Aquatic Resources Delineation Report

Pleasant Valley Interceptor, Reach 3 - Steamboat Creek Northern Crossing Project

Reno, NV

Washoe County
Community Services Department
1001 E. 9th Street, Bldg. A
Reno, NV

March 2026

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NCE Project No. 1031.04.25

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Prepared for:

Washoe County
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Executive Summary

NCE conducted an aquatic resources delineation of the 3.28-acre Pleasant Valley Interceptor, Reach 3 – Steamboat Creek Northern Crossing Project (project) on January 16, 2026. The purpose of the aquatic resources delineation was to determine the jurisdictional status of potential waters of the State of Nevada (WoS) and waters of the United States (WOUS) for Washoe County Community Services Department (Washoe County). NCE delineated a larger, more comprehensive project area on December 19, 2018, April 27, 2019, and June 18, 2019, to evaluate the potential jurisdictional status of the aquatic resources within the previous, larger, project area. The previous findings from 2018 and 2019 will be referenced throughout the report, as necessary. An approved jurisdictional determination was received on November 13, 2020, for the larger project area, SPK-2020-00557.

NCE delineated the following potentially federally jurisdictional feature as WOUS and WoS within the project area (**Appendix A, Figure 1**):

- Steamboat Creek, 0.04 acres of riverine.

This delineation was conducted in accordance with the following guidance:

- 1987 Corps of Engineers Wetland Delineation Manual;
- Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0), September 2008;
- and A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Reion of the Western United States, August 2008.

These findings should be considered preliminary until the United States Army Corps of Engineers issues a preliminary jurisdictional determination in coordination with the United States Environmental Protection Agency.

Table of Contents

1 Introduction 1

1.1 Contact and Project Information 1

1.2 Purpose 1

2 Background 2

2.1 Site Description 2

3 Methods 4

3.1 Site Description 4

3.2 Survey Data Integration 5

3.3 Property Owner Access 5

4 Results 6

4.1 Landscape Setting 6

4.2 Aquatic Resources 6

4.3 Aquatic Resource Types, Amounts, and Jurisdictional Status 6

5 References 8

List of Tables

Table 1: Soils within the Project Area 3

Table 2: Vegetation Community Categories of the Project Area 4

Table 3: Aquatic Resource Type, Location, and Amount 7

Table 4: Aquatic Resource Proposed Jurisdictional Status 7

List of Appendices

Appendix A

Aquatic Resources Delineation Map

Appendix B

Supporting Figures

Appendix C

Representative Photo Log

Appendix D

Dominant Plant List

Appendix E

OHWM Datasheets

Appendix F

Aquatic Resources Spreadsheet and GIS Files

List of Abbreviations

Abbreviation	Definition
APNs	Assessor's Parcel Numbers
NCE	Nichols Consulting Engineers, CHTD
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OHWM	Ordinary High Water Mark
project	Pleasant Valley Interceptor, Reach 3 – Steamboat Creek Northern Crossing
TNW	Traditional Navigable Waterways
SP	Sample Point
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
Washoe County	Washoe County Community Services Department
WoS	Waters of the State of Nevada
WOUS	Waters of the United States
WSS	Web Soil Survey

1 Introduction

1.1 Contact and Project Information

On behalf of Washoe County Community Services Department (Washoe County), Nichols Consulting Engineers, CHTD (NCE) conducted a formal United States Army Corps of Engineers (USACE) aquatic resources delineation for the Pleasant Valley Interceptor Reach 3 – Steamboat Creek Northern Crossing Project (project). The Washoe County contact is Mr. Alan Jones:

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Ian Fox, an NCE scientist, conducted the aquatic resources delineation on January 16, 2026. Ms. Debra Lemke will act as the agent for Washoe County.

The 3.28-acre project area is south of Mount Rose Highway and to the east of U.S. Route 395, along Towne Drive in Reno, Nevada. The project area is within Washoe County, Nevada (**Appendix B, Figure 1** and **2**). The project area is situated between U.S. Route 395 to the west and residential communities to the east and the south. Also, in the vicinity of the area are small groupings of businesses such as Steamboat Hot Springs Healing Center and Spa, Eastern Sierra Engineering, and a geothermal power plant west of U.S. Route 395.

1.2 Purpose

The purpose of this report is to identify and describe aquatic resources in the project area. This report facilitates efforts to:

- Document aquatic resources boundary determinations for review by the USACE.
- Provide background information.
- Support permit applications.

2 Background

2.1 Site Description

2.1.1 Location

The project area is in Section 33, Township 18 North, Range 20 East of the USGS 7.5-minute series topographic Steamboat, Nevada, quadrangle map (**Appendix B, Figure 2**). Additionally, the project area is within the following Assessor Parcel Numbers (APNs): 017-020-01, 017-020-02, 017-020-18, 017-301-30, 017-550-10, and 017-550-11.

2.1.2 Site Access

To access the project area from downtown Reno, Nevada, follow U.S. Route 395 south towards Carson City and turn left on Towne Drive.

2.1.3 USGS Topographical Maps and USFWS National Wetland Inventory Mapper

The USGS topographical maps identified Steamboat Creek within the project area boundary (USGS, n.d.) (**Appendix A, Figure 2**).

The United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) identified Freshwater Forested/Shrub Wetland and Riverine the following within the project area (USGS, n.d.) (**Appendix B, Figure 4**):

2.1.4 Soils

The soils in the project area have been mapped by the United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), and were downloaded from the Web Soil Survey (USDA, 2026). NRCS identified 2 soil types within the project area (**Appendix B, Figure 5**). The soil type and its national hydric status are presented below in **Table 1**.

Table 1: Soils within the Project Area

Map Unit Symbol	Name	Acres in Project Area* (acres)	Percent of Project Area (%)	National Hydric List Status (Y,N)
730	Stodick very stony loam, 15 to 30 percent slopes	0.3	6.9	N
911	Vamp silt loam, strongly saline alkali	3.0	93.1	N
Totals for Project Area		**3.3**	**100.0**	

*The areas in the table above, Acres in Project Area, were calculated by the Web Soil Survey (WSS) on the NRCS website. The NRCS WSS program only provides the area, and percentage, to the nearest tenth of an acre, despite the project area being provided to the hundredths place in the rest of the report. Please note that they refer to the same number.

730: Stodick very stony loam, 15 to 30 percent slopes

Stodick very stony loam, 15 to 30 percent slopes, is a soil component in pediments. The parent material consists of residuum and colluvium derived from soft sedimentary rock. This is a well-drained soil with 14 to 20 inches to paralithic bedrock. This soil is not on the national hydric soils list (USDA, 2026).

911: Vamp silt loam, strongly saline alkali

Vamp silt loam, strongly saline alkali, is a soil component in flood plains. The parent material consists of mixed alluvium. This is a somewhat poorly drained soil with 20 to 39 inches to duripan. This soil is not on the national hydric soils list (USDA, 2026).

2.1.5 Hydrology

The sources of water for the project area include direct precipitation, groundwater, natural springs, hot springs, and Steamboat Creek. Steamboat Creek flows north along the western boundary of the project area, eventually crossing the project area near the northern project area boundary. Steamboat Creek is fed by Washoe Lake, Browns Creek, and Jones Creek south of the project area.

2.1.6 Vegetation

Based on the USGS, National Gap Analysis Program (USGS, 2024), the project area vegetation communities include a combination of 7 categories (USGS, 2026) (**Appendix B, Figure 6**). A list of the vegetation communities is listed below in **Table 2**:

Table 2: Vegetation Community Categories of the Project Area

Vegetation Community No.	Vegetation Community Category
1	*Artemisia tridentata ssp. vaseyana* Shrubland Alliance
2	*Barren*
3	*Chrysothamnus sp. / Ericameria sp.*
4	Developed – Medium Intensity
5	Developed – Low Intensity
6	Developed – Open Space
7	Inter-Mountain Basins Montane Riparian Systems

3 Methods

3.1 Site Description

The 3.28-acre project area was field delineated by NCE on January 16, 2026. Prior to the field investigation, USGS topographic maps, aerial photographs, USFWS NWI mapping, and an NRCS custom soil report of the project area were reviewed for indications of ephemeral, intermittent, and perennial drainages as well as mapped wetlands and spring locations.

3.1.1 Wetlands

The project area was investigated for the presence of wetlands utilizing the USACE 1987 3-parameter methodology (vegetation, hydrology, and soils). This methodology was refined in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0), September 2008 and requires the collection of data on soils, vegetation, and hydrology at several locations to establish the potential jurisdictional boundary of wetlands (USACE, 2008).

3.1.2 Drainages

The project area was delineated for drainages utilizing the presence of Ordinary High Water Mark (OHWM) indicators, evidence of frequent surface water flows, and a connection to a traditional navigable waterway (TNW). These characteristics are indicative of jurisdictional waters of the United States. When present, the OHWM indicator locations were recorded with a Trimble Geo7x GPS unit and representative photographs were taken. Arid West Ephemeral and Intermittent Stream OHWM Data Sheets were completed for the drainages with the presence of OHWM indicators. If the drainage had OHWM indicators present, the field team would follow the drainage to determine whether it flowed into another drainage with OHWM indicators or if these

indicators terminated. Where the drainage exhibited OHWM indicators, width was measured to calculate the average width of the drainage, and height was measured from the OHWM to the drainage bottom.

3.2 Survey Data Integration

Boundaries of the potential aquatic resources within the project area were delineated using a Trimble Geo7x GPS unit and maps were produced using ESRI ArcGIS Pro 3.6.1 software. The datum used for horizontal spatial data collection was GCS WGS 1984 and projected to NAD 1983 State Plane Nevada West FIPS 2703 (U.S. Feet). Additionally, no vertical data was collected.

3.3 Property Owner Access

Property owner access letters were not created, given that the project takes place within APNs 017-020-01, 017-020-02, 017-020-18, 017-301-30, 017-550-10, and 017-550-11. If the USACE would like to conduct a site visit to the project area, then coordination with the applicable landowner will be arranged.

4 Results

4.1 Landscape Setting

The landscape is a combination of ornamental landscaping from the residential communities to the east, developed space, and inter-mountain basin communities consisting of montane riparian systems, mixed salt desert scrub, greasewood flats, and Big Sagebrush shrublands. The Project area is located in south Reno, Nevada, near Pleasant Valley, Nevada, in the foothills of Carson and Virginia Range. The Crane Ditch, Chandler Ditch, and Steamboat Creek all pass either within or near the project area. To the east there are residential communities; to the west there is a geothermal plant that utilizes naturally occurring hot springs to generate power for residential and commercial purposes.

4.2 Aquatic Resources

The aquatic resource that was delineated on January 16, 2026, is presented below. The photos are noted as field photographs in **Appendix C** and the photo set locations and photo directions are indicated on **Appendix B, Figure 7**. A list of the vegetation identified within the project area during the aquatic resources field work is in **Appendix D**. The OHWM datasheets are available in **Appendix E**. The aquatic resources delineation data points are depicted in **Appendix A, Figure 1**.

4.2.1 Steamboat Creek

Steamboat Creek is natural waterway originating from Washoe Lake, flowing north through the project area.

At the time of the field investigation the creek contained flow. Three data points, sample point 1 (SP1) through SP3, represent the locations of the OHWM sample points. At each sample point the width of the creek was measured and representative photographs captured. The average OHWM width was 13.33 feet, the average OHWM depth was not measured due to safety concerns. A total of 0.04 acres of riverine was delineated.

No wetlands were delineated during this delineation, which is consistent with observations at Steamboat Creek during the 2028-2019 delineation (NCE 2020).

Steamboat Creek has a surface connection to the Truckee River, a TNW; it is NCE's professional opinion that Steamboat Creek is a waters of the United States (WOUS), as is stated in 33 CFR § 328.3(a)(3). Similarly, it is by NRS 445A.415 that Steamboat Creek is also to be considered a waters of the state of Nevada (WoS).

The delineated aquatic resource is depicted on **Appendix A, Figure 1**.

4.3 Aquatic Resource Types, Amounts, and Jurisdictional Status

The aquatic resource identified within the project area is presented in **Table 3**. The proposed jurisdictional status of the aquatic resource within the project area is presented in **Table 4**.

Table 3: Aquatic Resource Type, Location, and Amount

Aquatic Resource Name	Cowardin Classification	Location (longitude latitude)	Aquatic Resource Area (acre)	Aquatic Resource Length (linear feet) Required only for Stream Channels
Steamboat Creek	*R3UB	39.3873591°N 119.7396224°W	0.04	121.5

*R3UB: Riverine (R), Upper Perennial (3), Unconsolidated Bottom (UB)

Table 4: Aquatic Resource Proposed Jurisdictional Status

Class	Area (acre)	Jurisdictional Status Type (Non, WOUS, WoS)
Steamboat Creek (Riverine)	0.04	WOUS, WoS

Appendix F contains the Aquatic Resources Excel Spreadsheet and the GIS shapefiles, which will be submitted in a separate file.

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Distribution and Quality Control

Aquatic Resources Delineation Report

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Reno, NV

March 2026

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Copy 3: Project File

Quality Control Reviewer:

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Principal Scientist

NCE Project No. 1031.04.25

Appendix D

Dominant Plant List

Plant Species Identified Within the Project Area on January 16, 2026

Scientific Name	Common Name	Native (Y, N)	Wetland Indicator Status*
Agropyron cristatum	Crested wheatgrass	N	UPL
Artemisia tridentata	Big sagebrush	Y	UPL
Astragalus purshii	Woolypod milkvetch	Y	UPL
Bromus tectorum	Cheatgrass	N	UPL
Carduus nutans	Musk thistle	N	FACU
Carex spp.	Sedge spp.	Y	NL
Centaurea diffusa	Diffuse knapweed	N	UPL
Chrysothamnus viscidiflorus	Yellow rabbitbrush	Y	UPL
Cirsium arvense	Canada thistle	N	FACU
Descurainia pinnata	Tansy mustard	Y	UPL
Distichlis spicata	Salt grass	Y	FAC
Elaeagnus angustifolia	Russian olive	N	FAC
Ericameria nauseosa	Rubber rabbitbrush	Y	UPL
Eriogonum ovalifolium var. williamsiae	Steamboat buckwheat	Y	FACU
Eriogonum wrightii var. subscaposum	Wright's buckwheat	Y	UPL
Erodium sp.	Storks bill sp.	N	NL
Grindelia squarrosa	Curly gumweed	Y	FACU
Lepidium latifolium	Perennial pepperweed	N	FAC

Scientific Name	Common Name	Native (Y, N)	Wetland Indicator Status*
Leymus cinereus	Great Basin wildrye	Y	FAC
Melilotus albus	White sweet clover	N	NL
Onopordum acanthium	Scotch thistle	N	UPL
Populus fremontii	Fremont cottonwood	Y	FAC
Prunus andersonii	Desert peach	Y	UPL
Salix exigua	Coyote willow	Y	FACW
Sisymbrium altissimum	Tumble mustard	N	FACU
Tamarix sp.	Saltcedar	N	NL
Tribulus terrestris	Puncturevine (goatshead)	Y	UPL
Typha latifolia	Bulrush	Y	OBL

*Wetland Indicator Status:

OBL = Obligate Wetland; occurs in aquatic resources > 99% of time
FACW = Facultative Wetland; occurs in aquatic resources 67-99% of time
FAC = Facultative; occurs in aquatic resources 34-66% of time
FACU = Facultative Upland; occurs in aquatic resources 1-33% of time
NL = Not Listed

Appendix C

Biological Resources Report

FINAL

BIOLOGICAL ASSESSMENT

PLEASANT VALLEY INTERCEPTOR - REACH 3
WASTEWATER IMPROVEMENT PROJECT

Washoe County
Community Services Department
Engineering and Capital Projects - Utilities

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December 2020

TABLE OF CONTENTS

1.0 BACKGROUND / HISTORY 1

1.1 Permit Agencies and Permit Requirements 1

2.0 DESCRIPTION OF THE ACTION & ACTION AREA 4

2.1 Description of the Action 4

2.1.1 Steamboat Creek to Brookside Mobile Home Park 5
2.1.2 Dorothy Towne Lift Station 5
2.1.3 Dorothy Towne Lift Station to Pleasant Valley Lift Station 6
2.1.4 Pleasant Valley Lift Station 6
2.1.5 West Under US-395A at PVI Lift Station & East Under US-395A at Intersection with SR-431 6
2.1.6 SR-341 North to Damonte Ranch PKWY PVI-Reach 2 Connection 6
2.1.7 Staging and Laydown Areas 7
2.1.8 Construction Activities Vehicular Access 8
2.1.9 Soil / Vegetation Removal and/or Disturbance 9
2.1.10 Weed Management 9
2.1.11 Restoration Activities 9

2.2 Description of Action Area 9

2.2.1 Steamboat Creek Crossing to BMHP (West to East) 9
2.2.2 BMHP to Dorothy Towne Lift Station 10
2.2.3 Dorothy Towne Lift Station to Towne Drive Crossing 10
2.2.4 Towne Drive Crossing to Pleasant Valley Lift Station 11
2.2.5 Pleasant Valley Lift Station 12
2.2.6 Intersection of SR-431 (Mt Rose HWY), US-395A and SR-341 (Central Segment) 12
2.2.7 SR-341 North to Sutherland Lane (Northern Segment) 13
2.2.8 Sage Hill Road, Sutherland Lane to Damonte Ranch - South 13
2.2.9 Damonte Ranch, South to Damonte Ranch, North at PVI Reach-2 14

2.3 Best Management Practices (BMPs) 14

2.3.1 Nevada Best Management Practices 14
2.3.2 Truckee Meadows Regional Storm Water Quality Management Program 14

3.0 LISTED SPECIES & CRITICAL HABITAT IN THE ACTION AREA 16

3.1 Threatened and Endangered Species 16

3.1.1 North American Wolverine 16
3.1.2 Lahontan Cutthroat Trout 16
3.1.3 Cui-ui 16
3.1.4 Steamboat Buckwheat 17

3.2 Wetlands 19
3.3 Wildlife Refuges 20
3.4 Migratory Birds 20

3.4.1 Southwest Regional GAP Analysis and Field Survey Vegetation / Habitat Data 20
3.4.2 Birds of Conservation Concern 24

4.0 ENVIRONMENTAL BASELINE CONDITIONS 26

4.1 Existing Vehicular and pedestrian access 26
4.2 Transportation infrastructure 26
4.3 Commercial / Residential Development 26

4.3.1 The Redfield Regional Center Plan 26
4.3.2 Geothermal 27

4.4 Bureau of Land Management - STBU Botanical ACEA 27

5.0 EFFECTS OF THE ACTION 28

5.1 DIRECT EFFECTS 28
5.1.1 Steamboat Buckwheat Habitat and Plant Population Impacts 28
5.1.2 Migratory Bird Habitats and Nesting Birds Impacts 34
5.2 INDIRECT EFFECTS 35
5.2.1 Steamboat Buckwheat 35
5.2.2 Migratory Birds 35

6.0 CUMULATIVE EFFECTS (FORMAL CONSULTATION ONLY) 37

7.0 CONCLUSIONS 39

7.1 STEAMBOAT BUCKWHEAT 39
7.2 MIGRATORY BIRDS 39

8.0 LITERATURE CITED 40

TABLES

Table 2.1: Equipment Type and Quantity

Table 3.1: Threatened, Endangered or Proposed Species

Table 3.2: Migratory Birds of Conservation Concern

Table 5.1: PVI Project Impacts to STBU Habitat Areas 1-3

Table 5.2: PVI Project Impacts to STBU Habitat Areas 4 and 5

FIGURES

Figure 1: Vicinity Map – All Segments

Figure 2: Action Area – Southern Segnment

Figure 3: Floodplain Zones - Southern Segment

Figure 4: NNHP STBU Habitat / Avoidance Areas – Southern Segment

Figure 5: SWReGAP Habitat Map – All Segments

APPENDICES

Appendix A: PVI-R3 Plant List

Appendix B: USFWS Official Species List

Appendix C: Steamboat Buckwheat Botanical ACEC - BLM

Appendix D: Nationwide Standard Conservations Measures - Migratory Birds

LIST OF ACRONYMS

AAs	Avoidance Areas
ACEC	Area of Critical Environmental Concern
BA	Biological Assessment
BLM	Bureau of Land Management
BMPs	Best Management Practices
BMHP	Brookside Mobile Home Park
CEQ	Council of Environmental Quality
CWA	Clean Water Act
DOC	Department of Commerce
DOI	Department of Interior
ECOS	Environmental Conservation Online System
ESA	Endangered Species Act
FEMA	Federal Management Area
gmp	gallons per minute
IMW	Intermountain West
IPaC	Information for Planning and Consultation
LCT	Lahontan Cutthroat Trout
LF	Linear Feet
MBTA	Migratory Bird Treaty Act
mgd	million gallons per day
NAS	NAS Environmental Consulting, LLC
NCE	Nichols Consulting Engineers
NEPA	National Environmental Policy Act
NDEP	Nevada Division of Environmental Protection
NDF	Nevada Division of Forestry
NDOT	Nevada Department of Transportation
NDOW	Nevada Department of Wildlife
NLAA	Not Likely to Adversely Affect
NMFS	National Marine Fisheries Service
NNHP	Nevada Natural Heritage Program
NOAA	National Ocenaic and Atmospheric Administration
NSCC	Nevada State Conservation Commision
NV	Nevada

OGF	Ormat Geothermal Facility
OSL	Official Species List
PKWY	Parkway
PVLS	Pleasant Valley Lift Station
PVI	Pleasant Valley Interceptor
PVI-R3	Pleasant Valley Interceptor – Reach 3
sf	square feet
SR	State Route
SBMP	Steamboat Buckwheat Management Plan
SBRP	Steamboat Buckwheat Recovery Plan
SCC	Steamboat Commerce Center, LLC
STBU	Steamboat Buckwheat
STMWRF	South Truckee Meadows Water Reclamation Facility
SWReGAP	Southwest Regional Gap Analysis
SWPPP	Storm Water Pollution Prevention Plan
USHWY	U.S. Highway
USACE	U.S. Army Corp of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	Unites States Geological Service
WMP	Weed Management Plan

1.0 BACKGROUND / HISTORY

The purpose of this Biological Assessment (BA) is to determine effects of the Pleasant Valley Interceptor - Reach 3 (PVI-R3) Wastewater Improvement Project, Reno, Washoe County, Nevada (NV) on federally threatened or endangered species within the Action Area. The proposed Action and Action Area will be discussed throughout this document as described in detail, in **Section 2.0.**

The project was initiated by Washoe County (County) in 2018 to replace existing sanitary infrastructure that has reached the end of its useful life, and provide new sanitary sewer conveyance facilities to serve future development in Pleasant Valley, Washoe County, NV.

The County's existing wastewater treatment facility, the South Truckee Meadows Water Reclamation Facility (STMWRF) currently conveys wastewater to STMWRF via Reaches 1 and 2 of the PVI line. The County is proposing to construct Reach 3 of the Pleasant Valley Interceptor to extend the PVI line southernly for planned developments in Pleasant Valley.

A proposed reclaimed water line would also be constructed simultaneously with and in the same trench as the sanitary sewer pipeline. A spur of the reclaimed water line only would extend from the southwest corner of U.S. Route 395 Alternate (US-395A) west to the intersection of SR-431 and Herz Boulevard, to connect to the existing reclaimed water system.

The firm NAS Environmental Consulting, LLC (NAS) was contracted by Washoe County to prepare the required BA.

1.1 Permit Agencies and Permit Requirements

The United States (U.S.) Environmental Protection Agency (EPA) is the lead federal agency for this project, due to a federal funding nexus through its Rural Utilities Service (RUS) program.

The federal funds will be allocated through the Nevada Division of Environmental Protection (NDEP) State Revolving Fund program. The federal nexus requires the initiation of the National Environmental Policy Act (NEPA), Endangered Species Act (ESA), Clean Water Act (CWA) and others.

The plant Steamboat buckwheat (STBU) (*Eriogonum ovalifolium* var. *williamsiae*) is a federally listed endangered species and is protected under the Endangered Species Act (ESA) of 1973. Consultation, under Section 7, of the ESA, is required through the U.S. Fish and Wildlife Service (USFWS).

The STBU is listed as critically endangered in NV and is protected by the NV Division of Forestry (NDF) through enforcement of NRS 527.260 to 527.30, inclusive: The NV list of Critically Endangered Native Flora Species, provides for the conservation, protection, restoration and propagation of selected species of flora and for the perpetuation of habitats of such species. The species and its associated habitat have been declared to be threatened with extinction by the State Forester Firewarden and no member of its kind may be removed or destroyed at any time, by any means, except under special permit issued by NDF. It is stated, in the NRS code, that "All activities (e.g. construction, development, maintenance, motor vehicle operation, facility repair, etc.)…that would, or has the potential to negatively impact listed critically endangered native flora or its habitat, must obtain the required permit…prior to initiating said activity."

The following permits must be approved, prior to the initiation of any PVI-R3 project activities:

- USACE intends to authorize and permit Nationwide Permit 33, for PVI-R3 crossing of waterways, under Section 404 of the CWA.
- CWA Section 401 Water Quality Certification and a Temporary Working in Waterways permit will be obtained from NDEP.
- NV State Forester Firewarden NDF permit, as indicated under statute NRS 527.260 to 527.300, inclusive "Protection and Propagation of Selected Species of Native Flora."

The ESA initiates development of the BA. The BA document identifies and discusses project impacts, conservation / mitigation / protection measures, and the level of species impact determination on any federally listed species, identified as endangered or threatened, and habitat identified as critical by the USFWS. The USFWS, part of the Department of Interior (DOI) and National Marine Fisheries Service (NMFS), shares responsibility for administration of the ESA with the National Oceanic and Atmospheric Administration (NOAA), Department of Commerce (DOC).

Early coordination and pre-consultation with USFWS were conducted in a series of emails and phone conversations as described below:

- May 7, 2020: NAS spoke with Ms. Sarah Kulpa, Restoration Ecologist / Botanist (USFWS, Reno NV), and discussed the proposed PVI-R3 Action Area revision (emailed May 4, 2020) as it related to federally endangered Steamboat Buckwheat (STBU) plant and habitat known to occur within and adjacent to the proposed project area. Ms. Kulpa was updated on the STBU populations observed during the 2019 plant surveys. The location of the observation is adjacent to a portion of the revised Action Area, which included the addition of the southern access dirt road to the Action Area as seen on Figure 2. Mitigation measures were discussed that should be included in the BA, to show what measures would be implemented to avoid impacts to STBU populations or individual plants. Ms. Kulpa deferred to NDF regarding the necessary permit process. NAS informed her that a recent email was sent to Ms. Anna Higgins at the NDF, the project contact.
- May 4, 2020: NAS sent an email to Ms. Kulpa with a copy of the revised PVI-R3 Wastewater Improvement Project Action Area. The revised Action Area figure illustrated STBU habitat identified by Nevada Natural Heritage Program (NNHP), located adjacent to the proposed PVI-R3 Action Area. Ms. Kulpa was also provided a copy of the April 10, 2020 updated USFWS Official Species List (OSL), Consultation Code: 08ENVD00-2018-SLI-0731, and Event Code: 08ENVD00-2020-E-00914. Pleasant Valley Interceptor - Reach 3 Wastewater Improvement Project.

  Ms. Kulpa was also informed that a copy of the revised PVI-R3 Action Area was also forward to Ms. Higgins. NAS would be completing and submitting the required permit application to NDF.
- April 10, 2020: NAS retrieved an updated USFWS OSL from the Environmental Conservation Online System (ECOS), Information for Planning and Consultation (IPaC) website (https://ecos.fws.gov/ipa), Consultation Code: 08ENVD00-2018-SLI-0731,

Event Code: 08ENVD00-2020-E-00914, and Project Name: Pleasant Valley Interceptor - Reach 3 Wastewater Improvement Project

- July 30, 2018: NAS emailed Ms. Kulpa a copy of the initial USFWS OSL, Consultation Code 08ENVD00-2018-SLI-0731 and Event Code 08ENVD00-2018-E-01674.USFWS.
- July 30, 2018: NAS call with Ms. Kulpa regarding the proposed PVI-R3 project. Discussed the NNHP identified STBU habitat and plant populations, known to occur in the project area, potential survey needs, survey protocol, and project federal nexus.
- July 30, 2018: NAS received an email from Ms. Kulpa including a copy of the STBU Recovery Plan (USFWS, 1995), and Knight Steamboat Buckwheat Management Plan (Knight, 1997). The project federal funding nexus and dispersal State agency NDEP, was discussed. Ms. Kulpa mentioned that any STBU survey protocol would be available through NNHP.
- July 30, 2018: NAS retrieved an USFWS OSL from the online ECOS IPaC website (https://ecos.fws.gov/ipa), associated with Consultation Code: 08ENVD00-2018-SLI-0731, Event Code: 08ENVD00-2020-E-00914, and Project Name: Pleasant Valley Interceptor - Reach 3 Wastewater Improvement Project
- July 6, 2018: NAS called Ms. Kulpa and left a voicemail and sent follow-up email, regarding the proposed PVI-R3 project and its location within portions of NNHP identified STBU habitat.
- November 20, 2018: NAS call with Ms. Kulpa regarding an observation of STBU plants along a portion of dirt road associated with the initial proposed project route. Ms. Kulpa was informed that the project proponent, Washoe County, intends to relocate the proposed pipeline route, away from the STBU plant location, east towards Steamboat Creek. This would avoid potential impacts to any STBU populations.

This BA will address the proposed PVI-R3 Action in compliance with Section 7 of the ESA. Section 7 assures that, through consultation (or conferencing for proposed species) with the USFWS, federal actions do not jeopardize the continued existence of any threatened, endangered or proposed species, or result in the destruction or adverse modification of critical habitat.

2.0 DESCRIPTION OF THE ACTION & ACTION AREA

The Action and Action Area for the proposed PVI-R3 wastewater improvement project (including the reclaimed water line), are described in this section and illustrated on Figure 1.

Section 2.1 includes a detailed description of the proposed project Action including location (Figure 1), infrastructure components, construction, and non-construction activities, and how the project would be accomplished.

Section 2.2 describes the proposed project Action Area and its vegetation / habitats including noxious, invasive, and non-native weedy plant species. The Action Area is broken into three segments identified in this document as the Northern, Central and Southern (Figure 1).

2.1 Description of the Action

The proposed Action would be located in Washoe County, NV, between the communities of Pleasant Valley and Truckee Meadows (Figure 1). The linear infrastructure includes approximately 15,710 Linear Feet [LF] (2.98 miles) of sanitary sewer and 17,480 LF (3.31 miles) of a reclaimed water line. The sewer and reclaimed water lines will be constructed next to each other in the same trench along the majority of the PVI-R3 alignment.

The proposed alignment, illustrated in Figure 1, extends from the PVI-R3 southern terminus on the westside of Steamboat Creek, at the Brookside Mobile Home Park (BMHP), to the northern terminus at Damonte Ranch Parkway (Pkwy). Here the PVI-R3 sanitary sewer and reclaimed water lines (PVI line) would connect to the existing PVI-Reach 2 sanitary sewer pipeline and existing reclaimed water line system, respectively. The reclaimed water line would also connect to the existing system here. The Action Area is discussed throughout the BA as three segments (Northern, Central, and Southern). However, potential impacts to federally listed and protected species would only occur in the Southern Segment. Effects on these species will be discussed later in the BA.

The PVI-R3 project is scheduled for construction in fall of 2020. It is expected the duration of construction will be 12 to 15 months. At a pipeline construction productivity rate of 50 feet per day, the roughly 15,000 LF of each the sewer and reclaimed water pipelines would require 300 working days to complete. This is equivalent to 60, 5-day work weeks. Weather delays would impact project construction, during the event, after which the crews would go back to work. A biological monitor will be on-site as needed during the construction period, primarily during the Southern Segment construction period.

Project planning was undertaken by Washoe County, Community Services Department, Engineering and Capital Projects – Utilities, Reno NV.

Applicant's Project Manager and Contact Information:

Project Manager: Alan Jones, PE – Senior Licensed Engineer, Washoe County
Contact Information: Email: ajones@washoecounty.us | Office: 775.954.4651
Applicant: Washoe County, Community Services Department | Engineering and Capital Projects -Utilities
Applicant Address: 1001 East Ninth Street, Reno, NV 89512

Proposed Action Implementation Phases (1 and 2)

Phase One (1) of Project Construction

The proposed Phase 1 would include pipeline construction in the Northern Segment, 5,870 LF (1.11 miles), of the Action Area. Washoe County would oversee construction activities, by a contractor hired by the developers of Damonte Ranch. Washoe County will oversee construction by a contractor hired by the developers of Damonte Ranch. Washoe County will reimburse the developer in the amount of the construction cost incurred. This phase of project construction would occur under Bid Package No. 1.

Phase Two (2) of Project Construction

The proposed Phase 2 would include pipeline construction in the Southern Segment, 6,676 LF (1.2 miles) and Central Segment, 2,105 LF (0.40 miles), of the Action Area. This phase of project construction would occur under Bid Package No. 2.

Right-of-Way and Easements

The project right-of-way consists of a combination of Washoe County easements and public right-of-way. Washoe County has existing easements in place and is securing additional easements as required for the full length of the Action Area. Securing project access through private land easements has been underway and is near completion.

The proposed project easements would include a permanent 20-foot wide easement, centered on the proposed sanitary sewer pipeline centerline. An additional 30-foot wide temporary construction easement would align adjacent to either side of the 20-foot wide permanent easement, providing a total easement width of 50-feet along the project route.

Sections 2.1.1 through 2.1.8 below describe the seven major project construction components, while **Sections 2.1.9 through 2.1.11** address project non-construction components.

Proposed Project Construction Components - Southern Segment:

2.1.1 Steamboat Creek to Brookside Mobile Home Park

The southern terminus of the proposed pipeline route is located on the west side of Steamboat Creek (jurisdictional waters), across from the Brookside Mobile Home Park (BMHP) (Figure 2). The BMHP is a small mobile home park with a single paved road running between two rows of mobile homes. An existing wastewater collection system within the Brookside Mobile Home Park will be reconstructed that runs down the middle of the paved road. The existing system will be abandoned in place and a new system will be constructed in accordance with County standards. The work also includes connection of the existing sewer service lateral for each trailer to the new 8-inch diameter sewer main, along with restoration of the asphalt paving upon completion of construction. Microtunneling or horizontal directional drilling construction methods would be used to cross the line underneath Steamboat Creek, avoiding impacts to the waterway.

2.1.2 Dorothy Towne Lift Station

The existing PVI-R3 Dorothy Towne Lift Station (Figure 2) is located in the Southern Segment of the Action Area. The lift station is just to the north of the BMHP, where a 50 by 50-foot

(2,500 square foot [sf]) staging area would be constructed, on parcel 017-020-18, owned by the Leslie Land Company. Once the new PVI lift station is in service, the existing Dorothy Towne lift station would be abandoned.

2.1.3 Dorothy Towne Lift Station to Pleasant Valley Lift Station

This portion of the proposed Action (Figure 2) would include the installation of a 15- and 18-inch diameter gravity driven sanitary sewer interceptor pipeline approximately 5,870 LF (1.11 miles) in length. The PVI line would run along Towne Drive, cross under Steamboat Creek, and continue north adjacent to the westside of Steamboat Creek (jurisdictional waters) until it reaches the proposed Pleasant Valley lift station (PVLS). Microtunneling or horizontal directional drilling construction methods would be used to avoid impacts to Steamboat Creek in the southern segment of the alignment. The proposed PVLS is located approximately 2,200 LF (1.37 miles) south of NV State Route (SR) 341 (SR-341) Geiger Grade and US-395A.

2.1.4 Pleasant Valley Lift Station

The proposed PVLS (Figure 2), would be located on a 27,000 sf (0.62-acre) parcel to be deeded to Washoe County by the current landowner. An above ground 12- by 20-foot control building would house electrical and control / instrumentation equipment on the PVLS site. Once the PVLS is provided service, the existing Dorothy Towne lift station would be abandoned.

The PVLS would include a 12-foot diameter wet well with three submersible pumps, a 12- by 12-foot valve vault, a 7- by 18-foot flowmeter vault, and an emergency storage system consisting of five 100-foot long, 6-foot diameter pipes, all of which are underground. The station would be constructed to pump an initial firm capacity of 1,517 gallons per minute (gpm) equal to 2.18 million gallons per day (mgd) and a future firm capacity of 2,196 gpm (3.16 mgd). The firm capacity of the PVI lift station would be increased if existing septic tank and leach field on-site sewer systems, in the tributary sewer shed, are converted to community sewer in the future.

Proposed Project Construction Components – Central Segment:

2.1.5 West Under US-395A at PVI Lift Station & East Under US-395A at Intersection with SR-431

The PVI Central Segment (Figure 1) would include the PVI lift station discharge force main, and a 10-inch diameter pipe approximately 2,105 LF (0.4 miles) in length. An open trench construction method would be used to construct the force main, which crosses an ephemeral drainage. The ephemeral drainage crosses via culvert underneath US-395A, draining towards Steamboat Creek.

The Central and Northern Segments connect at the southwest corner of the intersection of US-395A and SR-431, where the Northern Segment terminates in a force main receiving manhole constructed under Phase 1 (Bid Package No. 1)

Proposed Project Construction Components – Northern Segment:

2.1.6 SR-341 North to Damonte Ranch PKWY PVI-Reach 2 Connection

The PVI Northern Segment (Figure 1) would include an 18-inch diameter gravity driven sanitary sewer interceptor pipeline approximately 5,870 LF (1.11 miles) in length. From where the

Northern Segment connects with the Central Segment force main receiving manhole, the pipelines go east under US-395, and exit a NV Department of Transportation (NDOT) right-of-way at the northeast corner of the US-395A and SR-341 intersection. The pipelines would then run north through some sagebrush habitat and noxious weeds, to paved Sutherland Lane, cross under the road, and continue north along paved Sage Hill Road to the south boundary of the Damonte Ranch property. The Ranch property is owned by Louis Damonte, and continues down the unimproved dirt portion of Sage Hill Road (Figure 1). The pipelines would enter existing pasturelands, crosses two (2) Damonte Ranch irrigation ditches, and remain on that alignment until the existing PVI-Reach 2 connection is reached. This is the northern terminus of the PVI sewer and reclaimed water lines.

Washoe County has coordinated with the Damonte Ranch property owner to dewater the irrigation ditches prior to construction. Because the crossings will be dry, at that time, the project would use an open trench construction method to bury the pipelines at the crossing. Should groundwater be encountered during construction, it would be temporarily stored in a storage tank then transferred to the South Truckee Meadows Water Reclamation Facility (STMWRF).

Proposed Project Construction Components –All Segments:

2.1.7 Staging and Laydown Areas

The proposed staging and laydown areas will be fenced with temporary orange construction fencing and surfaced with a 6-inch thick layer of crushed aggregate base. Leaking fluid containment will be provided for each parked construction vehicle. Staging and laydown areas would provide locations for material and equipment storage. Each staging / laydown area would be restored, with native vegetation, upon completion of use. The staging and laydown area locations and sizes are described below:

Southern Segment (3 staging and laydown areas)

1. Proposed PVLS site, 100 by 100 LF (10,000 sf) (Figure 2), parcel 017-011-02 owned by Steamboat Commerce Center, LLC.
2. Existing Dorothy Towne lift station site (Figure 2), 50 by 50 LF (2,500 sf), parcel without a number owned by Washoe County.
3. Westside of Steamboat Creek across from BMHP, 50 by 50 LF (2,500 sf) (Figure 2), parcel 17-020-18 owned by Leslie Land Company, LLC.

Northern Segment (2 staging and laydown areas)

1. North of SR-341 at the intersection of US-395A, 100 by 100 LF (10,000 sf), parcel 143-040-02 (Figure 1) owned by Washoe County.
2. Northwest end of the Damonte Ranch property (Figure 1), 100 by 100 LF (10,000 sf) parcel 140-010-32.

Table 2.1 lists the proposed equipment types and quantity to be used during construction activities. This list is based on the assumption that there will be two pipe installation construction crews, one lift (pump) station site construction crew, and one jack and bore crew operating at the same time.

Table 2.1. Equipment Type and Quantity

Equipment Type	Quantity (max.)	Weight Estimate (lbs.)
Medium to large track mounted excavator	2	50,000
Large front-end loader	2	7,000
Large soil compactor	2	800
Large wheeled crane	1	350
Haul trucks (regularly entering and exiting the active construction area)	6 trucks moving 30 truckloads/day	1,230,000
Small Excavator	1	8,000
Medium front-end loader	1	5,500
Jack and bore equipment	1	15,500

Source: Various URLs (weight estimates) and Carollo Engineers (equipment types and quantity).

2.1.8 Construction Activities Vehicular Access

Existing Dirt and Paved Construction Access Routes – All Action Area Segments

To construct the project, proposed construction access points would include existing dirt and paved roadways, as illustrated in Figures 1 and 2. The proposed access points include:

Southern Segment Access Points

1. *North Access Point:* dirt access road off US-395A, approximately 500 feet north of Towne Drive (Figure 2).
2. *South Access Point:* paved access road at southern end of Action Area, exit off US-395A and runs parallel to the BMHP (Figure 2).

Central Segment Access Point:

1. Dirt NDOT right-of-way (Figure 1).

Northern Segment Access Point:

1. Paved Sutherland Lane (Figure 1).

Proposed New Gravel and Paved Maintenance Access Road - Southern Segment

A permanent, part gravel (2,463 LF, 0.47 miles) and part paved (2,900 LF, 0.55 miles) maintenance access road (Figure 2) would be constructed adjacent to the pipeline alignment. The proposed paved road (12-feet wide) and PVI lift station would be raised 4 to 5 feet and run south from the PVI lift station for approximately 2,900 LF (0.55 miles), at which point the road would become gravel and continue south (1,613 LF, 0.13 miles), to paved Dorothy Towne Drive, followed by a return to another gravel section (850 LF, 0.16 miles) leading to the Dorothy Towne lift station. The proposed road would follow the PVI alignment and be used for construction activities and future maintenance needs.

In areas outside of the Federal Emergency Management Area (FEMA) designated floodplain zones (Figure 3), the paved roadway is designed to be elevated four to five feet to match the anticipated future grade of the developed parcel. In the areas, within the defined FEMA floodplain, the proposed paved maintenance road would be constructed at existing grade to avoid

placement of fill within the floodplain. It is anticipated the roadway will serve in the future as a multiuse path when the parcel is developed.

Proposed Project Non-Construction Activities - All Segments:

2.1.9 Soil / Vegetation Removal and/or Disturbance

Proposed vegetation removal, within the Action Area, would occur on all unimproved (dirt) surfaces along the proposed PVI alignment. This would include the permanent 20-foot wide PVI line easement, the 30-foot wide temporary construction easement, three 100 by 100-foot staging areas, two 50- by 50-foot staging areas, and one 50- by 50-foot PVI lift station.

2.1.10 Weed Management

A summary table of noxious, invasive, and non-native weeds, observed along the proposed PVI route, is available in Appendix A. The proposed PVI project Weed Management Plan (WMP) (NAS, 2020) provides details on weed locations, infestation data, species, and management.

2.1.11 Restoration Activities

Areas of soil and vegetation disturbance / removal, along the proposed PVI line route (Figure 1), would be restored by revegetating with native seeds. Restoration activities are limited to project temporary uses areas. No slopes will exceed a steepness of three horizontal to one vertical foot (3:1 ratio). Engineering design plan sheets can be made available for review as requested.

2.2 Description of Action Area

The proposed PVI project Action Area includes 15,710 LF (2.98 miles) of sanitary sewer pipeline construction and 17,480 LF (3.31 miles) of a reclaimed water line construction. Based on the combined permanent and temporary construction easement width total of 50-feet, the Action Area comprises approximately 869,400 sf (19.96 acres). The Action Area boundary extends from the southern terminus, off US-395A, east across Steamboat Creek into BMHP, and north to the terminus at Damonte Ranch PKWY (Figure 1). A plant list for the Action Area, including noxious and invasive weeds, is provided in Appendix A.

The PVI Action Area, includes eight construction activity components as identified in **Sections 2.1.1 through 2.1.11** above. These same construction components will be discussed in **Section 2.2 Description of Action Area**.

Proposed Project Action Area Descriptions - Southern Segment:

2.2.1 Steamboat Creek Crossing to BMHP (West to East)

Steamboat Creek Crossing (westside) Habitat

The southern end of the proposed PVI line would begin on the westside of Steamboat Creek (jurisdictional waters) across from BMHP (Figure 2). The PVI line would then go underneath the creek, using a microtunneling construction method, to avoid impacts to the waterway. The Final Aquatic Resource Delineation Report, Washoe County Pleasant Valley Interceptor - Reach 3 Project is complete and available for review (NCE, 2020). The BMHP is adjacent to the

eastside of the creek and is the southern-most developed area, including a residential neighborhood to the east and north of BMHP.

STBU Habitat, Surveys and Populations

The area to the west and south of Steamboat Creek is identified, by NNHP (2018), as STBU habitat (Figure 4, Areas A4 and A5). The southern Action Area boundary is located within and adjacent to the STBU habitat. In 2019, a STBU survey was conducted and STBU and Wright's buckwheat (*Eriogonum wrightii var subscaposum*) were observed. Some STBU plants are adjacent to the southside of the paved road, which are technically within the project Action Area. No construction activities are proposed to occur off the paved and short gravel portion of the access road.

Invasive and Noxious Weeds

Both sides of the creek contain scattered individual noxious and invasive weeds. Details on the weeds in the area are included the PVI WPM (NAS, 2020). Project weeds are included in the plant list provided in Appendix A.

2.2.2 BMHP to Dorothy Towne Lift Station

Steamboat Creek Crossing (eastside) Habitat

The PVI line will connect on the eastside of Steamboat Creek at the southern end of the BMHP paved access road. The Dorothy Towne lift station site, adjacent to the eastside of the creek and north of BMHP, is very disturbed and the habitat there is primarily exposed soil and weeds. The Final Aquatic Resource Delineation Report, Washoe County Pleasant Valley Interceptor - Reach 3 Project is complete and available for review (NCE, 2020).

STBU Habitat, Surveys and Populations

The Action Area on the eastside of the creek, from BMHP north, does not contain STBU habitat (Figures 4). A plant survey was conducted in 2018 and no STBU plants were observed.

Invasive and Noxious Weeds

The proposed PVI line would exit the north end of BMHP and pass, the to be abandoned, old Dorothy Towne lift station (Figure 2). This very disturbed site is adjacent to the eastside of Steamboat Creek, which is bordered by an infestation of the NV noxious weed perennial pepperweed (*Lepidium latifolium* [LELA]) and a few invasive Russian olive (*Elaeagnus angustifolia*) trees. A plant list, including weedy species, is located in Appendix A. Additional information on project weeds and management are included in the PVI WPM (NAS 2020). To the east of the Dorothy Towne lift station, a shallow drainage ditch runs north-south behind and adjacent to the back of residential lots. Invasive weeds can also be found in that area.

2.2.3 Dorothy Towne Lift Station to Towne Drive Crossing

STBU Habitat, Surveys and Populations

The STBU habitat Area A3 (Figure 4), at 0.12-acres, is identified adjacent to Towne Drive just before the proposed creek crossing. During the 2018 Steamboat Buckwheat survey, no plants were observed within STBU habitat Area A3, or the remainder of this segment of the Action Area.

Invasive and Noxious Weeds

The area to the west of the Dorothy Towne lift station and adjacent to the creek, is inundated with the noxious week LELA. Heading north from there, the proposed PV line route runs through a disturbed area with some remnants of salt desert scrub habitat and invasive weeds. Once the PVI line reaches the proposed Steamboat Creek crossing adjacent to the westside of Towne Drive (Figure 2), more of the noxious weed LELA is present. Additional information on weeds within the PVI alignment is available in the PVI-R3 WMP (NAS, 2020).

Steamboat Creek Crossing (westside) Habitat

The proposed creek crossing would occur where it bends to the east and flows through a culvert under Towne Drive. The PVI line would be installed using a microtunneling or directional drilling construction method to avoid direct impacts to the jurisdictional waterway. The Final Aquatic Resource Delineation Report, Washoe County Pleasant Valley Interceptor - Reach 3 Project is complete and available for review (NCE, 2020).

The USFWS OSL (Appendix B) and Nationwide Wetland Inventory (NWI) identified this location as a (0.46-acre) wetland. However, the 2020 NCE aquatic resource delineation field survey determined this portion of the creek to contain only willow (*salix*) species, and therefore, does not meet the parameters of a functioning wetland (NCE, 2020).

2.2.4 Towne Drive Crossing to Pleasant Valley Lift Station

Steamboat Creek Crossing (eastside) Habitat

This portion of Steamboat Creek flows through a culvert, under Towne Drive (Figure 2). Vegetation on the eastside of Towne Drive is similar to that on the westside and includes willows (*Salix* sp.) along the creek banks. For details on the aquatic resource delineation results, the Aquatic Resources Delineation Report (NCE, 2020) is available.

The westside of the Action Area is adjacent to US-395A and the eastside to Steamboat Creek. The northern boundary of this portion of the Action Area is SR-341. In addition, a barbed wire fence runs north and parallel to US-395A, and borders the northeast end of the Action Area at SR-341. This area contains primarily salt desert and sagebrush scrub, which varies in density as it parallels Steamboat Creek. The area is disturbed and includes several unimproved dirt roads, some of which run parallel to the proposed PVI line and road alignment.

STBU Habitat, Surveys and Populations

Two STBU habitat Areas A1 and A2 (Figure 4), occur north of Towne Drive between US-395A (west) and Steamboat Creek (east). During the 2018 STBU plant survey, STBU plants were observed and recorded. The plants were not counted, as the species is rhizomatous, and identification of individual plants is considered near impossible and population estimates may be misleading. (Knight 1997). There is no STBU habitat identified north of the PVLS (Figure 4). However, all portions of the Action Area in the Southern Segment of the proposed PVI alignment, were surveyed for STBU plants, during 2018 survey efforts. As a result of STBU plant observations during the 2018 plant surveys, Washoe County voluntarily realigned the proposed PVI route to the east and adjacent to the westside of Steamboat Creek.

Invasive and Noxious Weeds

The vegetation / habitat on both sides of Towne Drive, at the creek and road crossings (Figure 2), includes willow thickets and infestations of the noxious weed LELA. Details on the weed infestations in the area are available in the PVI-R3 WMP (NAS, 2020). For details on the aquatic resource delineation results, the Aquatic Resources Delineation Report (NCE, 2020) is available. The remainder of this PVI Southern Segment, contains scattered areas of invasive weedy plant species.

2.2.5 Pleasant Valley Lift Station

The vegetation / habitat at the lift station is disturbed salt desert scrub. The proposed PVLS (Figure 2), would be constructed on a 27,000 sf (0.62 acre) parcel located adjacent to US-395A, where the PVI line is proposed to turn west and go under US-395A.

STBU Habitat, Surveys and Populations

No NNHP (2018) STBU habitat is identified in the area adjacent to the PVI life station (Figure 4). However, a STBU plant survey was conducted on the proposed lift station site in 2019, and no STBU plants were observed. From this location, north along the pipeline route, there are no more areas identified by NNHP (2018) as STBU habitat (Figure 4).

Invasive and Noxious Weeds

This portion of the Action Area (Figure 2), includes scattered weedy plant species (Appendix A). Details on weed species and locations are available in the PVI-R3 WMP (NAS, 2020).

2.2.6 Intersection of SR-431 (Mt Rose HWY), US-395A and SR-341 (Central Segment)

The PVI line leaves the PVI lift station and crosses under US-395A (Figure 1) towards the southwest corner of the intersection. The PVI line turns north and runs parallel to US-395A, until it reaches the intersection of SR-431, and US-395A. Here, a PVI spur reclaimed water line splits to the west, runs along SR-431 for approximately 1,427 LF (0.27 miles), and connects to the existing reclaimed water line system at Herz Boulevard.

The proposed west portion of the route ends at this location. However, the proposed pipelines continue east and cross under US-395A, at the SR-431 and US-395A intersection. The pipeline turns abruptly north, where it crosses under SR-341 to an area of patchy sagebrush habitat. Several dirt roads crisscross the area, with barbed-wire fencing, and what appears to be historic building foundations.

An ephemeral drainage is located in this area, and travels from west of US-395A, underneath the highway via a culvert, and continues east towards Steamboat Creek. The project proposes to utilize an open trench construction method in this location to bury the pipeline underneath the drainage during the dry season. Contours of the ephemeral drainage will be returned to pre-project conditions once pipeline construction is completed.

STBU Habitat, Surveys and Populations

Although there is STBU habitat on the westside of US-395A, in the geothermal plant area, the Central Segment of the Action Area does not support STBU habitat. A 2019 STBU plant survey

was conducted along the proposed PVI sewer and reclaimed water line alignments and no STBU plants were observed.

Invasive and Noxious Weeds

No NV Noxious Weeds were observed in this portion of the Action Area. However, a few scattered invasive weeds were observed including an abundance of cheat grass (*Bromus tectorum*). Additional information on weedy plant species (Appendix A) can be found in the PVI-R3 WMP (NAS, 2020).

2.2.7 SR-341 North to Sutherland Lane (Northern Segment)

The PVI line route goes from the northeast corner of SR-341 and US-395A to the intersection of Sutherland Lane and Sage Hill Road (Figure 1). Residential development is limited to the more northern paved roads of Sutherland Land (east-west) and Sage Hill Road (north-south). Steamboat Creek, located to the east, is not part of the Action Area here. One staging area is located in the southeast portion of sagebrush habitat. Access to this area, would be located at the intersection of Sutherland Lane and Sage Hill Road.

Habitat and Plant Survey

The PVI alignment route (Figure 1), from the northeast corner of SR-341 and US-395A, passes through an open area of native sagebrush scrub habitat to Sutherland Lane. This area is somewhat disturbed with a few dirt roads crisscrossing from east to west and north to south. Barbed wire fences and foundations old structures were observed in the area. No STBU habitat occurs in this area.

Invasive and Noxious Weeds

NV Noxious Weeds observed in the area and included diffuse knapweed (*Centaurea diffusa*), to the south. The area on the southwest corner of Sutherland Lane and Sage Hill Road is infested with LELA and thistles. Appendix A includes those weedy plant species observed within the Action Area. Detailed species and location information can be found in the PVI-R3 WMP (NAS, 2020).

2.2.8 Sage Hill Road, Sutherland Lane to Damonte Ranch - South

From the intersection here, the PVI line would continue north, down the center of paved Sage Hill Road to the southern terminus of Damonte Ranch, where the road becomes dirt again (Figure 1). Sage Hill Road is bordered by rural residential lots and homes.

Habitat and Plant Survey

Native habitat in this area is limited to the westside of the road along a man-made ditch which supports willow thickets, and other plant species.

Invasive and Noxious Weeds

Weedy plant species were common along both sides of the roadway. Observed in different areas were NV Noxious Weeds LELA, scotch thistle (*Onopordum acanthium*), Canada thistle (*Cirsium arvense),* and musk thistle (*Carduus nutans*). Invasive weedy plant species present included puncturevine/goatshead (*Tribulus terrestris*), and curlycup gumweed (*Grindelia squarrosa*). Appendix A provides a plant list including weedy species observed within the

Action Area. The PVI WMP (NAS, 2020) contains location information on noxious and weedy plant species observed in the Action Area.

2.2.9 Damonte Ranch, South to Damonte Ranch, North at PVI Reach-2

The paved Sage Hill Road becomes dirt at the southern boundary of Damonte Ranch (Figure 1). Both sides of the road support ranching operations for Damonte Ranch. A home and other out-buildings are located on the property. The agricultural fields at the northwest end of the ranch, are irrigated and a linear ditch runs along the inside of the fence line. A single staging area is located at the northwest end of the Action Area in an agricultural field. The property access points include the northern paved and then gravel Damonte Ranch Road and from the south the paved Sage Hill Road.

Habitat and Plant Survey

Native habitat is not prevalent along this stretch of Sage Hill Road. There are abundant areas of disturbed and compacted soil, from the constant use of vehicles and large farm equipment on the roadway.

Invasive and Noxious Weeds

This stretch of dirt road is almost weed free with the exception of Canada and musk thistles (Appendix A), growing in the agricultural fields and one lone plant along a stretch of the dirt road. At the north end of Damonte Ranch, where the dirt road and PVI-R3 meet PVI-R2, the proposed sewer and reclaimed water pipelines would terminate and connect to the appropriate existing pipeline system. Information on weeds along this portion of the Action Area, can be found in the PVI-R3 WMP (NAS, 2020). Appendix A provides a plant list including weedy species observed within the Action Area.

2.3 Best Management Practices (BMPs)

All Best Management Practices identified in this section of the BA will be included in the project technical specifications.

2.3.1 Nevada Best Management Practices

In a cooperative effort to develop water quality BMPs, the State of NV has published the Handbook of BMPs, NV State Conservation Commission (NSCC 1994). The NV BMP Handbook is intended as general guidance and information resource, developed to assist in reducing or preventing nonpoint source pollution. The Handbook also provides a framework for Nevada soil and water conservation programs. The required NV Handbook BMPs will be used in coordination with other agencies including NDEP,

2.3.2 Truckee Meadows Regional Storm Water Quality Management Program

Construction site BMPs to be implemented from the 2015 updated Truckee Meadows Regional Storm Water Quality Management Program. The guidelines are intended to control, prevent, remove, or reduce pollution entering the storm drain system or waterway. The BMP Handbook (Farr West, 2015) includes the following approved construction site BMPs for the Truckee Meadows:

- Stormwater Pollution Prevention Plan (SWPPP) Site Map Symbols
- Straw Bale Barriers
- Sizing Criteria for Sediment Retention Basins
- References and Additional Resource Information
- Planning BPMs
- Runoff Control BMPs
- Erosion Control BMPs
- Drainage Protection BMPs
- General Site and Materials BMPs

3.0 LISTED SPECIES & CRITICAL HABITAT IN THE ACTION AREA

3.1 Threatened and Endangered Species

On April 10, 2020 the PVI-R3 Wastewater Improvement Project, Washoe Count NV was updated with USFWS, Reno, NV, Consultation Code 08ENVD00-2018-SLI-0131, Event Code 08ENVD00-2020-E-00914). The results of the information retrieval are summarized in **Table 3.1** and the OSL is included in Appendix B.

No critical habitat has been designated for any of the listed species in **Table 3.1**, including the threatened STBU species known to occur in the Action Area.

Table 3. 1. Threatened, Endangered or Proposed Species

Common Name	Scientific Name	Designation	Habitat Present
Mammals			
North American Wolverine	*Gulo gulp luscus*	Proposed Threatened	No
Fish			
Lahontan Cutthroat Trout	*Oncorhynchus clarkii henshawi*	Threatened	No
Cui-ui	*Chasmistes cujus*	Endangered	No
Flowering Plants			
Steamboat Buckwheat	*Eriogonum ovalifolium* var. *williamsiae*	Threatened	Yes

Source: USFWS OSL (Appendix B)

3.1.1 North American Wolverine

Habitat for the American wolverine does not occur in the vicinity of the Action Area. The Action Area is located in an urban / rural and commercial residential area of Reno and Pleasant Valley NV. This area does not support habitat for the wolverine, which consists of deep, persistent, and reliable spring snow cover (April 15 to May 14), preferred by the wolverine (Aubry et al. 2007, pp. 2152-2156; Copeland et al. 2010, entire). The nearest potential habitat, with those conditions, is located to the west of Reno in the higher elevations of the Sierra Nevada's. For these reasons, the North American wolverine will not be discussed further in this document.

3.1.2 Lahontan Cutthroat Trout

Habitat for the Lahontan Cutthroat Trout (LCT) does not occur in the vicinity of the Action Area. The nearest optimal stream habitat, that can support the LCT, is the Truckee River located approximately 8.3 miles to the north of the Action Area (NDOW, 2015). For this reason, the LCT will not be discussed further in this document.

3.1.3 Cui-ui

Habitat for the Cui-ui does not occur in the vicinity of the Action Area. The nearest optimal stream habitat, that supports cui-ui, is the Truckee River located approximately 8.3 miles to the north of the Action Area. However, the cui-ui do not occur upstream of the Derby Dam which is

approximately 20.42 miles distant (NDOW, 2015). For these reasons, the cui-ui will not be discussed further in this document.

3.1.4 Steamboat Buckwheat

Listing Status

The plant species STBU is listed as endangered by the federal government on 8 July 1986 (51 Fed. Reg. 2466). Under ESA, "Endangered" means the species is in danger of becoming extinct throughout all or a significant portion of its range. Because of the STBUs "Endangered" status, the species will be addressed throughout the remainder of this BA.

In Nevada, the "Critically Endangered" the STBU species, is provided conservation, protection, restoration, and propagation, and perpetuation of STBU habitat (NRS 527.260 - .300, inclusive) on state, county, or private lands). The STBU is a Nevada endemic, found only in the Steamboat Hills area of Washoe County, NV.

Species History

- **2019:** Endangered and Threatened Wildlife and Plants; 29 Draft Recovery Plan Revisions for 42 Species Across the United States (84 FR 30760 30764, 06/27/2019). "*Recovery Plan for Eriogonum ovalifolium* var. *williamsiae* (Steamboat buckwheat)." Available at URL https://ecos.fws.gov/docs/recovery_plan/950920b.pdf
- **2016:** *Environmental Assessment, Geothermal Leasing*, Washoe County (10, 2016), DOI-BLM-NV-C010-2016-0033-EA, Carson City District Office, Bureau of Land Management (BLM).
- **2016:** *Carson City Resource Management Plan Revision – ACEC Areas of Critical Environmental Concern Report on the Application of the Relevance and Importance Criteria*. March, 2013), Carson City District Office, BLM. Steamboat Buckwheat Botanical ACEC – Recommended (Appendix C).
- **2013:** Initiation of 5-year Reviews of 56 Species in California and Nevada; Request for information (78 FR 19510 19514, 4/1/2013).
- **2010:** Initiation of 5-year Reviews of 34 Species in California and Nevada; Availability of 96 completed 5-year Reviews in California and Nevada (75 FR 28636 28642, 5/21/2010). STBU, No status change.
- **2006:** Initiation of 5-year Reviews of 56 Species in California and Nevada of review (71 FR 14538 14542, 3/22/2006), including STBU. Listed as Endangered 51 FR 24669 (7/8/1986).
- **2006:** Distribution survey, of the geothermal facility STBU mitigation areas, was conducted in June 2006, by the USFWS (Caicco 2006). Thousands of plants were observed in the areas. However, determining if any of the plants observed were the original transplants or perhaps descendants was not possible.
- **1997:** Data indicates that there were approximately 85,000 "plants" in the geothermal lease area (Knight 1997). However, the species is rhizomatous, and the ability to identify

individual plants is considered near impossible and population estimates may be misleading.

- **1995:** *A Steamboat Buckwheat Recovery Plan* (SBRP) (Knight USFWS 1997) was developed by the Nature Conservancy, as part of the biological requirements for development of the geothermal facility. The SBRP was written to protect STBU and its habitat on Ormat Geothermal Facility (OGF) lease property, and to provide a sire specific biological management and monitoring plan 99/29/19950.
- **1993:** Steamboat Hills habitat for the STBU includes <250 acres (BLM, 1993).
- **1992**: Prior to the construction of the OGF, 17,000 plants were removed from the impact area and transplanted to other areas, with an estimated overall survival rate of 40 percent (Knight, 1997). The facility was constructed on the west side of US-395A and eliminated about 0.15-acres of occupied habitat.
- **1987:** Surface Flows from Steamboat Hot Springs Ceased (NDF).
- **1986:** Steamboat Buckwheat (*Eriogonum ovalifolium* var. *williamsiae)* Listed as an Endangered Species by the USFWS under the ESA.
- 1982: Steamboat Buckwheat (*Eriogonum ovalifolium* var. *williamsiae)* Listed as Critically Endangered by the State of Nevada, Protected under NDF.

Potential habitat for the STBU, within and adjacent to the Action Area, was previously mapped by NNHP. Habitat occurs throughout the Southern Segment of the proposed PVI-R3 Action Area and is illustrated on Figure 4. Populations of STBU plants observed during project STBU surveys, were recorded, and the data will be provided to NNHP.

Life History

The STBU plant is a compact, perennial herb forming mats up to 4.5 cm in width. The plant is described by Reveal (1981) as having a stout, woody taproot, with small white flowers on 15 - 20 cm tall stalks. Flowering begins in May, peaks in June, with seed heads remaining on plants into the fall months of September and October (Williams 1982).

The STBU species, is one of seven varieties, described for *Eriogonum ovalifolium*, that belongs to the family Polygonaceae. The Polygonaceae family is widespread, occurring in many ecological niches with an elevational range of 3,018 feet – 12,139 feet (920 - 3,700 meters).

Habitat Requirements

Preferred habitat for the STBU species is only found in the Steamboat Hills area, Washoe County, NV. Figure 4 identifies the area of preferred habitat, as mapped by NNHP (2018). The habitat is restricted to shallow to moderately deep, siliceous hot springs deposits known as opal and chalcedony sinter. Nearby Steamboat Hot Springs, as they are called, discharge from the hot spring waters and geothermal ground water saturated with amorphous silica. These conditions provide the required habitat for the species to thrive (CH2M Hill, 1986). The plants do not tolerate moist soils and prefer to grow away from flowing springs. Precipitation is the primary source of fresh water for the plants (CH2M Hill, 1986). Native plant species associated with STBU commonly include: Wyoming Sagebrush (*Artemisia tridentata* ssp. *Wyomingensis*), shadscale (*Atriplex confertifolia*), saltgrass (*Distichlis spicata*), Wright's buckwheat (*Eriogonum*

wrightii) snakeweed (*Gutierrezia sarothrae*), and Great Basin wildrye (*Leymus cinereus*) (Williams, 1982; CH2M Hill, 1986; Nelson, 1991).

Movement / Home Range

Steamboat Hills is an area of significant geothermal activity which once featured the largest concentration of geysers in the United States outside of Yellowstone National Park (BLM, 1993). A decline in hot springs activity has been observed in the Steamboat area since 1987, and surface flows (including geyser activity) ceased in mid-1989. Groundwater declines in the area have been attributed to various causes, including geothermal and fresh-water groundwater pumping, and multi-year droughts (Sorey and Colvard, 1992). Historically, the Steamboat Hills area occupied a total of approximately 40 acres of lands, managed by the BLM, State of NV, and private owners (BLM, 1993).

Approximately half, of the available STBU habitat, is private or under a 30-year lease by Ormat Technologies Inc. for geothermal power production. On private and State lands, a portion of the population occurs on either side of the existing highway along the US-395A right-of-way, where it passes through the Steamboat area. Habitat also occurs on lands under management by the BLM including the Steamboat Hot Springs Geyser Basin Area of Critical Environmental Concern (ACEC) (Knight, 1997). Appendix C provides the text and figure from the Carson City (CC) Resource Management Plan (RMP).

Population Trends

The STBU habitat continues to be threatened by development, and no long-term conservation measures exist. For these reasons, STBU was listed as Endangered, under the ESA, July 8, 1986, 51 Fed. Reg. 24669.

PVI-R3 STBU Field Survey Results

2018: Species specific STBU field surveys were conducted over all portions of the original proposed Action Area, that would occur within and adjacent to STBU buckwheat as identified by NNHP. During the 2018 field surveys, of the originally proposed Action Area, two populations of STBU plants were identified within a NNHP (2018) habitat area. As a result of those observations, the proposed PVI line route was rerouted to avoid the plants and potential impacts to STBU species.

2019: Additional STBU field surveys were conducted, as the Action Area was revised to incorporate staging and laydown areas, access roads, PVI lift station site; removal of the Dorothy Towne lift station; and addition of the BMHP pipeline extension, Steamboat Creek crossing, and pipeline connection. As a result of the 2019 field surveys, additional STBU plant populations were observed and recorded. All observed population sites occur within identified NNHP (2018) potential habitat (Figure 4).

3.2 Wetlands

Wetlands were identified as having the potential to occur in the Action Area by USFWS OSL (Appendix B). The NWI investigation also referenced wetlands as occurring within and adjacent to the Action Area. However, an aquatic resources delineation was conducted within the Action Area and no wetlands were identified, that meet the USACE three-parameter criteria. Five potential federal and NV jurisdictional waters were delineated within the Action Area (NCE,

2020). The results of these analysis's are available in the *Final Aquatic Resources Delineation Report for the Washoe County Pleasant Valley Interceptor - Reach 3 Project*, July, 2020 (NCE).

3.3 Wildlife Refuges

No USFWS wildlife refuges were identified in the OSL (Appendix B) as occurring in the Action Area.

3.4 Migratory Birds

Migratory birds are protected under the Migratory Bird Treaty Act of 1918 (MBTA) (16 U.S.C. 703–712, MBTA). The MBTA prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by DOI, USFWS (2020a). The law applies to the removal of nests (such as swallow nests on bridges) occupied by migratory birds during the breeding season.

Bald & Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c), enacted in 1940, and amended several times since, prohibits anyone, without a permit issued by the Secretary of the Interior USFWS, from "taking" bald or golden eagles, including their parts (includes feathers), nests, or eggs. The Act provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof." The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb" (USFWS 2020b).

3.4.1 Southwest Regional GAP Analysis and Field Survey Vegetation / Habitat Data

Southwest Regional GAP Analysis Data

The Southwest Regional GAP Analysis Project (SWReGAP) is an update of the Gap Analysis Program's mapping and assessment of biodiversity for the five-state region encompassing Arizona, Colorado, NV, New Mexico, and Utah. It is a multi-institutional cooperative effort coordinated by the U.S. Geological Survey Gap Analysis Program. The primary objective of the update is to use a coordinated mapping approach to create detailed, seamless GIS maps of land cover, all native terrestrial vertebrate species, land stewardship, and management status, and to analyze this information to identify those biotic elements that are underrepresented on lands managed for their long-term conservation or are "gaps" (USGS 2005). Habitats expected to occur in the Action Area, using SWReGAP information as illustrated in Figure 5, are described below.

In an effort to ground-truth the SWReGAP data, Action Area vegetation / habitat surveys were conducted during 2018 and 2019, and data from those is included in the BA.

Agriculture / Hayfields

Southwest Regional GAP Analysis Data

Agriculture (Figure 5) is an aggregated land cover type that includes both Pasture/Hay: areas of grasses, legumes, or grass-legume mixtures planted for livestock grazing or the production of seed or hay crops, typically on a perennial cycle, where pasture/hay vegetation accounts for

greater than 20 percent of total vegetation, and Cultivated Crops: areas used for the production of annual crops, such as corn, soybeans, vegetables, tobacco, and cotton, and also perennial woody crops such as orchards and vineyards, where crop vegetation accounts for greater than 20 percent of total vegetation; this includes all land being actively tilled (USGS 2005).

Field Survey Vegetation / Habitat Data

Agriculture / hayfields do occur, in the northern most portion of the Action Area, on the Damonte Ranch and are visible in Figure 5. Agricultural fields are the primary habitat in northern segment of the Action Area.

Inter-Mountain Basins Big Sagebrush Shrubland

Southwest Regional GAP Analysis Data

This ecological system occurs throughout much of the western U.S., typically in broad basins between mountain ranges, plains and foothills between 1500 and 2300 m elevation (Figure 5). Soils are typically deep, well-drained and non-saline. These shrublands are dominated by *Artemisia tridentata* ssp. tridentata and/or *Artemisia tridentata* ssp. *Wyomingensis.* Scattered *Juniperus* spp., *Sarcobatus vermiculatus,* and *Atriplex* spp. may be present in some stands. *Ericameria nauseosa, Chrysothamnus viscidiflorus, Purshia tridentata,* or *Symphoricarpos oreophilus* may codominate disturbed stands. Perennial herbaceous components typically contribute less than 25% vegetative cover. Common graminoid species include *Achnatherum hymenoides, Bouteloua gracilis, Elymus lanceolatus,* Festuca *idahoensis, Hesperostipa comata, Leymus cinereus, Pleuraphis jamesii, Pascopyrum smithii, Poa secunda,* or *Pseudoroegneria spicata* (USGS, 2005).

Field Survey Vegetation / Habitat Data

Inter-mountain basins big sagebrush shrubland habitat only occurs on the southwest and northeast corners at the intersection of SR-431 and US-395A (Figure 5). Big sagebrush habitat is the primary habitat in these two portions of the Action Area. The majority of the sagebrush habitat in the area has been removed as a result of all the adjacent community development.

Inter-Mountain Basins Mixed Salt Desert Scrub

Southwest Regional GAP Analysis Data

This extensive ecological system includes open-canopied shrublands of typically saline basins, alluvial slopes and plains across the Intermountain western U.S. (Figure 5). This type also extends in limited distribution into the southern Great Plains. Substrates are often saline and calcareous, medium- to fine-textured, alkaline soils, but include some coarser-textured soils. The vegetation is characterized by a typically open to moderately dense shrubland composed of one or more *Atriplex* species such as *Atriplex confertifolia*, *Atriplex canescens, Atriplex polycarpa,* or *Atriplex spinifera*. Other shrubs present to codominate may include *Artemisia tridentata* ssp. *wyomingensis, Chrysothamnus viscidiflorus, Ericameria nauseosa, Ephedra nevadensis, Grayia spinosa, Krascheninnikovia lanata, Lycium* spp., *Picrothamnus desertorum,* or *Tetradymia* spp. *Sarcobatus vermiculatus* is generally absent, but if present does not codominate. The herbaceous layer varies from sparse to moderately dense and is dominated by perennial graminoids such as *Achnatherum hymenoides, Bouteloua gracilis, Elymus lanceolatus* ssp. *lanceolatus, Pascopyrum*

smithii, Pleuraphis jamesii, Pleuraphis rigida, Poa secunda, or Sporobolus airoides. A variety of annual and perennial forbs are also present (USGS 2005).

Field Survey Vegetation / Habitat Data

Inter-mountain basins mixed salt desert scrub habitat occurs to the southwest and southeast, from the intersection of SR-431 and US-395A (Figure 5). The salt desert habitat in this is area extends, to the southern-most portion of the Action Area, where Steamboat Creek is adjacent to the BMHP. Although this area is very disturbed in places, there are still patches of salt desert scrub. This geothermally active area is the primary habitat for the STBU plant.

Great Basin Foothill and Lower Montane Riparian Woodland and Shrubland

Southwest Regional GAP Analysis Data

This system occurs in mountain ranges of the Great Basin and along the eastern slope of the Sierra Nevada within a broad elevation range from about 1220 m (4000 feet) to over 2135 m (7000 feet) (Figure 5). This system often occurs as a mosaic of multiple communities that are tree-dominated with a diverse shrub component. The variety of plant associations connected to this system reflects elevation, stream gradient, floodplain width, and flooding events. Dominant trees may include *Abies concolor, Alnus incana, Betula occidentalis, Populus angustifolia, Populus balsamifera* ssp. *trichocarpa, Populus fremontii, Salix laevigata, Salix gooddingii,* and *Pseudotsuga menziesii*. Dominant shrubs include *Artemisia cana, Cornus sericea, Salix exigua, Salix lasiolepis, Salix lemmonii,* or *Salix lutea*. Herbaceous layers are often dominated by species of *Carex* and *Juncus,* and perennial grasses and mesic forbs such *Deschampsia caespitosa, Elymus trachycaulus, Glyceria striata, Iris missouriensis, Maianthemum stellatum,* or *Thalictrum fendleri*. Introduced forage species such as *Agrostis stolonifera, Poa pratensis, Phleum pratense,* and the weedy annual *Bromus tectorum* are often present in disturbed stands. These are disturbance-driven systems that require flooding, scour and deposition for germination and maintenance. Livestock grazing is a major influence in altering structure, composition, and function of the community (USGS 2005).

Field Survey Vegetation / Habitat Data

Steamboat Creek, in its native condition would have supported a foothill montane riparian habitat. Just remnants of that still occur along the creek with as a result of area development, residential use, and major roadways the support the Reno and surrounding communities.

Invasive Annual and Biennial Forbland

Southwest Regional GAP Analysis Data

Invasive Annual and Biennial Forbland are areas that are dominated by introduced annual and / or biennial forb species: *Halogeton glomeratum, Kochia scoparia*, *Salsola* spp. (Figure 5).

Field Survey Vegetation / Habitat Data

No annual or biennial forblands were observed within or adjacent to the Action Area.

Inter-Mountain Basins Greasewood Flat

Southwest Regional GAP Analysis Data

This ecological system occurs throughout much of the western U.S. in Intermountain basins and extends onto the western Great Plains (Figure 5). It typically occurs near drainages on stream terraces and flats or may form rings around more sparsely vegetated playas. Sites typically have saline soils, a shallow water table and flood intermittently, but remain dry for most growing seasons. The water table remains high enough to maintain vegetation, despite salt accumulations. This system usually occurs as a mosaic of multiple communities, with open to moderately dense shrublands dominated or codominated by *Sarcobatus vermiculatus. Atriplex canescens, Atriplex confertifolia,* or *Krascheninnikovia lanata* may be present to codominant. Occurrences are often surrounded by mixed salt desert scrub. The herbaceous layer, if present, is usually dominated by graminoids. There may be inclusions of *Sporobolus airoides, Distichlis spicata* (where water remains ponded the longest), or Eleocharis *palustris herbaceous* types (USGS 2005).

Field Survey Vegetation / Habitat Data

No intermountain-basin greasewood habitat was observed within or adjacent to the Action Area.

Great Basin Pinyon-Juniper Woodland

Southwest Regional GAP Analysis Data

This ecological system occurs on dry mountain ranges of the Great Basin region and eastern foothills of the Sierra Nevada (Figure 5). It is typically found at lower elevations ranging from 1600-2600 m. These woodlands occur on warm, dry sites on mountain slopes, mesas, plateaus, and ridges. Severe climatic events occurring during the growing season, such as frosts and drought, are thought to limit the distribution of pinyon-juniper woodlands to relatively narrow altitudinal belts on mountainsides. Woodlands dominated by a mix of *Pinus monophylla* and *Juniperus osteosperma*, pure or nearly pure occurrences of *Pinus monophylla,* or woodlands dominated solely by *Juniperus osteosperma* comprise this system. *Cercocarpus ledifolius* is a common associate. Understory layers are variable. Associated species include shrubs such *as Arctostaphylos patula, Artemisia arbuscula, Artemisia nova, Artemisia tridentata, Cercocarpus ledifolius, Cercocarpus intricatus, Coleogyne ramosissima, Quercus gambelii, Quercus turbinella,* and bunch grasses *Hesperostipa comata, Festuca idahoensis, Pseudoroegneria spicata, Leymus cinereus* (*Elymus cinereus*), and *Poa fendleriana* (USGS 2005).

Field Survey Vegetation / Habitat Data

No Great Basin pinyon-juniper habitat was observed within or adjacent to the Action Area.

Sierra Nevada Cliff and Canyon

Southwest Regional GAP Analysis Data

Sierra Nevada Cliff and Canyon are found from foothill to subalpine elevations throughout the Sierra Nevada and nearby mountain ranges, these are barren and sparsely vegetated areas (<10% plant cover) of steep cliff faces, narrow canyons, and smaller rock outcrops of various igneous, sedimentary, and metamorphic bedrock (Figure 5). This system also includes unstable scree and talus slopes typically occurring below cliff faces. Scattered vegetation may include *Abies magnifica, Pseudotsuga menziesii, Pinus contorta* var. *murrayana, Pinus ponderosa, Pinus jeffreyi, Populus tremuloides,* or *Pinus monophylla, Juniperus osteosperma,* and *Cercocarpus*

ledifolius at lower elevations. There may be shrubs including species of Arctostaphylos or Ceanothus. Soil development is limited as is herbaceous cover (USGS 2005).

Field Survey Vegetation / Habitat Data

No cliff and/or canyon habitat was observed within or adjacent to the Action Area.

Residential / Urban

Southwest Regional GAP Analysis Data

The areas identified as urban in the SWReGAP data provide just a small look at where development is in this heavily developed area (Figure 5).

Field Survey Vegetation / Habitat Data

Much of the native vegetation / habitats, within and adjacent to the Action Area, have been developed, are currently under development, or are scheduled for future development. Many invasive and non-native weedy plants species have invaded the remaining habitats and continue to thrive in these disturbed areas. This area is the southern terminus for the City of Reno and eastern terminus of the community of Galena located just up SR-431 towards Lake Tahoe. Large amounts of traffic use this major corridor (US-395A, SR-431, and SR-341) that connects Reno with Virginia City, Lake Tahoe, Carson City, and points farther south.

3.4.2 Birds of Conservation Concern

The Intermountain West (IMW) is the center of distribution for many western birds, (Rich et al. 2004). Over half of IMW biome Species of Continental Importance (SCI) have 75% or more of their population here. The IMW breeding SCI winter in central and western Mexico or in the Southwestern biome. Shrub-nesting species comprise the largest number of SCI in this IMW biome (Rich et al. 2004).

Potential breeding habitat, for the majority of the BCC migratory birds listed in **Table 3.2,** does not occur in the vicinity of the Action Area and is indicated by a "No" in the Habitat Present column. The species with no habitat present will not be discussed individually in the remainder of BA. Migratory birds will be discussed as a whole under **Section 5.0 Effects of the Action**.

Table 3. 2. Migratory Birds of Conservation Concern (BCC)

Common Name	Scientific Name	Breeding Habitat	Habitat Present
Bald Eagle	*Haliaeetus leucocephalus*	Large body of open water	No
Brewer's Sparrow	*Spizella breweri*	Sagebrush	Yes
Clark's Grebe	*Aechmophorus clarkii*	Marshes	No
Golden Eagle	*Aquila chrysaetos*	Open or partially open habitats, grasslands and shrublands	No
Green-tailed Towhee	*Pipilo chlorurus*	Disturbed areas in montane forest and open slopes	No
Lesser Yellowlegs	*Tringa flavipes*	Trees, shrubs, logs, grassy meadows, and well vegetated marshy pools edges	No
Long-billed Curlew	*Numenius americanus*	Prairies and grassy meadows, generally near water	No
Marbled Godwit	*Limosa fedoa*	Grasslands	No

Common Name	Scientific Name	Breeding Habitat	Habitat Present
Pinyon Jay	*Gymnorhinus cyanocephalus*	Pinyon-juniper woodlands and ponderosa pine forests	No
Sage Thrasher	*Oreoscoptes montanus*	Sagebrush	Yes
Willet	*Tringa semipalmata*	Marshy grasslands	No
Willow Flycatcher	*Empidonax traillii*	Mountain willow thickets	No

Source: USFWS OSL (Appendix B)

The sagebrush habitat required for the two bird species identified with "Yes" in the Habitat Present column, is present to the northeast of the US-395A and SR-341 intersection. However, the habitat is disturbed patchy, supports weedy plant species, surrounded by existing major roadways (SR-431, US-395A, and SR-341) and commercial and residential development, contains open areas accessible to walkers and off-highway vehicles, and is scheduled for continued future development.

For these reasons, the available sagebrush habitat is not considered to be optimal breeding habitat for the sage thrasher or Brewer's sparrow and the species are not expected to breed in this disturbed and patchy sagebrush habitat. The sage thrasher and Brewer's sparrow will not be addressed further in this document. However, migratory birds will be discussed, as a whole, under **Section 5.0 Effects of the Action**. The existing sagebrush and salt desert scrub vegetation, residential structures, neighborhood trees / shrubs / willows, ranch structures, and hayfield habitats do provide habitat for a variety of nesting bird species. Those species that occur in this area are adapted to living and breeding in urban environments. The majority of these bird species are protected under the MBTA, with the following exceptions: house sparrow (*passer domesticus*), European starling (*sturnus vulgaris*), and rock pigeon (*columbia livia*). These non-native species are well-adapted to urban and developed environments and are common in the area.

4.0 ENVIRONMENTAL BASELINE CONDITIONS

The Southern Segment, of the PVI-R3 Action Area, supports STBU habitat that has been identified and mapped by NNHP (Figure 4). This area is prime development property and development continues annually in the surrounding area. Current development includes geothermal resources, commercial and industrial construction, and highway expansion. High occupancy apartment complexes are currently being built to the east of Steamboat Creek.

4.1 Existing Vehicular and Pedestrian Access

The STBU habitat, located on the east side of US-395A and south of SR-341, is not completely protected from disturbance. Vehicle and pedestrian access, on unimproved dirt roads, is available to the north of Towne Drive at the US-395A intersection. Community members use the Towne Drive entrance for vehicular access into the area. Pedestrian activity, at this location, is usually from individuals that drive to the area. The exception might be, individuals who work at the commercial building on the southside of Towne Drive at the intersection of US-395A. Since entrance to the area, is easily available to the business employees, they may take walks using the Towne Drive access points.

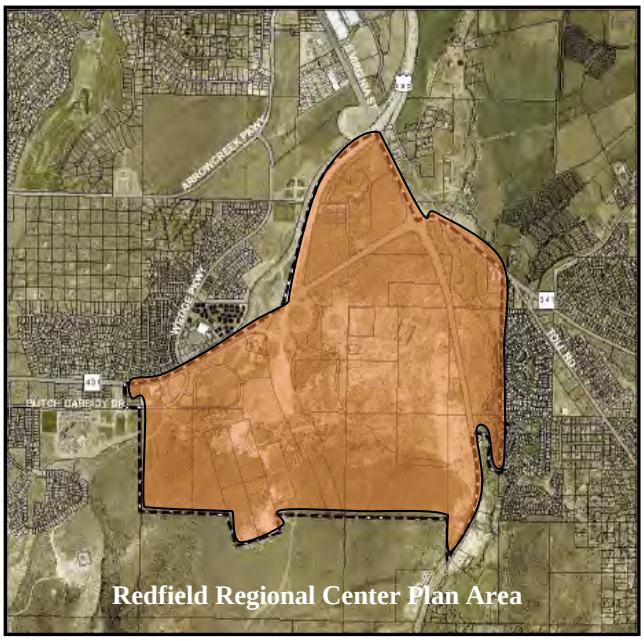
4.2 Transportation Infrastructure

Existing major transportation infrastructure, adjacent to the Southern Segment of the Action Area includes US-395A, SR-341, and SR-431. Towne Drive serves as the only point of entry and exit for the neighborhood east of the Action Area. A majority of the transportation infrastructure, in the area, has been developed with the exception of the southern portion of US-395A. As development occurs, to the south, additional roadway modifications will occur.

4.3 Commercial / Residential Development

4.3.1 The Redfield Regional Center Plan

Adopted by Reno City Council November 16, 2005 and amended June, 2010 (Reno, 2005). The Redfield Regional Center Plan (The Plan) area generally covers the University of Nevada, Redfield Campus, Summit Sierra Commercial Center and surrounding area. It is expected the build out will take approximately 20-years. The parcels included in The Plan area are illustrated in orange on the adjacent image (Reno, 2005).



Habitat for the STBU is located within the Regional Plan area. The habitat covers less than 250 acres, all located south of the intersection of US-395A, SR-431, and SR-341. The majority of the habitat occurs on private land, with a portion on public land managed by BLM (Reno, 2005).

A proposed development is planned for the private property, owned by Leslie Land Company, LLC (LLC), located in the Southern Segment of the Action Area. The proposed PVI-R3 wastewater and reclaimed water pipeline route runs within and along the eastern edge of LLC property, and the proposed site for the PVI lift station is located at the north end of this property.

4.3.2 Geothermal

The Ormat Steamboat Power Plant is a geothermal power plant located immediately west, across US-395A, of the Southern Segment of the Action Area. During approvals for the existing geothermal plant, a Steamboat Buckwheat Management Plan (SBMP) was developed by The Nature Conservancy (Knight, 1997). The goals of the SBMP are to protect the rare and endangered STBU plant and its habitat on the geothermal lease property, and to design a biological management and monitoring plan for the species at this site. Each new development in STBU habitat is required to create a separate management plan, as required by USFWS and NDF. Each plan shall be developed to the satisfaction of the NDF. A management plan is not required if one has previously been prepared for the area proposed to be disturbed and or developed (Knight, 1997).

4.4 Bureau of Land Management - STBU Botanical ACEC

The BLM established the 80 acres Steamboat Buckwheat Botanical ACEC (Appendix C), as part of the CC RMP Revision (BLM, 2016). The ACEC is located in the Steamboat Hills, west across US-395A from the Southern Segment of the PVI Action Area. Primary threats to STBU in the ACEC, as identified in the March 2013 Report (BLM, 2013) include Off highway vehicle use and invasive species.

5.0 EFFECTS OF THE ACTION

Proposed project activities that would directly impact any USFWS listed species and their habitat are identified in **Section 5.1** below. Direct effects from interdependent or interrelated actions are also considered as part of the project impact.

Specific measures for protection of STBU habitat and plants, during pre-construction, and post-construction phases of the PVI-R3 project, will be spelled out in the permit from NDF.

5.1 Direct Effects

5.1.1 Steamboat Buckwheat Habitat and Plant Population Impacts

The Southern Segment of the PVI alignment is located within and adjacent to portions of STBU habitat, identified by the NNHP (Figure 4). Not every portion of NNHP habitat contains populations of the STBU plant. Details on plant locations and population numbers are available through NNHP. The PVI-R3 construction activities, proposed to begin in fall 2020, would occur within and adjacent to STBU habitat, as identified by NNHP (Figure 4).

PVI Project Impacts to STBU Habitat Areas (A1-A3)

Five (5) NNHP identified STBU habitat areas, numbered from north to south, occur within the Southern Segment of the Action Area (Figure 4). The STBU habitats, from here forward, will be referred to as Avoidance Areas (AAs) 1-5. The proposed PVI permanent 20-foot and temporary 30-foot wide easements would impact areas A1-A3. **Table 5.1** below, provides approximate easement construction impacts, in sf and acres, that would occur to STBU habitat.

Table 5. 1. Impacts to STBU Habitat Areas A1-A3

Habitat Area No.	20-ft Wide Permanent Easement (sf)	20-ft Wide Permanent Easement (acre)
A1	503	0.01
A2	6,415	0.15
A3	5,405	0.12
Total Impacts	**12,323**	**0.28**

Source: Washoe County PVI-R3 Project Plans, 2020

20-Foot Wide Permanent Easement

A total of approximately 12,323 sf (0.28 acres) of STBU habitat, from the proposed 20-ft permanent easement, within NNHP identified STBU habitat Areas A1-A3 would be permanently lost (Figure 4). Individual habitat impact details for A1-A3 are provided in **Table 5.1.** No other STBU habitat would be lost as a result of clearing the remainder of the 20-ft easement. Mitigation measures would be implemented prior to the onset of construction activities, within the STBU habitat areas, to avoid or minimize the loss of habitat to the maximum extent possible.

The proposed PVI paved (2,900 ft LF, 0.55 miles) and gravel (2,463 LF, 0.47 miles) access road extends from the proposed PVI lift station to the existing Dorothy Towne lift station, within the 20-foot easement (Figure 4). Vegetation and top soil removal is proposed for the entire length of the PVI 20-foot easement, including portions of STBU habitat Areas 1-3. Damage / destruction to vegetation, soil, and STBU habitat in Areas 1-3 would occur as a result of encroachment of vehicles or equipment from the easement into the adjacent vegetation.

30-Foot Wide Temporary Easement

The 30-foot wide easement would be used to construct and install the proposed pipelines and access road. Vegetation and top soil removal would occur within the 30-ft easement including STBU habitat Areas A1-A3. The total length and width of STBU habitat Areas A1-A3, is 1,385 LF by 12 LF (Figure 4). It is expected that approximately 16,620 sf (0.38 acres) of STBU habitat would be lost, through the development of the proposed access road, and impact STBU habitat within Areas A1-A3. Mitigation measures would be implemented, prior to the onset of construction activities, within the STBU habitat areas to avoid and/or minimize loss of habitat to the maximum extent possible.

PVI-R3 Impacts to STBU Habitat Areas (A4 and A5) and Plants

Located off US-395A, 1.39 miles south of the intersection at US-395A, SR-431, and SR-341 (Figure 4), is the Action Area south access point. Entry into the Action Area from here is via an approximately 686 LF (0.13-mile) paved road that becomes gravel, approximately 151 LF from the southern terminus of the PVI line. In 2019, surveys for STBU plants were conducted within the Southern Segment of the PVI-R3 Action Area, including STBU habitat Areas A4 and A5, located south/southwest of the south access point paved access road. Both STBU and Wright's Buckwheat (*Eriogonum wrightii*), were observed during the survey.

- Fugitive dust from construction activities, would impact adjacent plants, by coating them with layers of dust.
- PVI-R3 construction activity impacts to STBU habitat Areas A4 and A5 and existing STBU plants may cause damage and / or destruction as a result of vehicles (including construction equipment) or personnel leaving the paved road and encroaching into habitat Areas A4 (8,890 sf, 0.20 acres) and A5 (9,684 sf, 0.22 acres) (**Table 5.2**) (Figure 4).

Table 5. 2. PVI Project Impacts to STBU Habitat Areas 4 and 5

STBU Habitat Area *#s*	Project Habitat Protection Areas (sf)	NNHP STBU Habitat Areas (sf)
A4	8,890	7,627
A5	9,684	1,112*
Totals Impacts	**18,574**	**8,739**

*Habitat area (sf) does not include road area (sf)

Washoe County will submit a permit application to the NV State Forester Firewarden, as required by NRS 527.260 to 527.30 inclusive, "Protection and Propagation of Selected Species of Native Flora." As stated in NRS 527.270, all activities (e.g. construction, development, maintenance, motor vehicle operation, facility repair, etc.) conducted in this state by a person, landowner or manager on or beneath the surface of land that would, or has the potential to negatively impact listed critically endangered native flora or its habitat, must obtain the required permit prior to initiating said activity.

Mitigation / protection measures would be implemented, prior to the onset of construction activities, to avoid loss of STBU habitat and existing plants in Areas A4 and A5 (Figure 4).

STBU Habitat Mitigation / Protection Measures

Mitigation / protection measures are designed to lessen the impact of the construction phase of project development and to fulfill permit obligations with the State of NV. On-site inspection by the State of NV will be conducted by NDF staff. A qualified biological specialist will monitor pre-construction, construction, and post-construction protection / mitigation measures installation, maintenance, and compliance.

Pre-construction - Protection / Mitigation Measures

Pre-construction activities are those activities that would occur prior to the onset of construction and are identified below:

- *Signage – STBU Habitat Areas*

  All areas of STBU habitat will be signed and fenced so construction crews, project managers, and visitors know what areas to avoid and why.

- *Fencing – Temporary*

  Appropriate fencing will be used to identified STBU habitat boundaries within or adjacent to project construction areas. Fencing locations will be delineated and fencing installing prior to construction activities. Fencing will also deter the public from entering the project area during active construction periods.

  Road and PVI-R3 alignments, and the staging area and lift station will use fluorescent orange snow fence, secured with metal stakes, to obstruct vehicles, construction equipment, and personnel from entering STBU habitat areas. All fences used to protect STBU will be posted with signage as mentioned above.

  To date, no STBU habitat, plant, or conservation protections measures have been initiated within the STBU habitat areas. The installation and maintenance of permanent fencing around STBU habitat would be one way to provide the habitat and plants with permanent protection measures

- *STBU Awareness Statement and Training*

  All individuals involved in pre-construction mitigation /protection measure implementation will be required to read and sign a statement recognizing the unique species at Steamboat Hot Springs and their obligation to help protect the species and its habitat. Laminated copies of STBU protections and what to do if the STBU habitat or plants are encountered or damaged, will be available for vehicles entering the project site. In addition, tailgate sessions will be required each work week, prior to the onset construction activities. All federal and NDF STBU protection and mitigation measures will be strictly enforced.

- *Biological Monitoring*

  A qualified biologist will be on-site during pre-construction activities in the southern segment of the Action Area where habitat is present, to ensure STBU habitat and plant protection measures are implemented and followed. The biologist will assist with accessing fencing and signage locations, especially adjacent to STBU habitat Areas A1-A5.

Fugitive dust would be controlled by the use of water on bare soil to keep the dust from construction activities covering adjacent STBU plants.

- *Access Points and Roads*

  Two access points in the southern segment of the Action Area (Northern and Southern) (Figure 2 and 4), and roads within STBU habitat will be identified, on-the-ground, prior to construction activities and fenced and signed accordingly. Both access points are located along US-395A.

  The Towne Drive access point, also accessed off US-395A, has two unimproved access points into the area north of Towne Drive. The two access points are located adjacent to each other and come together shortly after leaving Towne Drive. These two, Towne Drive access points (located within Avoidance Areas A2 and A3) would be closed to all vehicular and pedestrian traffic to avoid impacts to STBU habitat and potential plants.

  One-way construction traffic would best serve the protection of STBU habitat and plants, to the extent possible. Signage for traffic flow would be posted during pre-construction activities.

- *Southern Project Terminus*

  Fencing and signage will be placed along the south side of the access road to remind construction crews and others to avoid entering the fenced and signed avoidance areas.

  Since STBU is consider critically endangered in Nevada, it is protected under NRS 527.260 to 527.30 inclusive, and provides for the "Protection and Propagation of Native Flora." Washoe County will complete and submit a permit application to NDF. An approved permit will be required before any construction activities or vehicular access is permitted within STBU habitat areas.

- *Weed Management*

  The occurrence of STBU habitat and plant populations, along the proposed PVI alignment and access routes, should be considered when establishing treatment guidelines for the STBU habitat areas. Noxious weeds do occur in the STBU habitat, including extensive infestations of perennial pepperweed (NV Noxious Weed). This very invasive plant can spread from existing populations or become established in new areas. Proper treatment of these infestations is essential. The PVI-R3 WMP (NAS, 2020) provides information on project weeds, their locations, and treatment options.

  Identify sites where vehicles and equipment and even crew member's footwear can be pressure washed before and after entering areas of perennial pepperweed infestations.

Construction Period - Protection / Mitigation Measures

The mitigation / protection measures, provided below, are designed to avoid or minimize the impact of construction phase activities and fulfill permit obligations with the State of NV.

- *Signage – STBU Habitat Areas*

  All STBU signage will be monitored and maintained throughout the construction period.

- *Fencing – Temporary*

  Temporary fencing will be monitored and maintained throughout the construction period.

- All installed pre-construction fencing, will be monitored and maintained in good repair, to avoid or reduce the opportunity for construction crews and equipment that would damage or destroy STBU habitat or plants. Fencing would also deter the public from entering the project area during construction activities, for safety reasons.

- *STBU Awareness Statement and Training*

  Each construction crew member, project manager, and visitor will be required to read and sign a statement recognizing the unique species at Steamboat Hot Springs and their obligation to help protect the species and its habitat.

  Laminated copies of STBU protections and what to do if the STBU habitat or plants are encountered or damaged, will be available for vehicles entering the project site. In addition, tailgate sessions will be required each work week, prior to the onset construction activities.

  All federal and NDF STBU protection and mitigation measures will be strictly enforced.

- *Biological Monitoring*

  A qualified biologist will be on-site, every day of construction, to ensure STBU habitat and plant mitigation and protection measures are implemented and followed. The biologist will be available to assist with other biological resource issues during project construction activities.

  Fugitive dust would be controlled by the use of water on bare soil to keep the dust from construction activities covering adjacent STBU plants.

- *Access Points and Roads*

  All STBU protective fencing will be monitored daily to ensure it does not get moved during the day's activities.

  One-way construction traffic would best serve the protection of STBU habitat and plants, to the extent possible.

  Trip records (involving trucks or heavy equipment use and hauling activities) will be kept to track approximate daily activity and/or potential project completion for each phase of construction.

- *Southern Project Terminus*

  Construction activities will be monitored closely to avoid impacts to the adjacent STBU habitat and plants.

  An approved permit will be required before any construction activities or vehicular access is permitted within STBU habitat areas. The NDF Permit must be on-site during construction activities occurring within or adjacent to STBU habitat areas. No construction activities or vehicular access is permitted within STBU habitat areas, unless the permit is on-site.

- *Weed Management*

  Infestations of the noxious weed, perennial pepperweed, are located within or adjacent to STBU habitat. This very invasive plant can spread from existing populations or become established in new areas. Proper treatment of these infestations is essential. The PVI-R3 WMP (NAS, 2020) provides information on project weeds, their locations, and treatment options.

  Identified sites, for vehicle and equipment pressure washing (especially the undercarriage and tires of all vehicles and equipment) will be used prior to entry or exit from infestation areas. Crew member's footwear should also be monitored and washed before and after entering areas of perennial pepperweed infestations.

  Any new populations or individual plants of the noxious weed, perennial pepperweed, discovered during construction activities, would be treated appropriately, prior to disturbance or removal of said weeds. This would be done in order to avoid or minimize the spread of existing populations or establishment of populations in new areas.

Post-Construction Activities

- *Signage – STBU Habitat Areas*

  Temporary signage may be removed when permanent protection measures are in place following completion of construction activities.

- *Fencing – Temporary*

  Temporary fencing may be removed when permanent protection measures are in place following completion of construction activities.

- *Easements (20- and 30-foot, Access Roads, and Staging Areas*

  Restoration of the disturbed PVI alignment and other temporary disturbances will be revegetated with native seeds, with exclusion of the new 12-foot wide permanent road. All slopes will be returned to a not exceed a steepness of three horizontal to one (3:1) vertical feet.

- *Weed Management*

  Weed treatment will continue for the noxious weed, perennial pepperweed, especially within or adjacent to STBU habitat. This very invasive plant can spread from existing populations or become established in new areas. Proper treatment of these infestations is essential. The PVI-R3 WMP (NAS, 2020) provides information on project weeds, their locations, and treatment options.

  Any new populations or individual plants of the noxious weed, perennial pepperweed, discovered during post-construction activities, would be treated appropriately, prior to disturbance or removal of said weeds. This would be done in order to avoid or minimize the spread of existing populations or establishment of populations in new areas.

  Vehicle and equipment pressure washing (especially the undercarriage and tires of all vehicles and equipment) will be used prior to entry or exit from infestation areas. Crew member's footwear should also be monitored and washed before and after entering areas of perennial pepperweed infestations.

5.1.2 Migratory Bird Habitats and Nesting Birds Impacts

Project impacts and associated mitigation / protection measures for migratory birds are provided below and will be finalized in coordination with USFWS and Nevada Department of Wildlife (NDOW), as required.

PVI-R3 Impacts to Migratory Bird Habitats and/or Nesting Birds

- Loss of migratory bird nesting habitat within all areas of proposed vegetation and soil removal (20- and 30-ft easements, temporary and permanent access roads, PVI lift station, and staging areas).
- Pre-construction, and post-construction activities (equipment and workers) and / or noise that cause nesting birds to abandon a nest, or the loss of eggs, and/or young, during the nesting period of February 1 to August 1 (approximate).
- Fugitive dust from construction activities would disturb nearby nesting birds and/or cause the birds to abandon their nest, eggs, and/or young. Eggs or young in a nearby nest would be smothered as a result of too much dust in the nest.
- Activity and / or noise disturbance to birds foraging within or adjacent to the Action Area.

Bird Habitat and Nesting Bird Mitigation / Protection Measures

Mitigation / Protection Measures would be implemented to avoid or minimize project impacts. Nationwide Standard Conservation Measures (under NEPA) are recommended for all projects that might impact nesting migratory birds (Appendix D). There are five categories into which mitigation measures may fall. Attempts should be made to avoid and minimize to the maximum extent practicable before advancing to restoration or compensation options.

A given mitigation measure may: 1) *Avoid* the production of a stressor/impact to birds altogether by not taking a certain action; 2) *Minimize* the exposure of birds and their resources to project-related stressors by limiting the degree or magnitude of the action and its implementation; 3) *Rectify* the effects of an impact by repairing, rehabilitating, or restoring the affected environment; 4) *Reduce* or eliminate the stressor/impact over time; or 5) *Compensate* for the impact by replacing or providing substitute resources or environments.

The proposed PVI project is anticipated to start in the fall 2020. Therefore, no soil or vegetation disturbance / removal activity is expected to occur during the bird nesting season (approximately February 1 to August 1). However, the construction start date and period, are dependent on contractor scheduling and are subject to change.

The following mitigation / protection measures will be implemented during the bird non-breeding season:

- All migratory bird habitat and nesting season mitigation / protection measures (Appendix D) apply to maintenance activities in the future, including the requirement that vehicles and equipment stay on existing access roads and do not travel through/over existing vegetation / bird habitat.
- Proper and consistent treatment of known populations of noxious weed areas. Avoidance of additional vegetation and soil disturbance that might encourage the infestation of a

new area. Ensuring vehicles, equipment, and pedestrians that enter the exiting vegetation/bird nesting habitat are weed free.

- Nationwide conservation measures would be implemented, as described in Appendix D.

5.2 Indirect Effects

Indirect Effects are reasonably expected project activities that would cause or result in impacts that would occur later in time.

5.2.1 Steamboat Buckwheat

Indirect impacts that may occur to existing STBU populations would include the following:

- Damage and destruction of existing STBU habitat areas and plants, from PVI maintenance activities along existing roads, within STBU habitat and known plant areas.
- Damage and destruction of existing STBU habitat areas and plants, as a result of public access that is permitted to continue, after the completion of the proposed project.
- Development of erosion issues, along roads within and adjacent to STBU habitat and plant areas, may cause new areas of flooding and/or soil movement in areas it was not disturbed in prior to project activities.
- Fugitive dust from the gravel and dirt portions of the developed access road and any existing dirt roads used during maintenance activities.
- Fugitive dust from continued community vehicular use, that is permitted to continue after the completion of the proposed project.
- The lack of proper treatment, timing considerations, and monitoring of construction activities, to disturbance and spread of the noxious weed perennial pepperweed plant, may cause infestations to reestablish themselves and/or spread plants or seeds into new areas including STBU habitat areas.
- Proper treatment and timing of perennial pepperweed infestations and project vegetation and soil disturbance, and thorough and consistent cleaning of vehicles, equipment and personal apparel pre-, during and post-construction would aid in the reduction and/or spread of perennial pepperweed.
- Additional spread or establishment of noxious weeds.

Mitigation /protection measures for indirect impacts would be the same as those for direct impacts.

5.2.2 Migratory Birds

Indirect impacts to migratory birds, from future project general maintenance and repair activities, could include:

- Increased loss of additional vegetation / habitat.
- Increased introduction or spread of weedy plant species.

- Disturbance or destruction of migratory bird habitat, including nests, during the nesting season (approximately February 1 to August 1).
- Abandonment, damage or destruction to nesting birds, eggs, and / or young during the nesting season (approximately February 1 to August 1).

Mitigation / protection measures for indirect impacts would be the same as those for direct impacts.

6.0 CUMULATIVE EFFECTS (FORMAL CONSULTATION ONLY)

The Council of Environmental Quality (CEQ) regulations defines scope to include connected actions, cumulative actions, and similar actions (40 CFR 1508.25). The CEQ formally defines cumulative impacts as follows:

'…the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time' (40 CFR 1508.7).

6.1 Steamboat Buckwheat

Formal consultation with USFWS is required for STBU and its habitat. Cumulative effects have been addressed below for the federally endangered and state of NV critically endangered species. The purpose of this analysis is to evaluate any combined effects of human activity to STBU and its habitat within and adjacent to the Action Area.

6.1.1 Past, Present and Future Actions

These actions are defined and described below:

- **Past Actions**: those that have occurred within the past 50 years.
- **Present Actions:** those occurring at the time of this evaluation.
- **Future Actions:** those that are in planning stages with a reasonable expectation of occurring over the next 20 years.

Private Commercial Development:

The Redfield Commercial and Residential Development Area, discussed in **Section 4.3**, and located south of SR-431 and US-395A includes STBU habitat (Figure 4) identified by the NNHP and existing populations within the Action Area. As described in the development plan (Reno, 2005) it is anticipated the area will continue to be developed for approximately 20 years. As development expands, STBU habitat and populations will be in increased danger of being destroyed, throughout the Action Area and south to the Steamboat Hot Springs facility. This would essentially eliminate all STBU habitat and populations identified on the southeast side of US-395A and SR-431.

Wildland Fire:

Wildland fires occur naturally and through human activities in the vicinity of the Action Area. No evidence of fire is present at this time. Continued human use of the area provides opportunities for a wildfire to start. Lightening is another source of wildland fire in the area. The Washoe County fire season continues to last longer than the hot summer months.

Invasive and NV Noxious Weeds:

Existing populations of invasive (most abundant is cheat grass) and NV noxious weeds (most abundant is perennial pepperweed) would have the opportunity to expand in localized areas.

However, continued development in areas of infestation would remove some of the plants and potentially provide the opportunity for spread into other nearby areas.

Public Access / Recreation:

Public access into the habitat and population areas, located on the southeast side of the US-395A and SR-431 intersection, has not been eliminated and plants continue to be destroyed primarily by vehicles. Plants located along the edge a nearby dirt road have been nearly completely destroyed in the last 2 years. More recently (October-November 2020) an undisturbed population away from the road populations has been driven over and material dumped in around the plants. The development of a future multi-uses path has been discussed for this area.

Utility and Other Rights of Way:

Below ground technology cables, and above and below ground water infrastructures have are located within the Action Area and will continue to need maintenance. The PVI-R3 project will be constructed through STBU habitat but no plant populations occur along the proposed route. However, the southern end of the Action Area is adjacent to private land that does support existing populations of STBU and could be damaged or destroyed as a result of the proposed project. Mitigation measures are included in this BA and will be used during the construction of the project.

Transportation Infrastructure

The Action Area is bordered by US-395A on the westside (Figure 4), which contains STBU habitat and populations. The US-395A also provides access to the Action Area via dirt roads that come off the paved Towne Drive. Towne Drive is the access area for residential neighborhoods in the area and at leas one commercial building.

The southern end of the Action Area is accessed off an unnamed paved road which becomes an unimproved paved / dirt road, that splits several STBU habitats and populations on its way to the Steamboat Hot Springs facility. The southern habitat areas and existing plant populations are only found north of the hot springs site.

6.2 Migratory Birds

Formal consultation with USFWS is not anticipated and no cumulative effects have been addressed for migratory birds.

7.0 CONCLUSIONS

Effects Determination: The effects determination for Steamboat buckwheat habitat and plant populations, and migratory bird species are provided in **Sections 5.1 and 5.2**. The effects determination may change based on EPAs consultation with USFWS.

7.1 Steamboat Buckwheat

In conclusion, it has been determined that the proposed action may affect, but is not likely to adversely affect (NLAA) Steamboat buckwheat habitat or populations identified in this assessment.

The mitigation and protection measures included in this BA would be implemented to avoid project impacts to Steamboat buckwheat habitat and plant populations.

Washoe County will submit a special permit application to the State Forester Firewarden, as required by NRS 527.260 to 527.30 inclusive, "Protection and Propagation of Selected Species of Native Flora." No PVI-R3 project preconstruction or construction activities would be permitted without prior authorization from the Firewarden.

7.2 Migratory Birds

In conclusion, it has been determined that the proposed action may affect, but is not likely to adversely affect (NLAA) migratory birds.

The mitigation and protection measures included in this BA would be implemented to avoid project impacts to migratory birds, active nest sites, eggs, and young. Currently the project is expected to conduct construction activities outside the migratory bird nesting season.

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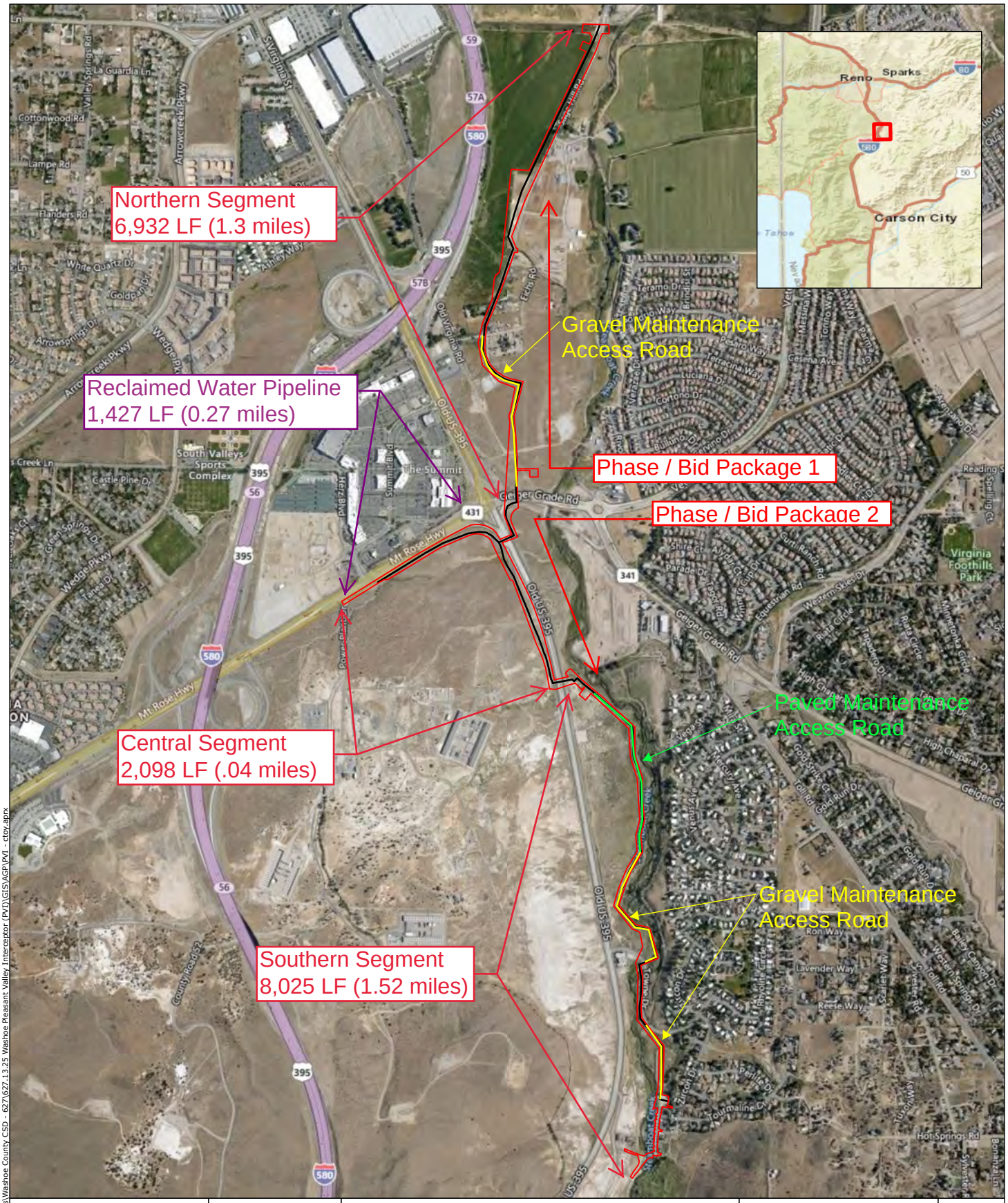
FIGURES



Legend

Project Boundary

Project Feature

PVI-R3

NCE

Pleasant Valley Interceptor Reach 3

Site Vicinity Map

N

1 in. = 1,600 ft.

0 800 1,600 ft.

FIGURE 1

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap	627.13.25	ctoy	6/7/2019	6/10/2019	SB

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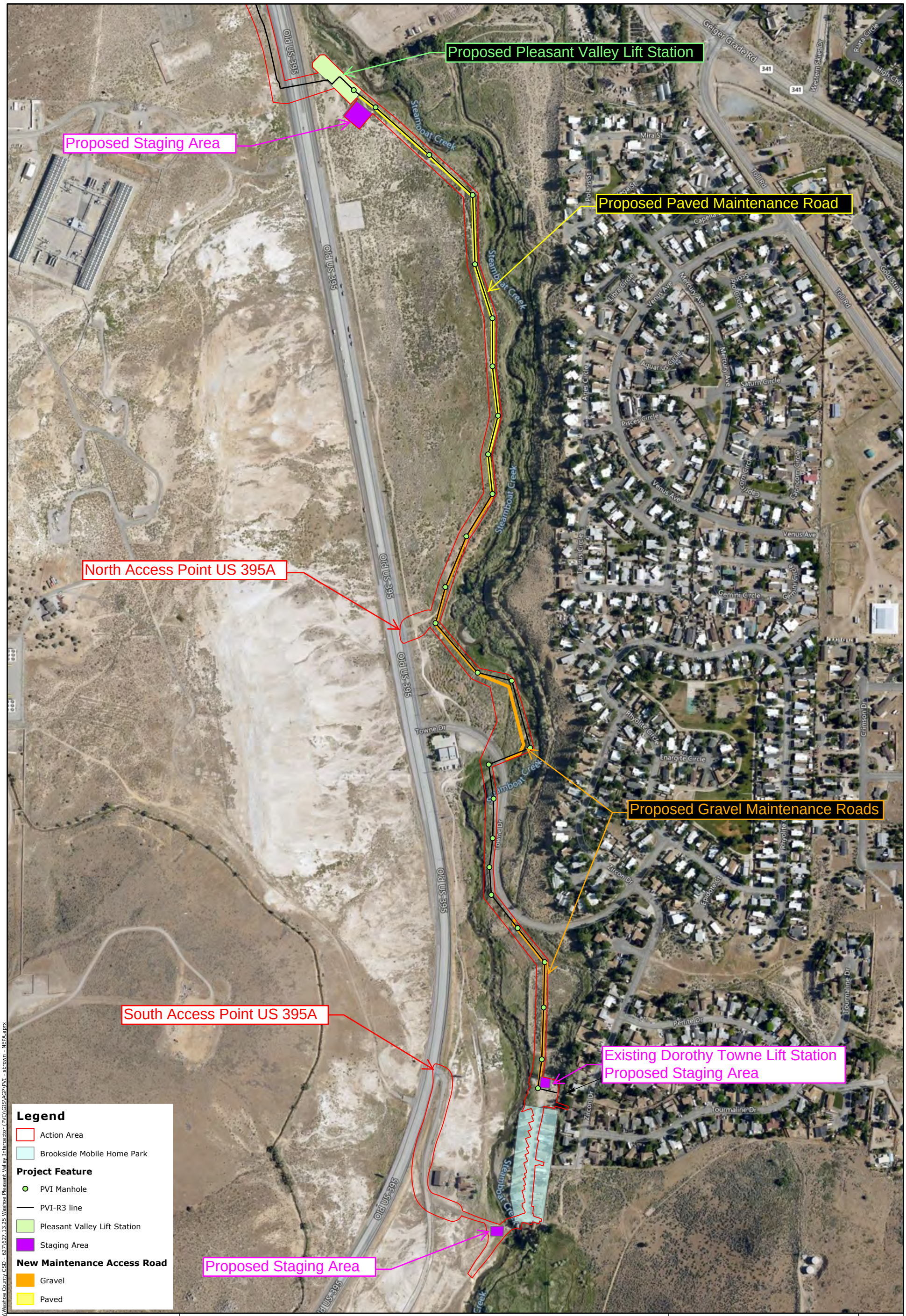

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NCE

Pleasant Valley Interceptor - Reach 3 Wastewater Improvement Project

Action Area-Southern Segment

N

1 in = 450 ft.

0 225 450 ft.

FIGURE 2

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap; Washoe County 2018; Carollo 2020	627.13.25	sanderson	4/27/2020	7/15/2020	GE

Proposed Pleasant Valley Lift Station

Proposed Staging Area

Proposed Paved Maintenance Road

North Access Point US-395A

Proposed Gravel Maintenance Roads

South Access Point US-395A

Existing Dorothy Towne Lift Station
Proposed Staging Area

Proposed Staging Area

Legend

- Project Boundary
- PVI-R3 line
- Pleasany Valley Lift Station Site
- Staging Area

New Maintenance Access Road

- Gravel
- Paved

Floodplain Zones

- Zone A-With/Without Base Flood Elevation
- Zone X-0.2% Annual Chance Flood Hazard
- Zone X-Area of Minimal Flood Hazard
- Zone AE-Regulatory Floodplain

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NCE

Pleasant Valley Interceptor- Reach 3

Southern Segment - Floodplain Zones

N

1 in = 440 ft.

0 220 440 Feet

FIGURE 3

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap; Washoe County 2018; NCE 2018	627.13.25	ctoy	7/1/2019	3/10/20	sbrown

Proposed Pleasant Valley Lift Station

Proposed Paved Maintenance Road

Proposed Staging Area

STBU Habitat Area A1

Avoidance Area A1
20-foot Easement
Impact: 503 sf (0.01 acres)

A1

North Access Point US-395A

STBU Habitat Area A2

Avoidance Area A2
20-foot Easement
Impact: 6,415 sf (0.15 acres)

A2

STBU Habitat Area A3

Avoidance Area A3
20-foot Easement
Impact: 5,405 sf (0.12 acres)

A3

Proposed Gravel Maintenance Road Sections

South Access Point US-395A

Existing Dorothy Towne Lift Station
Proposed Staging Area

STBU Habutat Areas A4/A5

Avoidance Areas A4/A5
Impacts: None Expected

A4 A5

Proposed Staging Area

Legend

- Action Area
- Brookside Mobile Home Park

Project Feature

- Pleasant Valley Lift Station
- PVI-R3 line
- Staging Area

New Maintenance Access Road

- Gravel Road
- Paved Road

Habitat Area

- No Impact - Avoidance Areas
- NNHP Steamboat buckwheat habitat

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NCE

Pleasant Valley Interceptor - Reach 3 Wastewater Improvement Project

NNHP Steamboat Buckwheat Habitat and Project Avoidance Areas
Action Area - Southern Segment

N

1 in = 500 ft.

0 250 500 ft.

FIGURE 4

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap; Washoe County 2018; NCE 2018; NNHP	627.13.25	cvaz	4/27/2020	7/15/20	NAS

Legend

Action Area

Habitat Land Cover

- Agriculture
- Barren Lands, Non-specific
- Developed, Open Space - Low Intensity
- Great Basin Foothill and Lower Montane Riparian Woodland and Shrubland
- Great Basin Pinyon-Juniper Woodland
- Inter-Mountain Basins Big Sagebrush Shrubland
- Inter-Mountain Basins Greasewood Flat
- Inter-Mountain Basins Mixed Salt Desert Scrub
- Inter-Mountain Basins Montane Sagebrush Steppe
- Inter-Mountain Basins Semi-Desert Grassland
- Inter-Mountain Basins Semi-Desert Shrub Steppe
- Invasive Annual and Biennial Forbland
- Sierra Nevada Cliff and Canyon

Pleasant Valley Interceptor - Reach 3
Wastewater Improvement Project
SWReGAP Habitat Map

N

1 in. = 1,050 ft.

0 525 1,050 ft.

FIGURE 5

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap; Washoe County 2018; NCE 2018; SWReGAP	627.13.25	cvaz	4/29/2020	5/5/2020	

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APPENDICES

APPENDIX A

PVI-R3 Plant List

Plant Species Observed in the Action Area

SCIENTIFIC NAME	COMMON NAME
Trees	
Populus fremontii	Fremont cottonwood
Shrubs	
Artemesia tridentata	Sagebrush spp.
Chrysothamnus viscidiflorus	Yellow rabbitbrush
Ericameria nauseosa	Rubber / gray rabbitbrush
Prunus andersonii	Desert peach
Salix Exigua	Coyote willow
Forbs	
Astragalus purshii	Woollypod milkvetch
Descurainia pinnata	Tansy Mustard
Carex spp.	Sedge spp.
Elaeagnus angustifolia	Russian olive
Erodium sp.	Storks bill sp.
Eriogonum ovalifolium var. *williamsiae*	Steamboat buckwheat
Eriogonum wrightii var. *subscaposum*	Wright's buckwheat
Grindelia squarrosa	Curlycup gumweed
Leymus cinereus	Great Basin wildrye
Melilotus albus	White sweet clover
Sisymbrium altissimum	Tumble mustard
Typha latifolia	Bulrush
Grasses	
Agropyron cristatum	Crested wheatgrass
Distichulas	Salt grass
NV Noxious Weeds	
Cirsium arvense	Canada Thistle
Bromus tectorum	Cheat grass
Centaurea diffusa	Diffuse Knapweed
Carduus nutans	Musk Thistle
Lepidium latifolia	Perennial pepperweed/tall white-top
Onopordum acanthium	Scotch Thistle
Tamarix sp.	Saltcedar
Tribulus terrestris	Punctureveine/goatshead