doyle Road Shop: Roof = 0.10 acres, Gravel Parking = 4.96 acres, Range = 0.92 acres

Legend (Removal Effectiveness): ♦ High; ▲ Medium; • Low

Water Supply - increased reliability, further conjunctive use, incorporates strategies from existing plans.

Benefit Narrative: Projects will provide storm water capture (detention/infiltration basins and trenches) for on-site reuse (dust suppression). Infiltrating captured storm water will recharge the underlying aquafers.

Metric	Unit	Estimated Benefit
Conjunctive Use - Volume of Storm water Collected/Reused	acre-feet/year	Susanville Park: T.B.D. acre-feet/year

		Standish Park: T.B.D. acre-feet/year Doyle Park: T.B.D. acre-feet/year
Volume of Storm water Infiltrated	acre-feet/year	Susanville Park: T.B.D. acre-feet/year Standish Park: T.B.D. acre-feet/year Doyle Park: T.B.D. acre-feet/year
Increased Efficiency, Volume of Water Conserved	acre-feet/year	Susanville Park: T.B.D. acre-feet/year Standish Park: T.B.D. acre-feet/year Doyle Park: T.B.D. acre-feet/year
Assumptions and Calculation Comments:		

Flood Management - Reduce known flooding and risk, reduce anticipated flooding and risk, reduce damage & costs, incorporates strategies form existing plans, improve water quality during flooding events.

Benefit Narrative: Protect downstream water resources and reduce flood risk and by collecting or diverting non-peak and peak flows to storm water facilities.

Metric	Unit	Estimated Benefit
Peak Flow Reduction	cfs	Susanville Park: T.B.D. cfs Standish Park: T.B.D. cfs Doyle Park: T.B.D. cfs
Flood Volume Reduced	acre-feet	Susanville Park: T.B.D. acre-feet Standish Park: T.B.D. acre-feet Doyle Park: T.B.D. acre-feet
Assumptions and Calculation Comments:		

Environmental - Wetlands enhancement, increased urban greenspace, re-establishment of natural hydrograph, improved habitat, reduction in energy consumption and GHG emissions Incorporates strategies from existing plans

Benefit Narrative: Reduced municipal water use by the reuse of storm water, rather than municipal water, for dust suppression and irrigation, will equate to reduced energy use. Create and enhance urban green space.

Metric	Unit or Rating	Estimated Benefit
Area of wetlands and/or riparian habitat created or enhanced	acres	Susanville Park: N/A Standish Park: N/A Doyle Park: N/A
Increased urban green space	acres	Susanville Park: N/A Standish Park: N/A Doyle Park: N/A
Slowing peak flow - (Restore Natural Hydrograph)	Degrade, No Change, or Restore	Susanville Park: Restore Standish Park: No change Doyle Park: No Change
Water Temperature Improvement	Increase, No Change, or Decrease	Susanville Park: Increase Standish Park: No Change Doyle Park: No Change
Energy use, or greenhouse emissions	Increase, No Change, or Decrease	Susanville Park: No Change Standish Park: No Change Doyle Park: No Change

Assumptions and Calculation Comments: The creation of detention and/or retention ponds will allow for a decrease in the peak flow runoff. Utilize the captured storm water runoff for dust suppression. Infrastructure to capture and remove hydrocarbons from storm water run-off.

C**ommunity** - Job Creation, increased public awareness, increased community involvement, improving DAC communities, incorporates strategies from existing plan.

Benefit Narrative: Create and enhance recreational public areas with educational components/demonstration infrastructure. Involve educational, volunteer and employment opportunities.

Metric	Unit or Rating	Estimated Benefit
Employment Opportunities Created	None, Low, Medium, or High	Susanville Park: Low Standish Park: Low Doyle Park: Low
Public Education	None, Low, Medium, or High	Susanville Park: Medium Standish Park: Medium Doyle Park: Medium
Community involvement	None, Low, Medium, or High	Susanville Park: None Standish Park: None Doyle Park: None
Enhance and/or create recreational and public use area	acres	Susanville Park: 1.0 acre Standish Park: N/A Doyle Park: N/A

Assumptions and Calculation Comments: Increase public awareness as a pilot project to demonstrate and provide educational opportunities to Susanville, Standish and Doyle Comunities.

Appendix B

Preliminary Plans

Appendix C

Checklist and Self Certifications

SWRP Checklist and Self-Certification

For each element listed below, review the applicable section in the Storm Water Resource Plan Guidelines and enter ALL of the following information.

A. Mark the box if the Storm Water Resource Plan, or a functional equivalent Plan, meet the provision

B. In the provided space labeled References, enter:

1. Title of document(s) that contain the information,
2. The chapter/section, and page number(s) where the information is located within the document(s),
3. The entity(ies) that prepared the document(s),
4. The date that the document(s) was prepared, and subsequent updates, and
5. Where each document can be accessed (website address or attached).

Storm Water Resource Plan Checklist and Self-Certification		
Mandatory Required Elements per California Water Code are Shaded		
Check if "Yes"	Plan Element	Water Code Section
Watershed Identification (Guidelines Section VI.A)		
☒	Plan identifies watershed and subwatershed(s) for stormwater resource planning.	10565 (c) 10562(b)(1) 10565(c)
References: See Sections 2.1, 2.2, and 2.3 (pp. 2-1 – 2-10)		
☒	Plan is developed on a watershed basis, using boundaries as delineated by USGS, CalWater, USGS Hydrologic Unit designations, or an applicable integrated regional water management group, and includes a description and boundary map of each watershed and sub-watershed applicable to the Plan.	
Reference: See Section 2.2 (pp. 2-1 – 2-10)		
Watershed Identification (Guidelines Section VI.A)		
Check if "Yes"	Plan Element	
☒	Plan includes an explanation of why the watershed(s) and sub-watershed(s) are appropriate for storm water management with a multiple-benefit watershed approach.	

References: See Section 2.1, Section 2.2, Figure 2-2, and Figure 2-4 (pp. 2-1 – 2-1)	
☒	Plan describes the internal boundaries within the watershed (boundaries of municipalities; service areas of individual water, wastewater, and land use agencies, including those not involved in the Plan; groundwater basin boundaries, etc.; preferably provided in a geographic information system shape file).
References: See Section 2.1, Section 2.3, Figure 2-2, and Figure 2-4 (pp. 2-1 – 2-11)	
☒	Plan describes the water quality priorities within the watershed based on, at a minimum, applicable TMDLs and consideration of water body-pollutant combinations listed on the State's Clean Water Act Section 303(d) list of water quality limited segments (a.k.a impaired waters list).
References: See Section 2.4, Section 2.5, Figure 2-5, and Table 2.6 (pp. 2-11 – 2-15)	
☒	Plan describes the general quality and identification of surface and ground water resources within the watershed (preferably provided in a geographic information system shape file).
References: See Section 2.4, Section 2.5, Table 2.6, and Figures 2-6 and 2-7 (pp. 2-11 – 2-15, 2-18, 2-19)	
☒	Plan describes the local entity or entities that provide potable water supplies and the estimated volume of potable water provided by the water suppliers.
References: See Section 2.6 and Table 2.8 (pp. 2-17)	
☒	Plan includes map(s) showing location of native habitats, creeks, lakes, rivers, parks, and other natural or open space within the sub-watershed boundaries. and
References: See Figures 2-4, 2-6, and 2-8 (pp. 2-10, 2-18, 2-21)	
☒	Plan identifies (quantitative, if possible) the natural watershed processes that occur within the sub-watershed and a description of how those natural watershed processes have been disrupted within the sub-watershed (e.g., high levels of imperviousness convert the watershed processes of infiltration and interflow to surface runoff increasing runoff volumes; development commonly covers natural surfaces and often introduces non-native vegetation, preventing the natural supply of sediment from reaching receiving waters).
References: See Section 2.8 and Figure 2-9 (pp. 2-22 – 2-23)	

Water Quality Compliance (Guidelines Section V)		
Check if "Yes"	Plan Element	Water Code Section
☒	Plan identifies activities that generate or contribute to the pollution of stormwater or dry weather runoff, or that impair the effective beneficial use of stormwater or dry weather runoff.	10562(d)(7)

References: See Section 3.1 (pp. 3-1 -3-5)		
☒	Plan describes how it is consistent with and assists in, compliance with total maximum daily load implementation plans and applicable national pollutant discharge elimination system permits.	10562(b)(5)
References: See Section 3.2 (pp. 3-5 – 3-14)		
☒	Plan identifies applicable permits and describes how it meets all applicable waste discharge permit requirements.	10562(b)(6)
References: See Section 3.2, Section 3.3, Section 3.4, and Section 3.5 (pp. 3-5 – 3-18)		
Organization, Coordination, Collaboration (Guidelines Section VI.B)		
Check if "Yes"	Plan Element	Water Code Section
☒	Local agencies and nongovernmental organizations were consulted in Plan development.	10565(a)
References: See Section 4 (pp. 4-1 – 4-5)		
☒	Community participation was provided for in Plan development.	10562(b)(4)
References: See Section 4 (pp. 4-1 – 4-5)		
☒	Plan includes description of the existing integrated regional water management group(s) implementing an integrated regional water management plan.	
References: See Section 4 (pp. 4-1 – 4-5)		

Organization, Coordination, Collaboration (Guidelines Section VI.B)	
Check if "Yes"	Plan Element
☒	Plan includes identification of and coordination with agencies and organizations (including, but not limited to public agencies, nonprofit organizations, and privately-owned water utilities) that need to participate and implement their own authorities and mandates in order to address the stormwater and dry weather runoff management objectives of the Plan for the targeted watershed.
References: See Section 4.3, Section 4.4, and Table 4.1 (pp. 4-2 – 4-3)	
☒	Plan includes identification of nonprofit organizations working on stormwater and dry weather resource planning or management in the watershed.

References: See Section 4.4 (p. 4-3)	
☒	Plan includes identification and discussion of public engagement efforts and community participation in Plan development.
References: See Section 4.5 (pp. 4-3 – 4-4)	
☒	Plan includes identification of required decisions that must be made by local, State or Federal regulatory agencies for Plan implementation and coordinated watershed-based or regional monitoring and visualization.
References: See Section 4.6 (p. 4-4)	
☒	Plan describes planning and coordination of existing local governmental agencies, including where necessary new or altered governance structures to support collaboration among two or more lead local agencies responsible for plan implementation.
References: See Section 4.6 (p. 4-4)	
☒	Plan describes the relationship of the Plan to other existing planning documents, ordinances, and programs established by local agencies.
References: See Section 4.7 (pp. 4-4 – 4-5)	
☒	(If applicable) Plan explains why individual agency participation in various isolated efforts is appropriate.
References: See Section 4.7 (pp. 4-4 – 4-5)	
Quantitative Methods (Guidelines Section VI.C)	
Check if "Yes"	Plan Element
☒	For all analyses: Plan includes an integrated metrics-based analysis to demonstrate that the Plan's proposed stormwater and dry weather capture projects and programs will satisfy the Plan's identified water management objectives and multiple benefits.
References: See Section 5 (pp. 5-1 – 5-8)	
☒	For water quality project analysis (section VI.C.2.a) Plan includes an analysis of how each project and program complies with or is consistent with an applicable NPDES permit. The analysis should simulate the proposed watershed-based outcomes using modeling, calculations, pollutant mass balances, water volume balances, and/or other methods of analysis. Describes how each project or program will contribute to the preservation, restoration, or enhancement of watershed processes (as described in Guidelines section VI.C.2.a).

References: Section 5.1 and Section 5.2 (pp. 5-1 – 5-5)	
☒	For stormwater capture and use project analysis (section VI.C.2.b): Plan includes an analysis of how collectively the projects and programs in the watershed will capture and use the proposed amount of stormwater and dry weather runoff.
References: See Section 5.2 (pp. 5-3 – 5-5)	
☒	For water supply and flood management project analysis (section VI.C.2.c): Plan includes an analysis of how each project and program will maximize and/or augment water supply.
References: See Section 5.2 (pp. 5-3 – 5-5)	
☒	For environmental and community benefit analysis (section VI.C.2.d): Plan includes a narrative of how each project and program will benefit the environment and/or community, with some type of quantitative measurement.
References: See Section 5.2 (pp. 5-3 – 5-5)	
☒	Data management (section VI.C.3): Plan describes data collection and management, including: a) mechanisms by which data will be managed and stored; b) how data will be accessed by stakeholders and the public; c) how existing water quality and water quality monitoring will be assessed; d) frequency at which data will be updated; and e) how data gaps will be identified.
References: See Section 5.3 (pp. 5-5 – 5-8)	

Identification and Prioritization of Projects (Guidelines Section VI.D)		
Check if "Yes"	Plan Element	Water Code Section
☒	Plan identifies opportunities to augment local water supply through groundwater recharge or storage for beneficial use of storm water and dry water runoff.	10562(d)(1)
References: See Section 6.1 and Section 6.2 (p. 6-1)		
☒	Plan identifies opportunities for source control for both pollution and dry weather runoff volume, onsite and local infiltration, and use of stormwater and dry weather runoff.	10562(d)(2)
References: See Section 6.3 (p. 6-1)		
☒	Plan identifies projects that reestablish natural water drainage treatment and infiltration systems, or mimic natural system functions to the maximum extent feasible.	10562(d)(3)

References: See Section 6.4 (pp. 6-1 – 6-2)		
☒	Plan identifies opportunities to develop, restore, or enhance habitat and open space through stormwater and dry weather runoff management, including wetlands, riverside habitats, parkways, and parks.	10562(d)(4)
References: See Section 6.5 (p. 6-2)		
☒	Plan identifies opportunities to use existing publicly owned lands and easements, including, but not limited to, parks, public open space, community gardens, farm and agriculture preserves, school sites, and government office buildings and complexes, to capture, clean, store, and use stormwater and dry weather runoff either onsite or offsite.	10562(d)(5) 10562(b)(8)
References: See Section 6.6 (p. 6-2)		
☒	For new development and redevelopments (if applicable): Plan identifies design criteria and best management practices to prevent stormwater and dry weather runoff pollution and increase effective stormwater and dry weather runoff management for new and upgraded infrastructure and residential, commercial, industrial, and public development.	10562(d)(6)
References: See Section 6.7 (p. 6-2)		
Identification and Prioritization of Projects (Guidelines Section VI.D)		
☒	Plan uses appropriate quantitative methods for prioritization of projects. (This should be accomplished by using a metric-based and integrated evaluation and analysis of multiple benefits to maximize water supply, water quality, flood management, environmental, and other community benefits within the watershed.)	10562(b)(2)
References: See Section 6.9 (pp. 6-2 – 6-4)		
☒	*Overall:* Plan prioritizes projects and programs using a metric-driven approach and a geospatial analysis of multiple benefits to maximize water supply, water quality, flood management, environmental, and community benefits within the watershed.	
References: See Section 6.9 and Section 6.12 (pp. 6-2 – 6-7)		
☒	*Multiple benefits:* Each project in accordance with the Plan contributes to at least two or more Main Benefits and the maximum number of Additional Benefits as listed in Table 4 of the Guidelines. (Benefits are not counted twice if they apply to more than one category.)	

References: See Section 6.9 and Section 6.12 (pp. 6-2 – 6-7)		
Implementation Strategy and Schedule (Guidelines Section VI.E)		
Check if "Yes"	Plan Element	Water Code Section
☒	Plan identifies resources for Plan implementation, including: 1) projection of additional funding needs and sources for administration and implementation needs; and 2) schedule for arranging and securing Plan implementation financing.	
References: See Section 7.1 (pp. 7-1 -7-4)		
☒	Plan projects and programs are identified to ensure the effective implementation of the stormwater resource plan pursuant to this part and achieve multiple benefits.	10562(d)(8)
References: See Section 7.3 (pp. 7-8 – 7-12)		
☒	The Plan identifies the development of appropriate decision support tools and the data necessary to use the decision support tools.	10562(d)(8)
References: See Section 7.3 (pp. 7-8 – 7-12)		
☒	Plan describes implementation strategy, including: a) Timeline for submitting Plan into existing plans, as applicable, b) Specific actions by which Plan will be implemented, c) All entities responsible for project implementation, d) Description of community participation strategy, e) Procedures to track status of each project, f) Timelines for all active or planned projects, g) Procedures for ongoing review, updates, and adaptive management of the Plan, and h) A strategy and timeline for obtaining necessary federal, state, and local permits.	
References: See Section 7 (pp. 7-1 – 7-14)		
☒	Applicable IRWM plan: The Plan will be submitted, upon development, to the applicable integrated regional water management (IRWM) group for incorporation into the IRWM plan.	10562(b)(7)
References: See Section 7.2 (pp. 7-4 – 7-8)		
☒	Plan describes how implementation performance measures will be tracked.	
References: See Section 7.5 (pp. 7-12 – 7-14)		
Education, Outreach, Public Participation (Guidelines Section VI.F)		

Check if "Yes"	Plan Element	Water Code Section
☒	*Outreach and Scoping:* Community participation is provided for in Plan Implementation.	105623(b)(4)
References: See Section 8.1.2 (pp. 8-2 – 8-3)		
☒	Plan describes public education and public participation opportunities to engage the public when considering major technical and policy issues related to the development and implementation.	
References: See Section 8.1 (p. 8-1)		
☐	Plan describes mechanisms, processes, and milestones that have been or will be used to facilitate public participation and communication during development and implementation of the Plan.	
References: See Section 4 and Section 8		
☐	Plan describes mechanisms to engage communities in project design and implementation.	
References: See Section 8.1.1 (p. 8-1) ; Section 4.5.1 (p. 4-3 – 4-4)		
☐	Plan identifies specific audiences including local ratepayers, developers, locally regulated commercial and industrial stakeholders, nonprofit organizations, and the general public.	
References: See Section 4		
☒	Plan describes strategies to engage disadvantaged and climate vulnerable communities within the Plan boundaries and ongoing tracking of their involvement in the planning process.	
References: See Section 8 and Figure 8-1 (pp. 8-1 – 8-4)		
☐	Plan describes efforts to identify and address environmental injustice needs and issues within the watershed.	
References: See Section 8.1 (P. 8-1) All methods identified in the Lahontan Basin IRWM Plan regarding environmental justice considerations were also surveyed during the SWRP development. Environmental justice is considered and referenced in the Lahontan Basin IRWM Plan under section 7.1.3 and identified in section 3.1.2 and 10.1.		
☐	Plan includes a schedule for initial public engagement and education.	
References: See Section 8 and Section 4.7 (p. 4-4 – 4-5)		

Declaration and Signature

I declare under penalty of perjury that all information provided is true and correct to the best of my knowledge and belief.

Signature	Title	Date
Signature	Title	Date

Appendix D

Public Outreach

Public Comments Received		
Date Received	**From**	**Comments/Notes**
2/10/2018	Jesse Claypool	Verbal comment regarding spelling issue
3/22/2018	Lauri Tippen	1. TOC-1 at 3.1.2 "Bateria"/Bacteria 2. The acronym TDS, identified in Table ES-2, is not defined in the acronym table 3. Pg ES-3, last paragraph - the first 2 sentences have some wording confusion - words missing or jumbled 4. Pg ES-5, 7.0, 1st paragraph - last sentence uses "discuss"/discusses.
4/16/2018	Ian Sims	Direct edits incorporated from Microsoft Word
4/19/2018	Dan Newton	Verbally to Ian sims regarding surprise valley incorporation into the mapping
4/20/2018	Brandon Davison	Emailed - State Water Board, Spreadsheet comments

Notice Requesting Qualifications to Develop Lahontan Basin Storm Water Resource Plan

The Honey Lake Valley Resource Conservation District (HLV RCD) is seeking a qualified consultant to assist in the development of the Lahontan Basin Storm Water Resource Plan (SWRP) following state guidelines. Firms are now invited to provide a Statement of Qualifications (SOQ) to be considered for this project.

The HLV RCD has been awarded a Prop1 planning grant through the Water Board to develop a SWRP for the Honey Lake Valley and the greater Lahontan Basin IRWM region respectively.

All proposals must be received by the HLV RCD by 3 p.m., February 28, 2017. Proposals are to be submitted electronically to isims@honeylakevalleyrcd.us.

All documents including complete Request for Qualifications (RFQ) may be obtained by contacting Ian Sims, District Manager, by phone at 530-257-7271 or by email at isims@honeylakevalleyrcd.us. RFQ will also be posted at http://honeylakevalleyrcd.us/

NOTICE OF CALL FOR PROJECTS

for

North Lahontan Basin Storm Water Resource Plan (SWRP)

NOTICE is given, that the Lahontan Regional Water Quality Control Board and the Honey Lake Valley Resource Conservation District are jointly announcing a call for projects to be considered for future funding and implementation under the California Storm Water Grant Program. To have projects considered for inclusion into the North Lahontan Basin SWRP, the applicant must read and complete a Project Solicitation Form found at www.honeylakevalleyrcd.us or can be picked up in person at 170 Russell Ave., Susanville, CA 96130.

Water Code section 79747 identifies funds available for multi-benefit storm water management projects which may include, but shall not be limited to: green infrastructure, rainwater and storm water capture projects and storm water treatment facilities. Additional information is available online at http://www.waterboards.ca.gov/water_issues/programs/grants_loans/swgp/prop1/.

Eligible applicants include: Public agencies; 501(c)(3) Nonprofit organizations; Public utilities; Federally recognized Indian tribes; State Indian tribes listed on the Native American Heritage Commission's Tribal Consultation List; and Mutual water companies

The deadline for project submission is **Monday, July 10, 2017**. Completed Project Solicitation Forms should be sent via email to Mr. Ian Sims at isims@honeylakevalleyrcd.us. If you have any questions, please contact Mr. Ian Sims or Mr. Jeff Weagel at jweagel@dyerengineering.com or 775-852-1440. Assistance is available for the preparation of this application.

Publish in: - Lassen County Times

NOTICE OF INTENT

To seek public comment on the North Lahontan Basin Storm Water Resource Plan (SWRP)

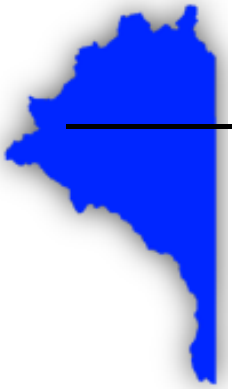
NOTICE is given, that the Honey Lake Valley Resource Conservation District (Honey Lake Valley RCD) has prepared a Storm Water Resource Plan (SWRP) for the Lahontan Basin Integrated Regional Water Management (IRWM) region under the California Storm Water Grant Program.

The Honey Lake Valley RCD was awarded a Proposition 1 planning grant through the California Water Board to develop a SWRP for the Honey Lake Valley and the greater Lahontan Basin IRWM region respectively.

Copies of the SWRP have been made available at the Honey Lake Valley RCD office located at 170 Russell Ave., Susanville, CA 96130. The SWRP can also be found at https://www.honeylakevalleyrcd.org/swrp/ The deadline for public comment is May 1, 2018. Comments should be sent via email to Mr. Ian Sims at isims@honeylakevalleyrcd.us or can be hand delivered to the Honey Lake Valley RCD office.

North Lahontan Basin

Storm Water Resource Plan



MEETING

April 16, 2018

1:00 pm – 2:30 pm

Honey Lake Valley RCD – Conference Room

170 Russell Ave., Suite C.
Susanville, CA 96130

AGENDA

Time	**Topic**
1:00 - 1:05	**Introductions**
1:05 - 1:35	**Draft SWRP Review**
1:35 - 2:05	**Draft SWRP Project Review**
2:00 - 2:30	**Discussion/Next Steps**

MEETING HANDOUTS: (Can be found at https://www.honeylakevalleyrcd.org/swrp/ and copies will be available at the time of the meeting)

- Draft SWRP
- Draft SWRP Project

North Lahontan Basin

Storm Water Resource Plan

MEETING

April 16, 2018

1:00 pm – 2:30 pm

Honey Lake Valley RCD – Conference Room

170 Russell Ave., Suite C.
Susanville, CA 96130

Meeting Summary

1. Introductions:

Honey Lake Valley RCD called the meeting to order at 1:05pm.

2. Meeting Members:

Roselynn Lwenya	Susanville Indian Rancheria
Sarah Hubert	Susanville Indian Rancheria
Sally Dilts	California Correctional Center
Ryan Fridder	California Correctional Center
Heath Hildebrandt	Dyer Engineering Consultants
Shane Dyer	Dyer Engineering Consultants
William Johnson	Honey Lake Valley RCD
Ian Sims	Honey Lake Valley RCD
Jesse Claypool	Honey Lake Valley RCD

3. Storm Water Resource Plan (SWRP) Draft Presentation

Dyer Engineering Consultants (DEC) and the Honey Lake Valley RCD provided a review presentation of the draft SWRP. A complete walk through of the Executive Summary was presented to the TAC and member so the public.

4. Storm Water Resource Plan (SWRP) Draft Project Presentation

Dyer Engineering Consultants provided an extensive design review of each submitted project. Since only five stormwater projects were submitted, DEC designed all projects to 15% completion. DEC has been working with Lassen County staff incorporating various comments and suggested design revisions. DEC also presented the project ranking matrix developed with the scoring rubric utilized by the CA Water Resources Control Board. The results of the grading matrix ranked the projects as followed: 1. Old Channel Improvements Project, 2. Janesville Park and Doyle Park Storm Water Project, 3. Paiute Lane and Susanville Ranch Park Storm Water Project, 4. Lassen County Fairgrounds Storm Water Project, 5. Susanville Road Shop Storm Water Project.

5. Discussion/Next Steps

Ryan Fridder, California Correctional Center Wastewater Supervisor, inquired about other possible funding mechanisms they might be eligible for in improve their wastewater treatment facility a reline their retention ponds. DEC and Honey Lake Valley RCD staff outlined various funding possibilities such as the Integrated Regional Water Management program facilitated by the CA Department of Water Resources and future project solicitations that may arise under Proposition 1 and potentially the new water bond that is on the state ballot for approval this year.

Sally Dilts, California Correctional Center Maintenance Supervisor, highly endorsed the Old Channel Improvements project sponsored by the Honey Lake Valley RCD. She is a former land owner and agricultural producer along the Old Channel irrigation canal and stated the water quality issues have been around for a long time and have needed to be remediated for as long as she can remember. She suggests that the Old Channel Improvements project has the highest priority out of all the projects submitted.

MEETING HANDOUTS:

- Agenda
- SWRP Draft Executive Summary
- SWRP Draft Project Designs

Lahontan Basin Storm Water Resource Plan Meeting

Public Meeting

June 28, 2018

1:30 pm – 2:30 pm

City of Susanville – Council Chambers

66 N. Lassen St.
Susanville, CA 96130

AGENDA

Time	**Topic**
1:30 - 1:35	**Introductions**
1:35 – 2:00	**Final SWRP Review**
2:00 - 2:20	**Final SWRP Project Review**
2:20 - 2:30	**Discussion/Next Steps**

MEETING HANDOUTS: (Can be found at https://www.honeylakevalleyrcd.org/swrp/ and copies will be available at the time of the meeting)

- Final SWRP with Appendices
- Final SWRP Projects (15% Design)
- SWRP Public Comments
- California Water Resources Control Board SWRP Review

North Lahontan Basin Storm Water Resource Plan Technical Advisory Committee

KICK-OFF MEETING
June 28, 2017
3:00 pm – 5:00 pm
Honey Lake Valley RCD – Conference Room
170 Russell Ave., Suite C.
Susanville, CA 96130

Meeting Minutes

1. **Introductions:**
   Honey Lake Valley RCD called the meeting to order at 3:05pm.

2. **Meeting Members:**

Aaron Dixon	Susanville Indian Rancheria
Tony Shaw	Lassen County
Jeff Weagel	Dyer Engineering Consultants
Heath Hildebrandt	Dyer Engineering Consultants
Ian Sims	Honey Lake Valley RCD
Jesse Claypool	Honey Lake Valley RCD

3. **Storm Water Resource Planning (SWRP) 101**
   Honey Lake Valley RCD provided a brief review of Proposition 1 and the California Storm Water Grant Program including SWGP Section II and CWC 79747. RCD staff discussed the history of the North Lahontan Basin SWRP planning grant application and California Storm Water Grant Program goals and objectives.

4. **Technical Advisory Committee (TAC) Roles and Responsibilities**
   Honey Lake Valley RCD staff discussed how the TAC would assist in guiding the North Lahontan Basin SWRP development and project grading criteria.

5. **SWRP Plan/Project Development**
   Honey Lake Valley RCD and Dyer Engineering Consultants (DEC) review the executed grant agreement focusing on the schedule, scope of work and deliverables. DEC also reviewed their own developed schedule. DEC reviewed the developed project application that has been submitted to the paper and various public agencies. The deadline for project submittals is July 10th, 2017.

6. TAC Meeting Schedule

The RCD discussed the future meeting schedule for the TAC. It is tentatively scheduled to conduct TAC meetings every other month on the 4th Wednesday at 3pm.

7. Discussion

The TAC discussed various projects and appropriate public agencies to contact regarding project applications.

MEETING HANDOUTS:

- Agenda
- North Lahontan Basin SWRP Project Application and Public Notice
- North Lahontan Basin SWRP Table of Contents, Project Map, and Schedule
- California Regional Water Quality Control Board handouts

NORTH LAHONTAN BASIN STORM WATER RESOURCE PLAN (SWRP)

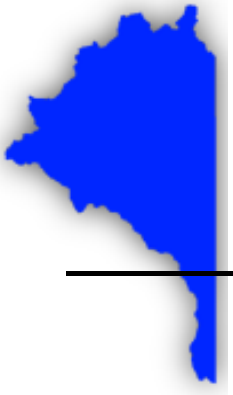
TECHNICAL ADVISORY COMMITTEE (TAC)

SIGN IN SHEET

3:05

JUNE 28, 2017

NAME	AGENCY/LANDOWNER	PHONE/EMAIL
AARON DIXON	SUSANVILLE INDIAN RANCHERIA	530 260-2023
TONY SHAW	LASSEN COUNTY	530 251-8333
JEFF WEAGEL	DYER ENGINEERING	775 852 1440
Heath Hildebrandt	Dyer Engineering	775 852 1440
Ian Sims	Honey Lake Valley RCD	775-313-1222
Jesse Claypool	NLV-RCD	530-310-0232



North Lahontan Basin

Storm Water Resource Plan

MEETING

September 27, 2017

3:00 pm – 4:30 pm

Honey Lake Valley RCD – Conference Room

170 Russell Ave., Suite C.
Susanville, CA 96130

AGENDA

Time	**Topic**
3:00 - 3:05	**Introductions**
3:05 - 3:30	**SWRP Submitted Projects Discussion**
3:30 - 4:00	**SWRP Project Evaluation**
4:00 - 4:30	**SWRP Plan Update**

MEETING HANDOUTS:

- TAC Meeting 1 Summary
- Submitted SWRP Project Applications

North Lahontan Basin

Storm Water Resource Plan

TAC MEETING

September 27, 2017

3:00 pm – 4:30 pm

Honey Lake Valley RCD – Conference Room

170 Russell Ave., Suite C.
Susanville, CA 96130

Meeting Summary

6. Introductions:

Honey Lake Valley RCD called the meeting to order at 3:05pm.

7. Meeting Members:

Aaron Dixon	Susanville Indian Rancheria
Sarah Hubert	Susanville Indian Rancheria
Tony Shaw	Lassen County
Pete Heimbigner	Lassen County
Matt McLain	Lassen County
Eric Davis	Dyer Engineering Consultants
Heath Hildebrandt	Dyer Engineering Consultants
Shane Dyer	Dyer Engineering Consultants
Joe Egan	Lassen Irrigation Company
Ian Sims	Honey Lake Valley RCD
Jesse Claypool	Honey Lake Valley RCD

8. Storm Water Resource Planning (SWRP) Projects Discussion

Honey Lake Valley RCD provided a brief review of all projects submitted. Lassen County staff provided reviews of their projects as well. County staff have offered to walk all sites with Dyer Engineering (DEC). DEC stated they will walk all project sites with all applicants. This will be scheduled in the coming month. County staff inquired

if on hand State Capital Improvement Funds could be used as match. HLVRCD staff will look into SWRP match requirements.

9. SWRP Project Evaluation

An extensive discussion took place regarding the Disadvantage Community (DAC) status of all project sites. The TAC reviewed each project site with the online DAC screening tool. It was discussed to possibly break out the projects that have multiple sites within several different DAC/SDAC zones. It was also discussed to add a point category in the project ranking matrix for DAC/SDAC status. The TAC agreed to finalize the project scoring after site visits take place. The TAC would also like to see how the projects score if they are broken up per DAC/SDAC funding area.

10. SWRP Plan Update

Dyer Engineering Consultants (DEC) reviewed and discussed the SWRP Progress Report.

MEETING HANDOUTS:

- Agenda
- TAC Meeting 1 Summary
- Submitted SWRP Project Applications
- Project Ranking Matrix (DRAFT)
- Project Summary (DRAFT)
- SWRP Progress Report

Sign In Sheet

09/27/2017 3:00pm

North Lahontan Basin, Storm Water Resource Plan

TAC Meeting

Name	Organization	Email	Phone Number
AARON BRAZZANOVICH JR.	SIR	abrazzanovich@sir-nsn.gov	530.251.5636
Sarah Hubert	SIR	shubert@sir-nsn.gov	251-5640
Joe Egan	LIC	joe.egan@plumasbank.com	249-3426
TONY SHAW	LASSEN COUNTY	TSHAW@CO.LASSEN.CA.US	251-8333
Matt McLain	Lassen County	mmclain@co.lassen.ca.us	251-8428
Pete Heimbigner	Lassen County	pheimbigner@co.lassen.ca.us	251-8279
Ian Sims	HLV RCD	isims@honeylakevalleyrcd.us	
~~Jesse~~ Clayton	HLV RCD	Clayton12@frontiernet.net	310-0232
Shane Dyer	DEC	Telephonically	
Heath Hildebrandt	DEC		
Eric Davis	DEC	Joined	

Appendix E

References

References

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