Kennedy Jenks

10850 Gold Center Drive, Suite 350
Rancho Cordova, California 95670
916-858-2700

Climate Action Plan for the Capital Improvement Program

2 December 2019

Prepared for

South Tahoe Public Utility District
1275 Meadow Crest Drive
South Lake Tahoe, California 96150

KJ Project No. 1970014*00

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Certification

The following report was prepared under the direction of

Sachiko Itagaki, PE 50221, Expires 6/30/21
Kennedy/Jenks Consultants, Inc.

Section 1: Purpose and Need for District CAP

This Climate Action Plan for the Capital Improvement Plan (CAP), which has been adopted by South Tahoe Public Utilities District (District), is a high-level planning document that identifies a series of actions covering all aspects of the District's authority, that the District intends to take to address the causes and effects of climate change (Policy for Implementing Clean Water State Revolving Fund, November 28, 2018) which states:.

> "Climate Action Plan or Policy: A plan or policy adopted or approved by the applicant that identifies a series of specific actions covering all aspects of the applicant's authority that it intends to take to address the causes and effects of climate change or participation in a 3rd party voluntary program covering all aspects of the applications authority that will help it identify, track, and verify actions to address the causes and effects of climate change."

This CAP utilizes the following framework to address the causes and effects of climate change that affect the District:

- Explore historical and future climate hazards that may affect the District
- Evaluate climate vulnerabilities for the District facilities and assets
- Begin a Greenhouse Gas (GHG) Inventory of major district facilities and assets based on available data
- Conduct a qualitative risk analysis for major District facilities and assets
- Identify and weigh potential actions to mitigate climate hazard vulnerability, assigning qualitative cost of implementation.

Using this framework, the District will identify a series of specific actions in its authority that it intends to take to address the causes and effects of climate change. This Climate Action Plan is intended to be a living document that will be refined and updated in the future.

The District's facilities include:

- 15 groundwater wells (13 active and 2 standby wells) and 250 miles of distribution pipelines to provide potable water supply to over 14,000 residential connections and 660 commercial and governmental connections
- 42 sanitary sewer lift stations, 330 miles of gravity and pressure collection system and a 7.7 mgd capacity wastewater treatment plant to serve about 18,000 sewer connections
- Luther Pass pump station and 26 miles of effluent export pipeline to pump treated wastewater out of the Lake Tahoe Basin to Alpine County where it is stored and used to irrigate agricultural lands in accordance with Board Orders R6T-2004-001A1 and R6T-2011-0061.

The District's 2019 Update to the Local Hazard Mitigation Plan (LHMP), provided in Appendix A, provides a more detailed analysis of a range of hazards including natural hazards, human hazards, and technological hazards. Many of the natural hazards in the LHMP overlap with the hazards that pose a risk to District facilities under climate change.

Section 2: Climate Projections, Stressors, Past Weather Events

2.1 Statewide Climate Change Projection Overview

Statewide climate projections in California include increased temperatures, sea-level rise, reduced winter snowpack, changes in precipitation patterns, and increased frequency of storm events. These changes have varied implications for wildfire risk, water supply, public health, public safety, ecosystem function and economic continuity (CA Climate Adaptation Guide 2012).

Increased rainfall intensity events are likely to cause periodic flooding, erosion, and mudslides. Transmission lines, wastewater treatment facilities, culverts, canals, tunnels, and other water infrastructure are likely to be affected by business interruptions. Longer droughts, and more frequent forest fires are anticipated. The effects of intense drought and increased flooding events can include well water shortages, failing water infrastructure, catastrophic wildfire, and poor air quality. Limited capacity further challenges communities struggling to adapt to these effects (4th Climate Change Assessment at http://www.climateassessment.ca.gov).

Water resources and water and wastewater infrastructure are affected by climate change. Adapting water infrastructure in response to climate change presents significant challenges. The District can play a key role in improving water efficiency, reducing energy consumption, reducing greenhouse gas emissions, and protecting natural resources by proactively addressing climate change through long-term planning (*Managing an Uncertain Future: Climate Change Adaptation Strategies for California's Water*, DWR, 2008).

2.2 South Lake Tahoe Climate Change Projections

A recent climate change vulnerability analysis for the Lake Tahoe basin indicated that South Lake Tahoe climate change projections will include:

- Increased Temperature
- Changes in Precipitation
- Decreased Snowpack
- Increased Climatic Water Deficit
- Changes in Flooding and Runoff
- Increased Wildfire
- Increased Kinetic Energy of Raindrops.

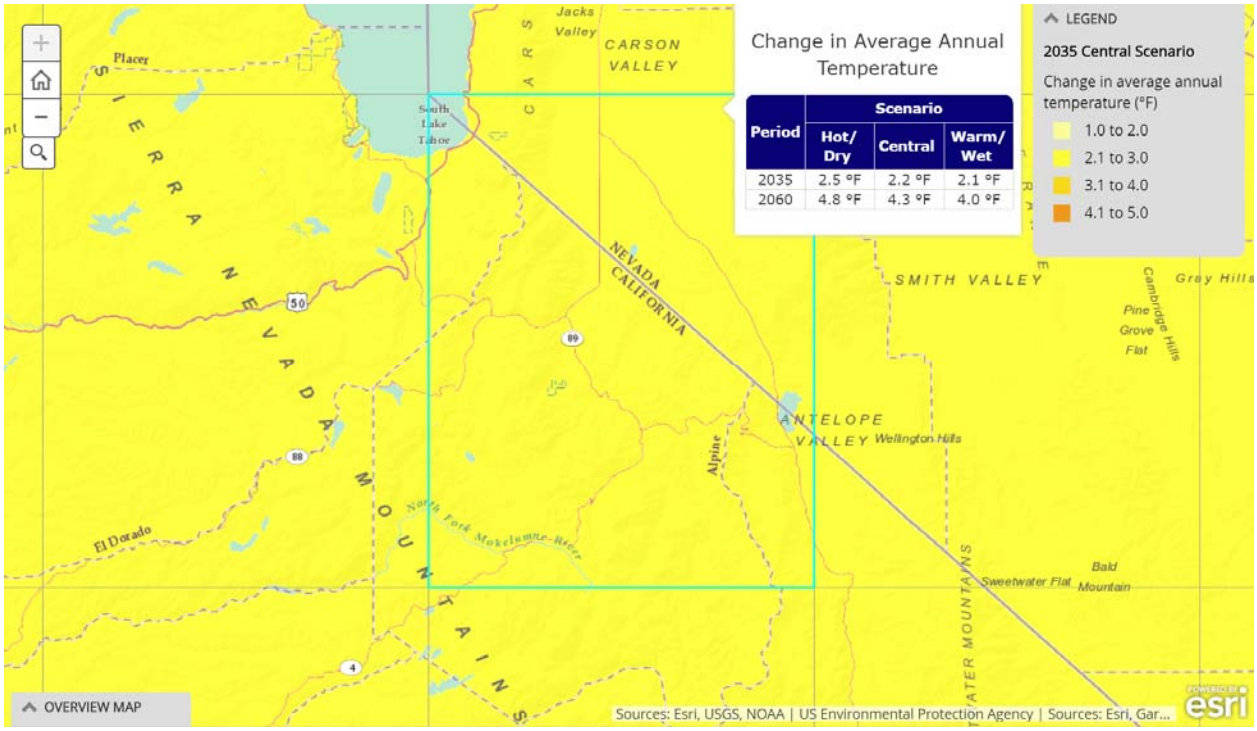
These climate change projections and their general impacts in South Lake Tahoe will be further described in the following sections (Catalyst 2019 Climate Change Vulnerability Assessment for the Lake Tahoe Basin).

2.2.1 Increased Temperature

The average temperatures in Lake Tahoe continue to rise. Modeling scenarios for the Lake Tahoe Basin predict that average temperatures will increase by 2 to 5 degrees Celsius (°C) [approximately 3.6 to 9 degrees Fahrenheit (°F)] from 2010 to 2100 (Catalyst 2019 Climate Change Vulnerability Assessment for the Lake Tahoe Basin).

The US Environmental Protection Agency's Climate Resilience Evaluation and Assessment Tool (CREAT) to help utilities adapt to extreme weather was applied to the District service area. The CREAT results for average annual temperature scenario are presented in the figure below and shows a projected annual average annual temperature increases of 2.1 to 2.5°F by 2035, and 4-4.8°F by 2060 (CREAT 2019). It should be noted that the CREAT projections are generated using CMIP5 Global Climate Model simulations and the data provided are from model simulations using Representative Concentration Pathway (RCP) 8.5 which assume that GHG emissions are not curtailed during the simulation period while RCP4.5 simulations assume peak emission occur in 2040.

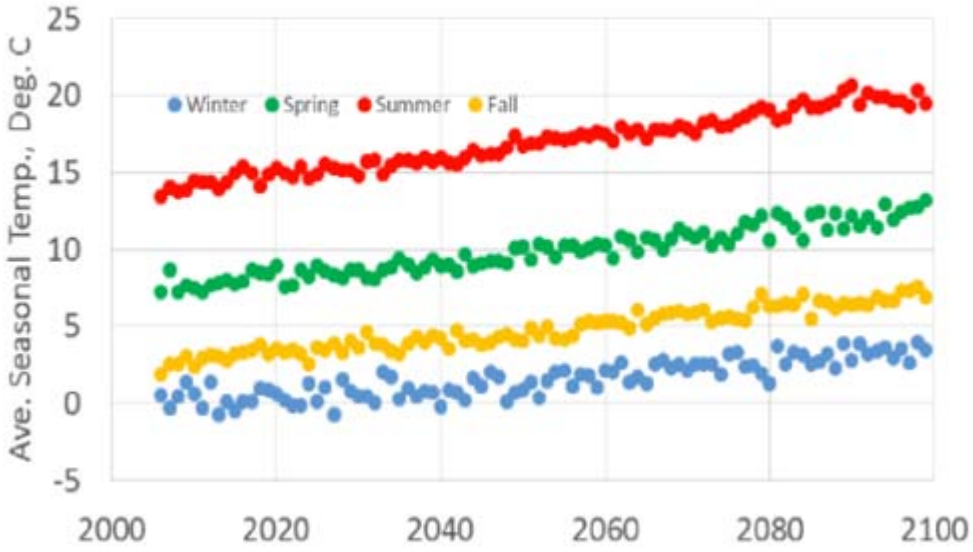
Figure 1: Average Annual Temperature



Source: CREAT 2019

Temperatures increases in the Lake Tahoe Basin are expected to vary seasonally, with the most intense increases in summer and spring (Catalyst 2019 Climate Change Vulnerability Assessment for the Lake Tahoe Basin) as shown in Figure 2.

Figure 2: Seasonal Temperature Variation Projections for Lake Tahoe Basin (RCP 8.5)



Source: Catalyst 2019 Climate Change Vulnerability Assessment for the Lake Tahoe Basin

Temperature increases present the following challenges that may be applicable to the District's water and wastewater infrastructure:

- Earlier snowmelt and more rain on snow events resulting in increased potential for flooding from increased winter storm flows but reduced spring/summer flows.
- Managing water demand
- Sustaining water supply
- Drought (and increased wildfire risk following extended droughts)

Pertinent to groundwater recharge and water supply, work completed by DRI (Addressing BMOs Report, DRI, 2018), indicated that increased temperatures may result in groundwater recharge which varies from a 32% loss under drier and hotter conditions (Q2) to a 34% increase in groundwater recharge under wetter and warmer conditions. As the amount of groundwater pumped to meet drinking water needs accounts for less than 20% of average annual recharge; the projected change in groundwater recharge should not have a significant impact on

groundwater resources, with the exception of an extended drought (on order of 12 years or greater).

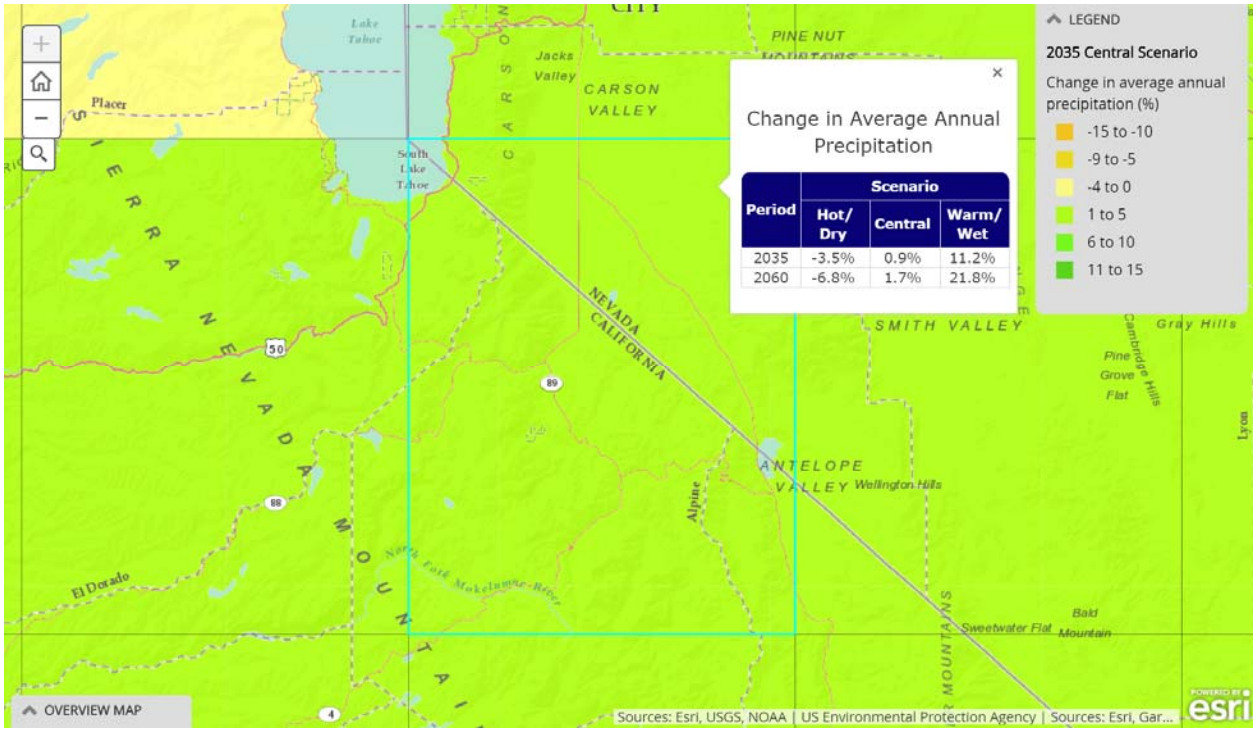
Other challenges that face the Lake Tahoe Basin related to temperature increases include:

- Maintaining water quality, primarily in surface waters such as Lake Tahoe and its tributaries
- Interdependent Sector Reliability (in the case of Lake Tahoe, tourism).

2.2.2 Changes in Precipitation

As expected, precipitation projections suggest high precipitation variability in the future in the Lake Tahoe Basin. The 4th Climate Change Assessment (Dettinger, 2018) projects a +/- 10% to 15% change in total average annual precipitation in the Sierra Nevada Region, which is more important in terms of potential impact to groundwater recharge and future impacts on drinking water supplies. South Lake Tahoe has already experienced several extreme precipitation events as described in Section 2.3. Historical data and future precipitation modeling scenarios in CREAT as presented in Figure 3, predict more precipitation, as a function of temperature changes, will occur as rain and less as snow in South Lake Tahoe. Snowpack is discussed in Section 2.2.3.

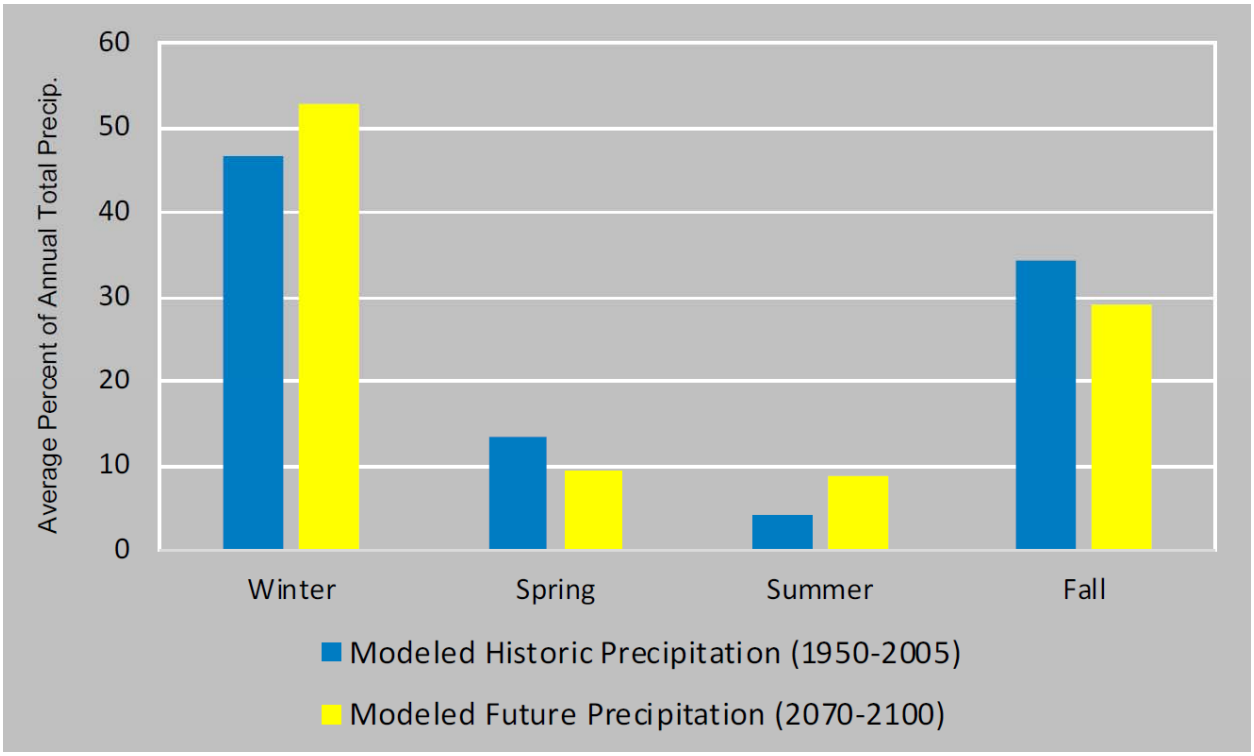
Figure 3: South Tahoe Future Precipitation Modeling



Seasonal precipitation patterns are expected to shift significantly. Precipitation models predict more precipitation in winter and summer, and less in fall and spring as shown in Figure 4 (2019 Climate Change Vulnerability Assessment for the Lake Tahoe Basin).

Warmer temperatures increase evaporation rates, which increase atmospheric water vapor, creating a positive feedback loop for more precipitation (Catalyst 2019 Climate Change Vulnerability Assessment for the Lake Tahoe Basin).

Figure 4: Historical and Future Precipitation



Source: Catalyst 2019 Climate Change Vulnerability Assessment for the Lake Tahoe Basin

Increased winter precipitation may pose significant challenges for the District, such as impacting wastewater conveyance and treatment, and flooded water facilities. Decreased precipitation in the fall may lead to increased water demands for urban irrigation, which may necessitate an increased need for water conservation and resulting impacts to the wastewater flow and influent quality. Examples of the type of concerns and challenges that the District may encounter due to precipitation changes are summarized below and discussed in greater detail in Section 3 and include:

- Water supply management including need for water conservation (especially to meet regulatory requirements), and facility management for lower groundwater levels during extended droughts.

- Flooding from natural disasters and more typical storm conditions that can reduce access to and directly impact water and wastewater facilities, especially those in low lying areas.

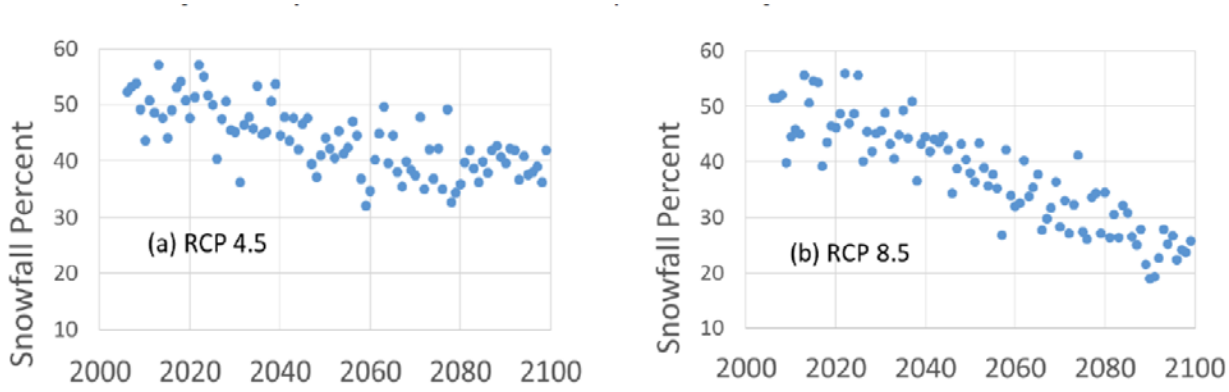
- Drought from reduction of historical water storage and snowpack, further reducing groundwater recharge that could manifest as future water supply issues. .

- Wastewater infrastructure management especially related to reduced flow or excess flow as discussed above.

2.2.3 Decreased Snowpack

Snowpack is expected to decrease in South Lake Tahoe as warming temperatures cause a decrease in snow events, less precipitation to fall as snow, and snow to melt earlier in the spring as shown on Figure 5. Snowlines are expected to shift to higher elevations.

Figure 5: Snowfall Projections for Lake Tahoe



Source: Catalyst 2019 Climate Change Vulnerability Assessment for the Lake Tahoe Basin) RCP 4.5 is for model with peak emissions in 2040 while RCP 8.5 is for a model with emissions continuing to rise throughout the 21st century.

Decreased snowpack may pose significant water supply challenges for the District, as less water will be stored in snowpack and available to contribute to supplies as snow melt to recharge groundwater. Decreased snowpack may pose the following specific challenges for the District:

- Water supply management

- Wildfire risk as a result of soil drying which is estimated to be 15-40% of historical averages in the Sierra will require increased water system demands and potentially impact District facilities

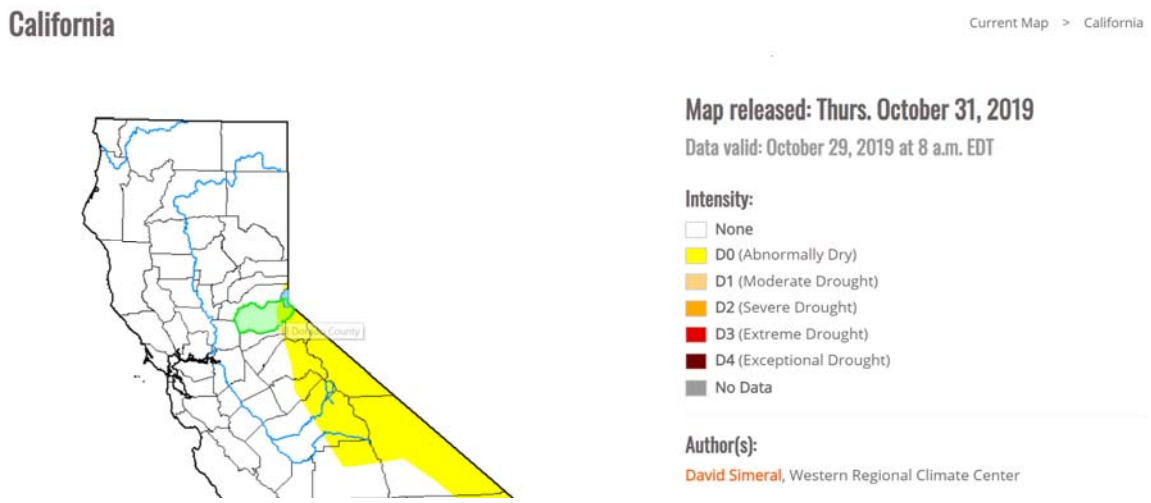
- Drought impacts are detailed in 2.2.1 and 2.2.2.

2.2.4 Increased Climatic Water Deficit and Drought Stress

Climatic Water Deficit (CWD) is the difference between potential and actual evapotranspiration, which presents increased drought stress as it increases. Models indicate CWD in the Lake Tahoe will increase by 1.6 and 2 millimeters (mm) or 0.6 – 0.8 inches per year, anticipating increased drought stress (Catalyst 2019 Climate Change Vulnerability Assessment for the Lake Tahoe Basin).

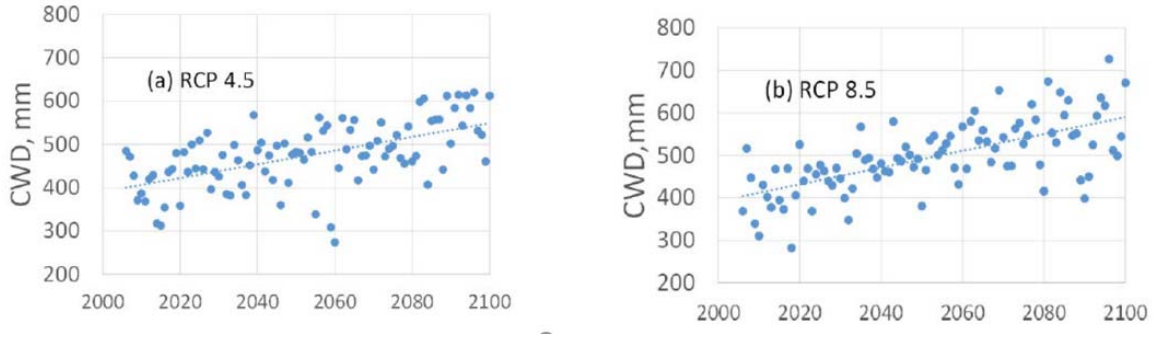
Drought Stress for South Lake Tahoe is currently in an abnormally dry state (U.S. Drought Monitor) as shown on Figure 6. Even though Figure 6 shows a snap shot in time, it should be noted that while precipitation in 2018-2019 was above average, it can be followed quickly by dry conditions. Future droughts are projected to be substantially hotter. For major river basins, such as the Sacramento River Basin, drought is projected to become more frequent, intense and longer lasting than in the historical record (He et al. 2018).

Figure 6: Drought Stress Intensity in Lake Tahoe



CWD modeling in a Catalyst (2019) Climate Change Vulnerability Assessment for the South Tahoe basin shows increased future CWD under two emissions scenarios as shown on Figure 7.

Figure 7: Projected Climate Water Deficit in Lake Tahoe



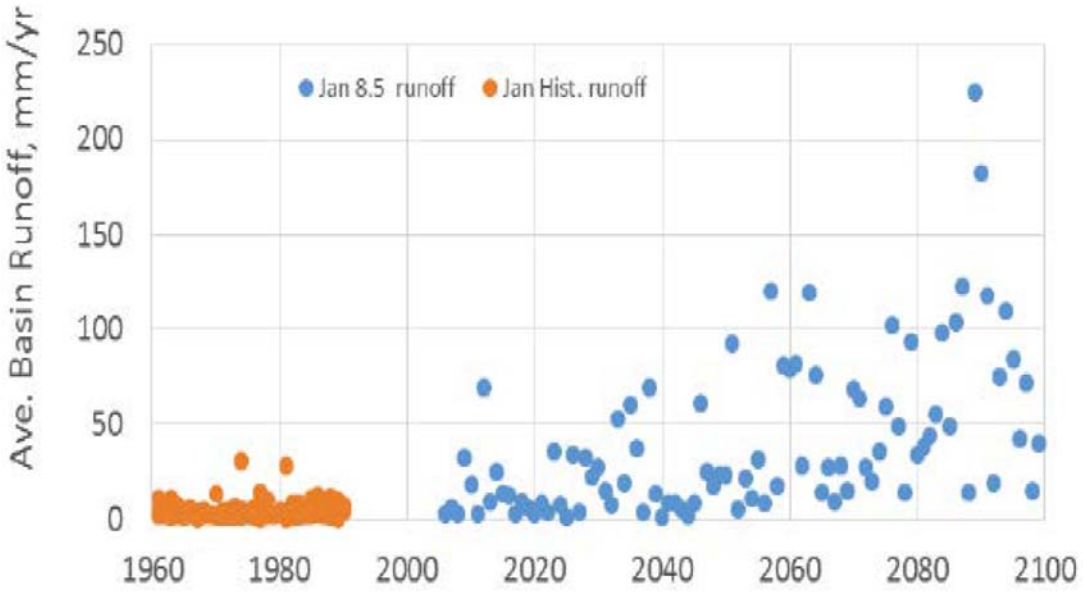
Source: Catalyst 2019 Climate Change Vulnerability Assessment for the Lake Tahoe Basin RCP 4.5 is for model with peak emissions in 2040 while RCP 8.5 is for a model with emissions continuing to rise throughout the 21st century.

One of the consequences of CWD is reductions in soil moisture, especially during drought periods which can increase tree mortality and increase risk of wildfires as discussed in 2.2.3.

2.2.5 Changes in Flooding and Runoff

Runoff is expected to increase with warmer temperatures and higher probability of rain on snow events and will also vary with variance in seasonal precipitation. Timing of spring runoff is expected to change dramatically. Models suggest timing for maximum runoff will shift from June to May, possibly due to higher temperatures and increased precipitation. Winter runoff is expected to increase as shown on Figure 8 which compares average Basin runoff for January under historic conditions as compared to future January under RCP 8.5 which allow emission to increase through the 21st century. Flooding in excess of current 100-year flood mapping is expected in the future.

Figure 8: Projected Runoff in Lake Tahoe



Source: Catalyst 2019 Climate Change Vulnerability Assessment for the Lake Tahoe Basin

2.2.6 Wildfire

As noted earlier, during drought periods, soil moisture will decrease causing changes to vegetation, increased tree mortality, and more risk of wildfires. Climate models anticipate changes to temperature and hydrology that affect the growth and range of combustible vegetation. Increases in fire intensity are anticipated in the mountains west and south of Lake Tahoe (Catalyst 2019 Climate Change Vulnerability Assessment for the Lake Tahoe Basin).

Wildfires threaten the District's water and wastewater infrastructure systems as discussed in Section 3.3. Of recent concern are the mandatory power shutoffs to reduce wildfire risks which occurred in much of California and could be a factor in Lake Tahoe in the future.

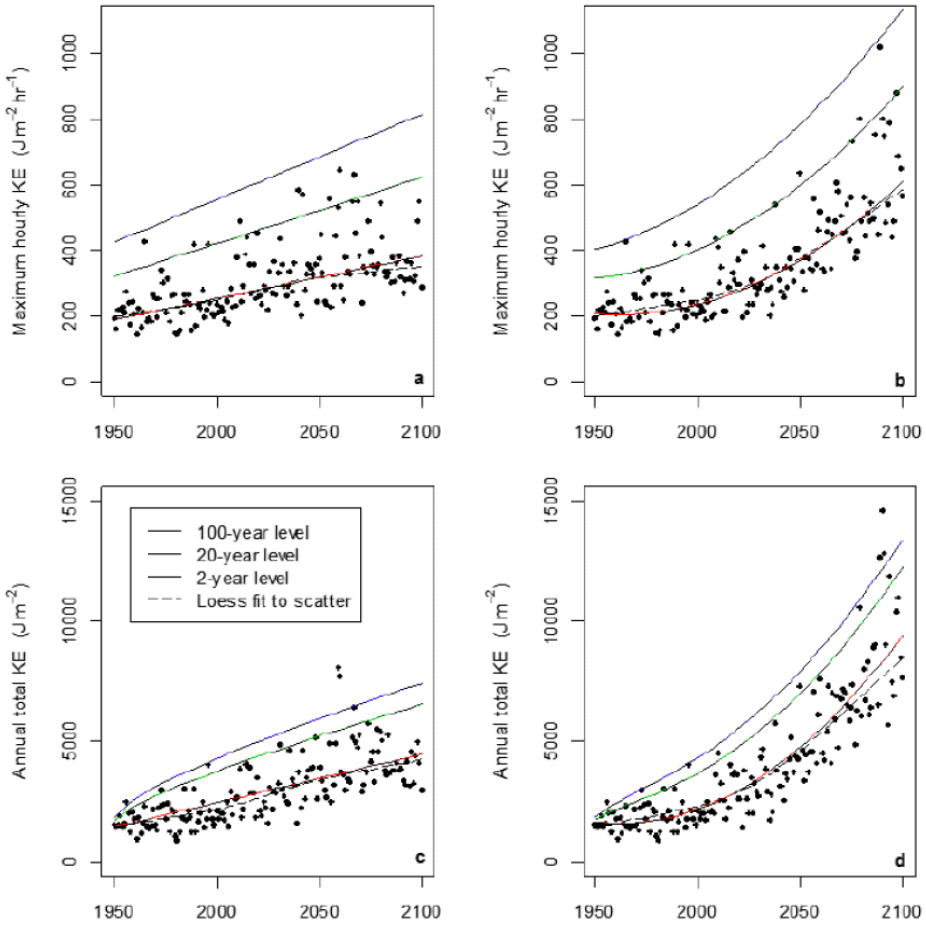
2.2.7 Rainfall Intensity

Rainfall intensity and kinetic energy are also expected to increase. Higher rainfall intensity (more rain over shorter duration) could result in flooding The kinetic energy of rainfall will affect erosion and the transport of fine sediment into Lake Tahoe. In the Lake Tahoe Basin, both the maximum hourly and the total annual kinetic energy of rainfall will be affected.

Modeled annual maximum hourly and annual raindrop energy on snow-free ground for a period of 1950 –2100 increase under both RCP 4.5 and RCP 8.5 (Figure 9).

Figure 9: Annual Maximum Hourly and Total Annual Raindrop Energy

Figure 15: Annual Maximum Hourly (top row) and Total Annual (bottom tow) Raindrop Energy on Snow-free Ground from 1950 – 2100 under RCP 4.5 (left) and RCP 8.5 (right)



Source: Catalyst 2019 Climate Change Vulnerability Assessment for the Lake Tahoe Basin RCP 4.5 is for model with peak emissions in 2040 while RCP 8.5 is for a model with emissions continuing to rise throughout the 21st century.

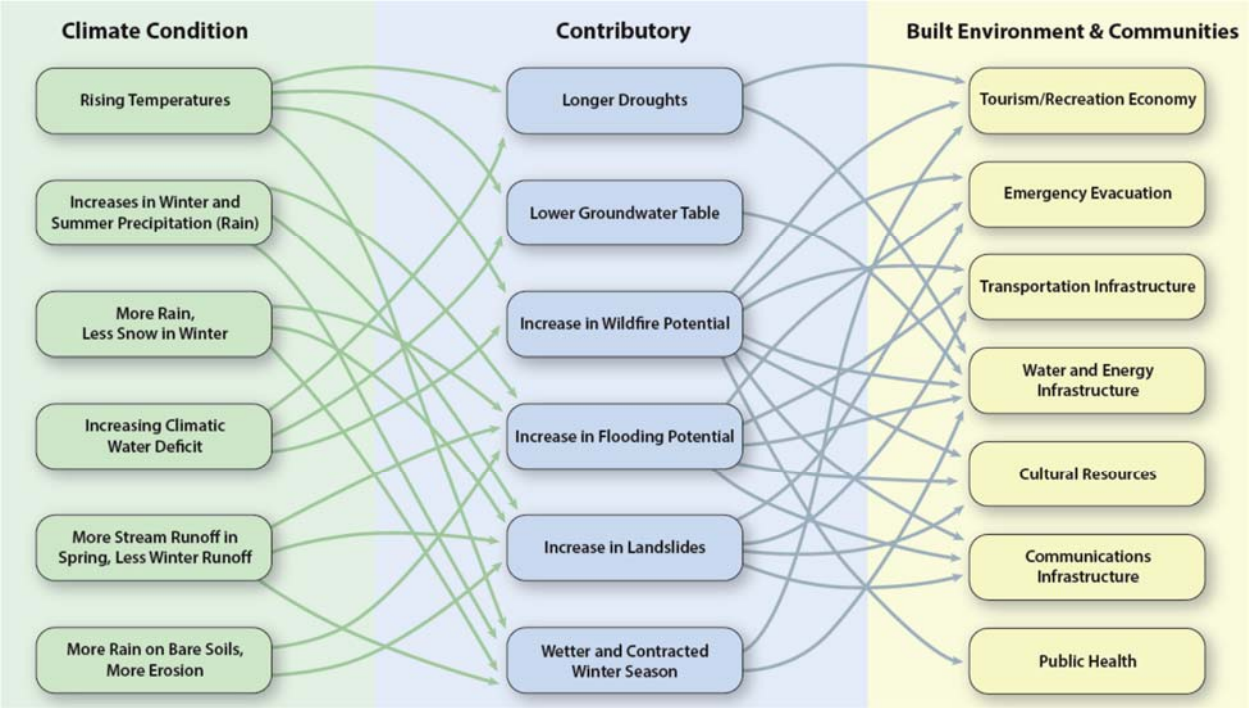
2.3 Past Weather Events

Past weather events, including fires, floods and severe storms, have caused damages to District facilities. Floods occurred at District facilities in 1997, 2006, and 2017, causing more than $750,000 in damage. Fires caused over $500,000 in damages to District facilities in the Angora Fire in 2008.

Section 3: Impacts and Implications of Climate Change on the District

Figure 10 below presents a systems view of climate conditions, contributory stressors and impacts on the built environment and communities (Catalyst 2019 Climate Change Vulnerability Assessment for the Lake Tahoe Basin).

Figure 10: Systems View of Climate Change Drivers, Impacts and End Results for the Basin's Built Environment and Communities



Source: Catalyst 2019 Climate Change Vulnerability Assessment for the Lake Tahoe Basin, Figure 27

Many of the Climate Conditions and Contributory elements directly relate to the Built Environments elements that comprise District facilities and their operations. The sections that follow describe some of the more specific impacts to the District such as increased need for water conservation, and lower groundwater levels during extended droughts in the water system and impacts of reduced wastewater flow and quality (i.e. higher concentrations), and likely impacts of extreme precipitation and wildfire.

3.1 Increased Temperatures, CWD, and Drought

In general, increased temperatures are expected to result in long-term energy service reliability issues due to climate change. Extreme heat, population growth, air conditioning penetration (i.e.

use of air conditioning in homes) and changes in energy policy might affect energy demand, resource adequacy and component overloading. While energy service reliability is more susceptible to population growth and changes in technology in many areas (Paying it Forward 2018), in Lake Tahoe rising air temperatures and high winds due to climate change, may exacerbate power outages especially if power shutoffs to reduce wildfire risk are implemented.

Water supply management through water conservation (especially to meet regulatory requirements) is a likely response to increased temperature and drought. Extended drought could result in lower groundwater levels. Work completed by DRI shows that changes in groundwater levels between baseline and Drought scenario (Q6) are generally less than 5-feet across portions of the groundwater basin used for drinking water supply. Maximum declines in groundwater levels (~ 20 feet) occur in the southeast corner of the basin. The District does not have any drinking water wells in this portion of the groundwater basin.

Water conservation from more severe droughts can affect influent wastewater quality, and create potential for buildup of solids and odorous gasses in the collections system. Decreases in water use can lead to complications and changes in wastewater treatment operations from higher strength raw wastewater, damage to systems, and increased costs. Wastewater infrastructure management may include need for increased sewer flushing resulting from reduced sewer flows. Reduced wastewater influent also reduces the effluent volumes available for export and store. More generally, Rivers and streams are expected to experience lower flows and higher temperatures, causing stress to aquatic species and ecosystems.

3.2 Extreme Precipitation, Runoff, and Flooding

Extreme precipitation, changes in runoff from rain on snow events, and resulting flooding inundation may disrupt service because of road flooding that disrupts access and direct damage to District water and wastewater infrastructure, especially in low lying areas. Power outages associated with extreme weather could also be a factor, especially at wastewater lift stations. The District wastewater treatment plant, pumping stations, and export system conveyance systems may be impacted by increased flows from extreme precipitation, and associated flooding events.

More generally, extreme precipitation events could exceed capacity of existing stormwater best management practices (BMPs) and infrastructure if located at District facilities, causing increased sedimentation and water quality degradation in Lake Tahoe.

The Federal Emergency Management Agency (FEMA) HAZUS modeling showed District water, sewer and export infrastructure is at risk from damage in a 100-year flood scenario (See Appendix B). Note that current 100-year flood plain locations, which are based on historic events, are likely not accurate in future climate scenarios.

3.3 Wildfires, Sedimentation, and Erosion

The frequency of wildfires is expected to increase in the future, with corresponding climatic water deficit and drought. Wildfires could threaten the District's infrastructure systems posing disruptions to road access, damage to more remote facilities and electric power lines, disrupt fuel delivery services, and potential to contaminate water supply systems by associated

sedimentation and erosion. Wildfires may also cause damage to roads, bridges, and culverts, as well as disruptions to communications systems. As noted earlier, mandatory power shutoffs to reduce wildfire risks could also be a factor in Lake Tahoe in the future and may impact District facilities especially if the power outage extends over multiple days and fuel supplies to stand-by power generators is limited because of access or supply issues. The post-wildfire sedimentation and erosion could be a factor for the District if the facilities are downhill of a steep burn area and if slope stability is an issue.

3.4 Climatic Water Deficit and Groundwater Deficit

Groundwater systems can buffer the impacts of droughts, but they may ultimately be vulnerable to changes in recharge and water extractions because of drought, especially under the dryer and hotter climate scenarios. Most of the low elevation groundwater systems around the lake from which the District draws its potable water supply are more resilient to drought due to their high volume of storage relative to usage and connections with the lake. Although unlikely in the District service area, there may be areas elsewhere where the ecological benefits of groundwater buffering may be a concern. Drought from reduction in historical water storage and annual snowpack, are particularly problematic in higher elevation wetlands and meadows, outside of the District's service area, with associated ecosystem risks.

3.5 Facilities and Assets at Risk

Based on the discussion in Sections 3.1 through 3.4, Table 1 below provides a summary of relative risk for District water and wastewater asset categories against various hazards some of which are climate related while others, like earthquake are not, but are provided for completeness. Not all assets in each category are in locations where the risk is imminent.

Table 1: District Assets Risk Assessment

Facility/ Asset	Temper-ature[1]	Wildfire[2]	Wind	Precipi-tation[3]	Flooding /Run off[4]	Mudslides/ Debris Flow[5]	Earth-quake	Eros ion[5]	Drought/ CWD
Wells	LOW	HIGH	MEDIUM	MEDIUM	MEDIUM	LOW	MEDIUM	LOW	MEDIUM
Pipelines (Water)	LOW	LOW	LOW	LOW	MEDIUM	LOW	MEDIUM	MEDI UM	LOW
Pipelines (Sewer)	MEDIUM	LOW	LOW	MEDIUM	MEDIUM	LOW	MEDIUM	MEDI UM	MEDIUM
Lift Stations	MEDIUM	HIGH	MEDIUM	HIGH	HIGH	LOW	MEDIUM	LOW	MRFIUM
WWTP	LOW	HIGH	MEDIUM	HIGH	HIGH	LOW	MEDIUM	LOW	MEDIUM
Export System	LOW	HIGH	MEDIUM	HIGH	HIGH	MEDIUM	MEDIUM	MEDI UM	MEDIUM

[1]Related to increased precipitation/flood risk from warmer temperatures
[2]Related to potential loss of power for long durations
[3]Related to increased flood risk from increased precipitation at some locations
[4]Related to increased infiltration/inflow and/or potential access and loss of power at some locations
[5] Related to steep slopes near facility at some locations

Table 2 presents some suggested approaches for identified high/medium risk climate change impacts on assets.

Table 2: Suggested Approaches for High and Medium Risk Impacts.

Facility/ Asset	Temper-ature	Wild-fire	Wind	Precipitation	Flooding/ Run off	Earthquakes	Erosion	Drought
Wells	Not applicable	Defensible Space, Backup Power	Back up Power	Not applicable	Flood-proofing,	Structural Assessments / Retrofits	Not applicable	Pump upgrades
Pipelines (Water)	Not applicable	Not applicable	Not applicable	Not applicable	Relocation /Structural Retrofits	Valving and Structural Retrofits	Relocation/Structural Retrofits	Not applicable
Pipelines (Sewer)	Reduce I&I	Not applicable	Not applicable	Reduce I&I,	Reduce I&I; Flood proofing	Structural Retrofits	Relocation/Structural Retrofits	Increased O&M
Lift Stations	Reduce I&I	Defensible Space, Backup Power	Back up Power	Lift Station upgrades to consider precipitation increases	Flood-proofing; backup power	Structural Retrofits	Not applicable	Increased O&M
WWTP	Not applicable	Defensible Space, Backup Power	Back up Power	Pump upgrades to handle precipitation increases	Flood-proofing; backup power	Structural Retrofits	Not applicable	Increased O&M
Export System	Not applicable	Defensible Space, Backup Power	Back up Power	Pump upgrades to consider increased flow from precipitation increases	Flood-proofing; backup power	Structural Retrofits	Review for Structural Retrofit	Increased O&M

Section 4: Greenhouse Gas (GHG) Emissions Inventory

The District is taking action to address drivers of climate change: GHG emissions. Water and wastewater managers and customers can play a key role in water and energy efficiency and the reduction of GHG emissions (*Managing an Uncertain Future: Climate Change Adaptation Strategies for California's Water*, DWR 2008). The global atmospheric CO_2 concentration has exceeded 400 parts per million (ppm), a level that last occurred about 3 million years ago. Without major reductions in emissions, the increase in annual average global temperature could reach 9°F (5°C) or more by 2100. With significant reductions in emissions, relative to pre-industrial times the increase in annual average global temperature could be limited to 3.6°F (2°C) or less (USGCRP 2017).

4.1 GHG Inventory Development

This initial GHG Inventory Development will enable an estimation of the District's GHG emissions baseline, and allow for the estimation of the GHG emission reductions or strategy that reduces water demand. As discussed in Section 4.5, the District is developing a more detailed GHG emissions inventory to better understand and address its specific GHG emissions working with Civic Sparks through Americorps.

4.2 GHG Data Collection and Summary Figures

As part of this initial GHG Inventory development, the District collected summary-level data for electricity and fuel usage. Summary graphs below show pumping and operation and maintenance activities associated with lift and pump stations accounts for a majority of the District fuel and electricity usage, which contribute to its greenhouse gas emissions. Tables follow with the District's water and sewer electricity use by facility.

The District is taking the initiative to use electric vehicles, where practical, rather than fossil-fuel vehicles. Given the cold temperatures in the District's high-sierra environment with significant snow fall that requires four-wheel drive, electric vehicles are not yet practical to implement throughout the District's fleetbut that could change as electric vehicle technology continues to improve.

Figure 11: District Fuel Use, 2015-2018

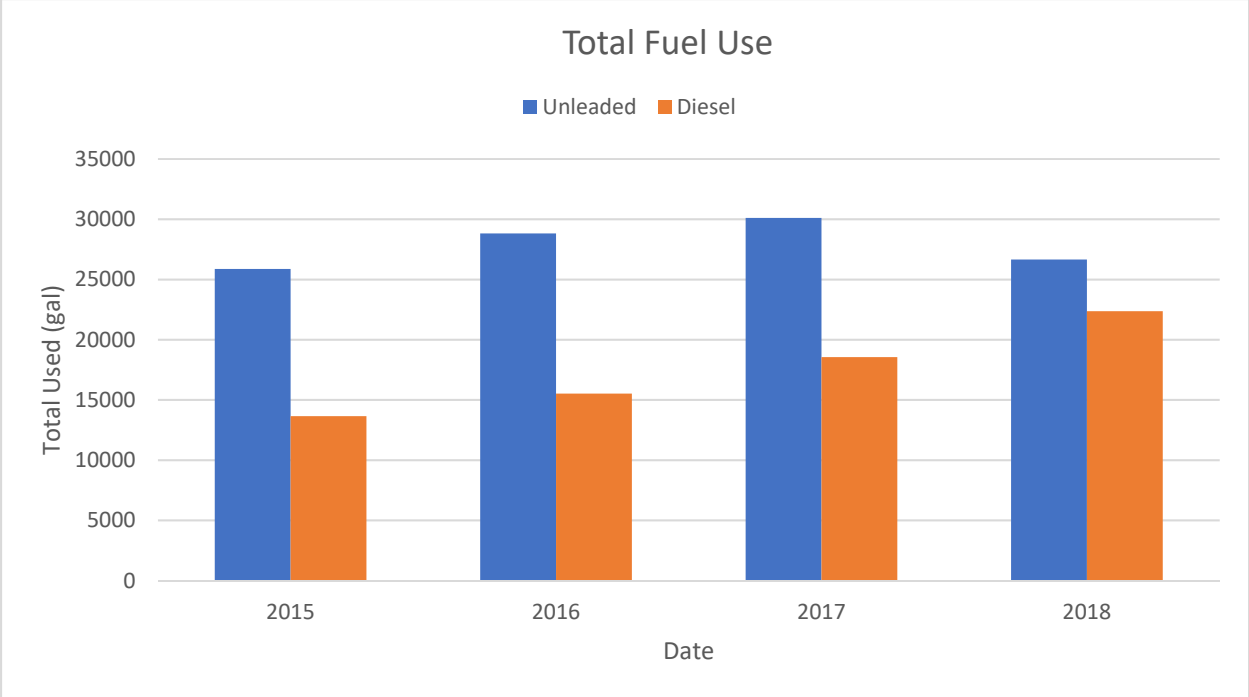


Figure 12: District Fuel Use, 2015-2019

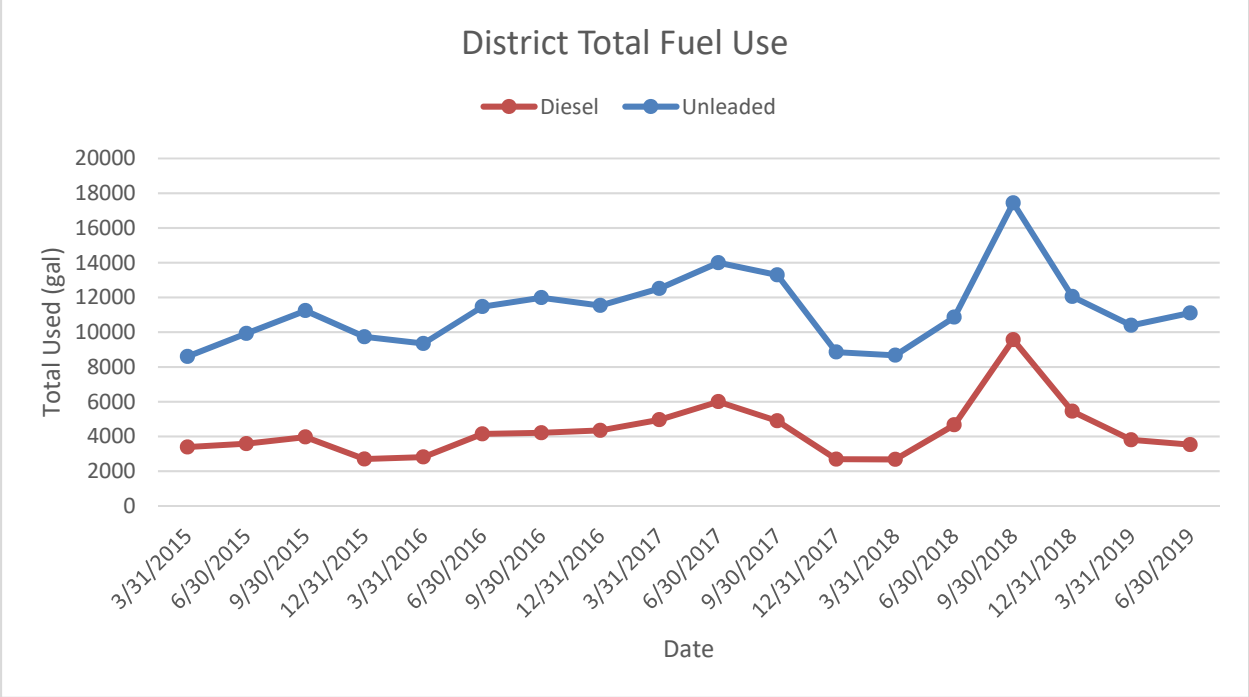


Figure 13: District Diesel Use by Department

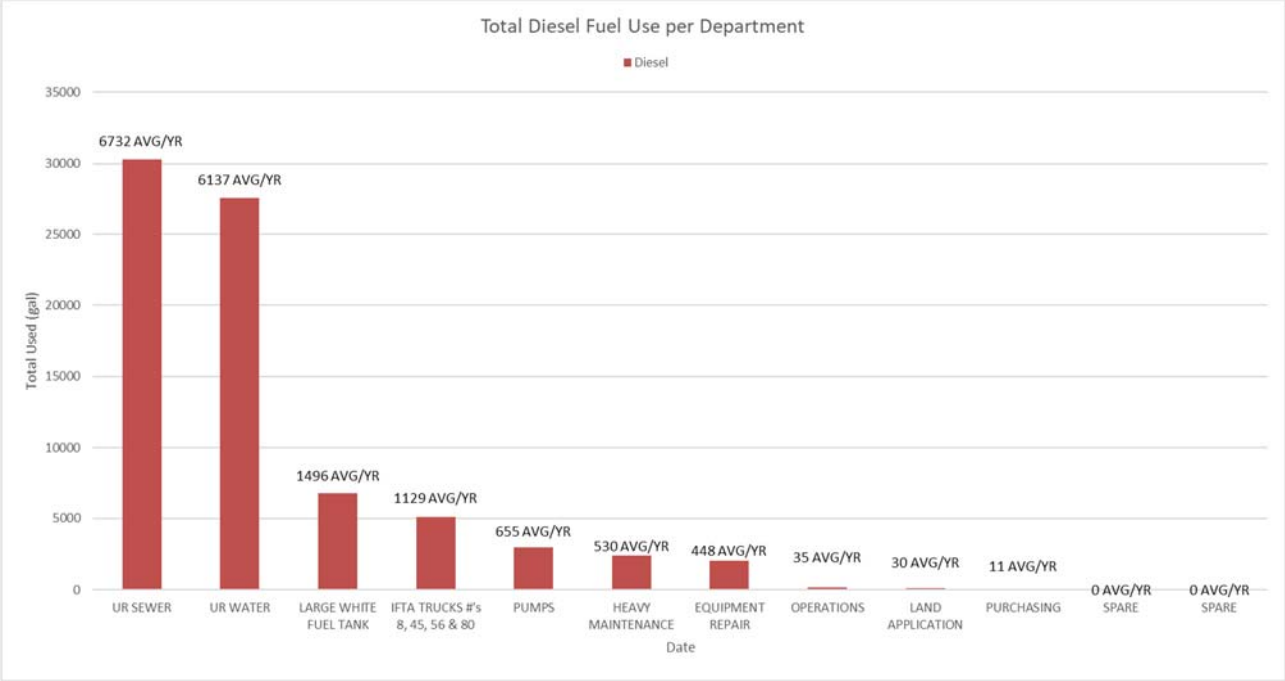


Figure 14: District Unleaded Use by Department

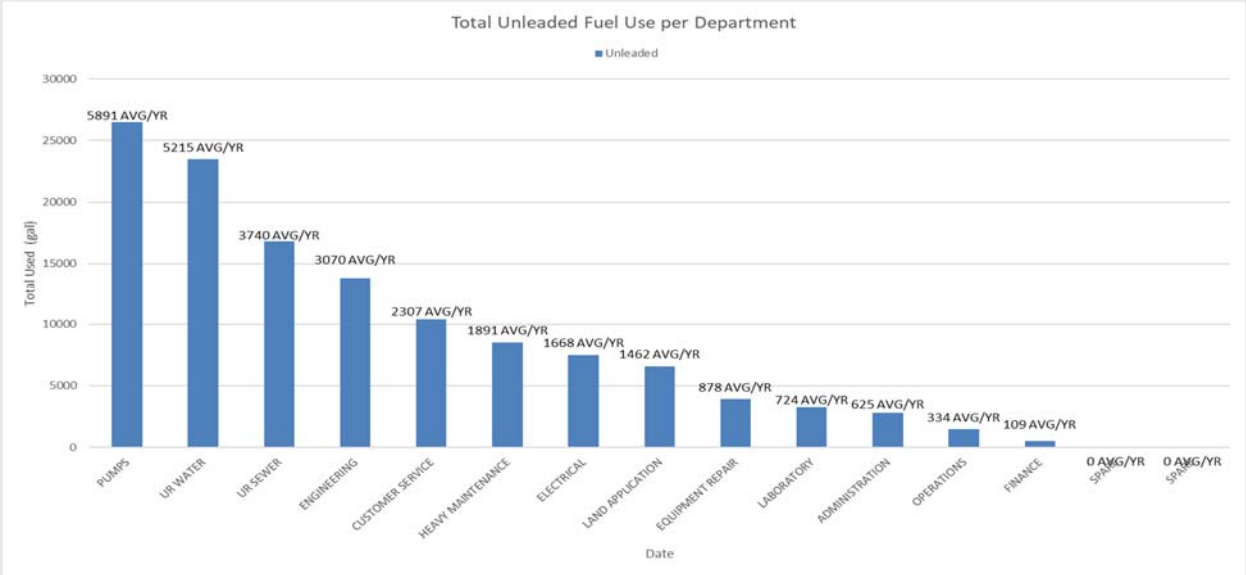
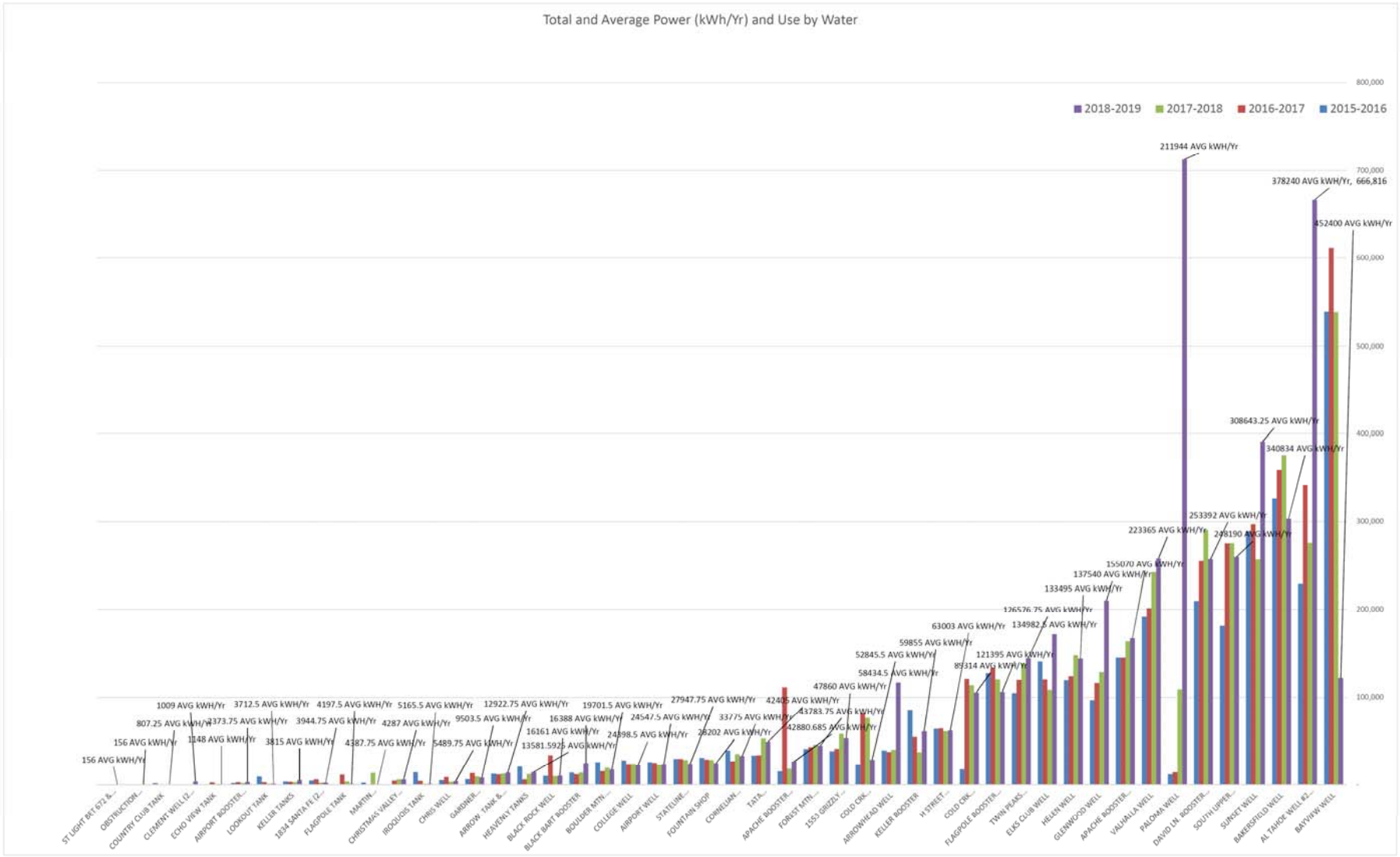
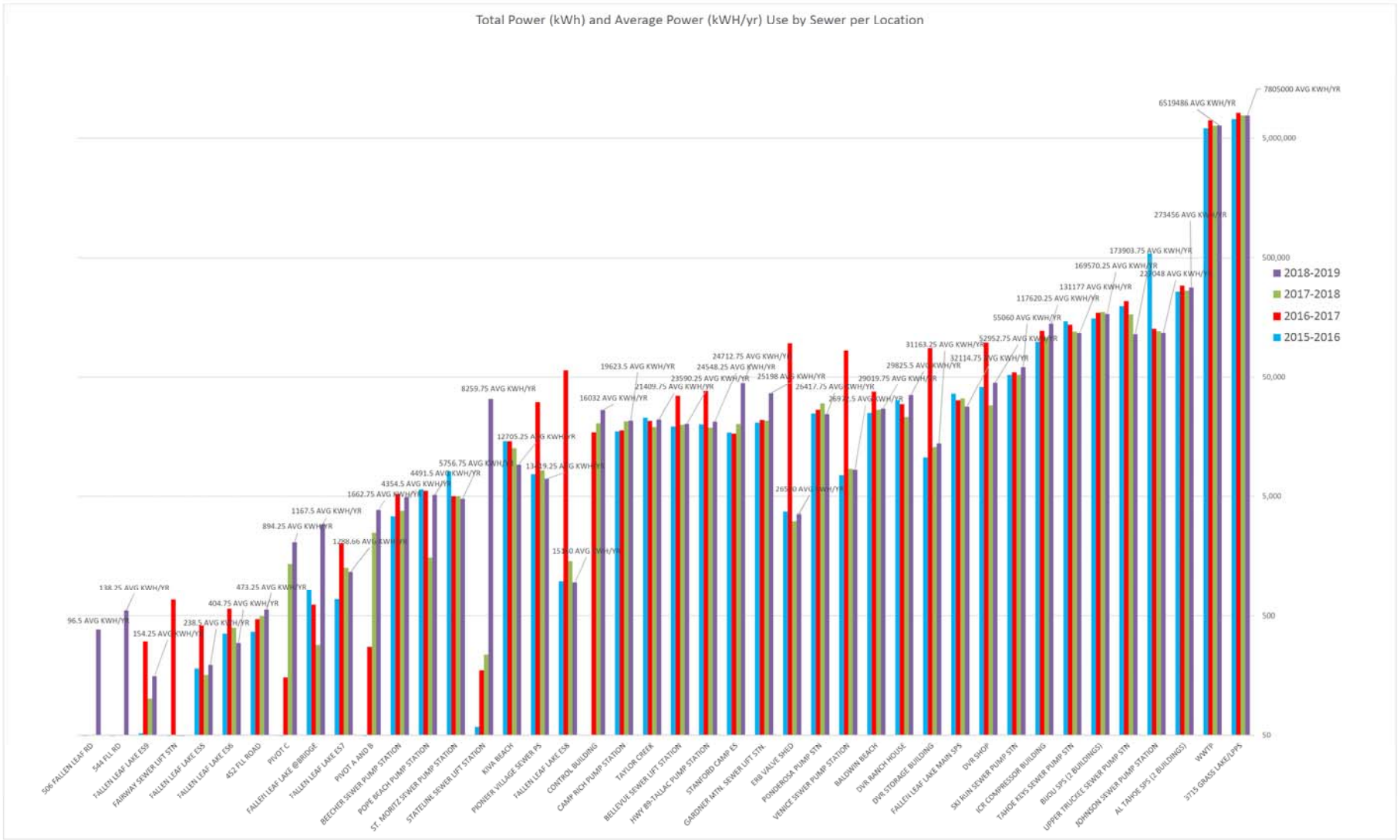


Figure 15: District Electricity Use (by Water)



Note: Table 3 provides source data

Figure 16: District Electricity Use (by Sewer)



Note: Table 4 provides source data

Table 3: District 4-Year Water Electricity Usage

Location	15-16 Total kWH/yr	16-17 Total kWH/yr	17-18 Total kWH/yr	18-19 Total kWH/yr	4 – year average kWH/yr
BAYVIEW WELL	538,560	611,840	537,920	121,280	452,400
AL TAHOE WELL #2 (2 BUILDINGS)	229,056	340,992	276,096	666,816*	378,240
BAKERSFIELD WELL	326,240	358,256	375,432	303,408	340,834
SUNSET WELL	289,112	296,997	257,509	390,955	308,643
SOUTH UPPER TRUCKEE WELL #3	180,800	275,520	276,060	260,380	248,190
DAVID LN. BOOSTER STN.	209,472	255,744	290,592	257,760	253,392
PALOMA WELL	12,288	14,400	108,384	712,704	211,944
VALHALLA WELL	191,460	201,180	242,320	258,500	223,365
APACHE BOOSTER STN	144,940	145,060	163,620	166,660	155,070
GLENWOOD WELL	96,560	115,560	127,960	210,080	137,540
HELEN WELL	118,979	123,230	147,806	143,965	133,495
ELKS CLUB WELL	140,577	119,770	108,287	171,296	134,983
TWIN PEAKS BOOSTER	104,800	119,280	137,667	144,560	126,577
FLAGPOLE BOOSTER STN	126,920	132,620	119,840	106,200	121,395
COLD CRK BOOSTER/TANK(2BLDGS)	17,962*	120,403	113,278	105,613	89,314
H STREET BOOSTER/TANK	63,971	64,623	61,341	62,077	63,003
KELLER BOOSTER	85,760	54,720	37,440	61,500	59,855
ARROWHEAD WELL	39,460	37,880	40,180	116,218*	58,435
COLD CRK BOOSTER/TANK(2BLDGS)	23,469	82,536	76,605	28,772	52,846
1553 GRIZZLY MOUNTAIN DRIVE	38,620	41,320	58,320	53,180	47,860
FOREST MTN. BOOSTER/TANK	40,997	43,307	45,938	44,893	43,784
APACHE BOOSTER STN	15,512	110,823*	18,578	26,610	42,881
TATA BOOSTER/WATER TANKS	33,564	34,000	52,800	49,256	42,405
CORNELIAN BOOSTER STATION	39,460	27,220	35,360	33,060	33,775
FOUNTAIN SHOP	30,752	28,908	28,263	24,885	28,202
STATELINE TANK/CTRLS BLDG	29,658	29,734	28,462	23,937	27,948
AIRPORT WELL	26,094	25,152	23,232	23,712	24,548
COLLEGE WELL	27,744	23,712	23,904	22,234	24,399
BOULDER MTN. BOOSTER STN	25,969	15,729	19,509	17,599	19,702
BLACK BART BOOSTER	14,159	12,317	14,224	24,852	16,388
BLACK ROCK WELL	10,302	33,926	10,004	10,412	16,161
HEAVENLY TANKS	20,960	6,113	12,574	14,679	13,582
ARROW. TANK & VALVE BLDG	12,809	11,920	12,875	14,087	12,923
GARDNER MOUNTAIN TANK	6,401	13,527	9,747	8,339	9,504
CHRIS WELL	5,463	8,798	3,426	4,272	5,490
IROQUOIS TANK	14,387	4,419	955	901	5,166
CHRISTMAS VALLEY TANK	58	4,817	6,091	6,182	4,287
MARTIN STORAGE(WAS MARTIN WELL)	2,283	520	13,963*	785	4,388
FLAGPOLE TANK	473	11,605	3,766	946	4,198
1834 SANTA FE (2 BUILDINGS)	4,881	6,082	2,446	2,370	3,945
KELLER TANKS	3,660	3,526	2,771	5,303	3,815
LOOKOUT TANK	9,562	2,819	1,189	1,280	3,713

Location	15-16 Total kWH/yr	16-17 Total kWH/yr	17-18 Total kWH/yr	18-19 Total kWH/yr	4 – year average kWH/yr
AIRPORT BOOSTER STN.	1,765	2,855	1,827	3,048	2,374
ECHO VIEW TANK	369	2,525	1,015	683	1,148
CLEMENT WELL (2 BUILDINGS)	74	73	74	3,815*	1,009
COUNTRY CLUB TANK	1,717	467	552	493	807
OBSTRUCTION LIGHTS AIRPORT WELL	156	156	156	156	156
ST LIGHT BET 672 & 676 GARNDNER ST	156	156	156	156	156

* Data anomalies may exist in original source data

Table 4: District 4-Year Sewer Electricity Usage

LOCATION	15-16 TOTAL kWH/Yr	16-17 TOTAL kWH/Yr	17-18 TOTAL kWH/Yr	18-19 TOTAL kWH/Yr	4 – Year Average kWH/Yr
3715 GRASS LAKE/LPPS	7,318,400	8,226,000	7,856,400	7,819,200	7,805,000
WWTP	6,044,544	7,128,000	6,433,200	6,472,200	6,519,486
AL TAHOE SPS (2 BUILDINGS)	258,480	290,832	264,192	280,320	273,456
JOHNSON SEWER PUMP STATION	539,552*	128,160	122,496	117,984	227,048
UPPER TRUCKEE SEWER PUMP STN	196,305	216,240	168,750	114,320	173,904
BIJOU SPS (2 BUILDINGS)	156,160	174,761	176,640	170,720	169,570
TAHOE KEYS SEWER PUMP STN	148,004	139,200	121,152	116,352	131,177
ICR COMPRESSOR BUILDING	98,300	123,461	107,360	141,360	117,620
SKI RUN SEWER PUMP STN	52,200	55,060	52,180	60,800	55,060
DVR SHOP	40,771	97,318*	28,770	44,952	52,953
FALLEN LEAF LAKE MAIN SPS	35,821	31,691	32,835	28,112	32,115
DVR STORAGE BUILDING	10,582	87,339*	12,891	13,841	31,163
DVR RANCH HOUSE	31,642	29,369	23,205	35,086	29,826
BALDWIN BEACH	25,080	37,479	26,400	27,120	29,020
VENICE SEWER PUMP STATION	7,599	83,301*	8,568	8,422	26,973
PONDEROSA PUMP STN	24,813	26,481	29,817	24,560	26,418
ERB VALVE SHED	3,726	95,729*	3,124	3,581	26,540
GARDNER MTN. SEWER LIFT STN.	20,860	21,980	21,620	36,332	25,198
STANFORD CAMP ES	17,202	16,867	20,244	44,538	24,713
HWY 89-TALLAC PUMP STATION	20,160	37,878	18,880	21,275	24,548
BELLEVUE SEWER LIFT STATION	19,360	34,641	20,000	20,360	23,590
TAYLOR CREEK	22,813	21,546	19,180	22,100	21,410
CAMP RICH PUMP STATION	17,612	17,941	21,321	21,620	19,624
CONTROL BUILDING	No Data	17,280	20,544	26,304	16,032
FALLEN LEAF LAKE ES8	980	57,196*	1,430	954	15,140
PIONEER VILLAGE SEWER PS	7,722	30,573*	8,318	7,064	13,419
KIVA BEACH	14,458	14,451	12,608	9,304	12,705
STATELINE SEWER LIFT STATION	59	176	236	32,568	8,260
ST. MORITZ SEWER PUMP STATION	8,203	5,020	5,026	4,778	5,757
POPE BEACH PUMP STATION	5,718	5,571	1,536	5,141	4,492
BEECHER SEWER PUMP STATION	3,444	5,230	3,808	4,936	4,355
PIVOT A AND B	1	274	2,517	3,859	1,663
FALLEN LEAF LAKE ES7	686	2,025	1,270	1,174	1,289
FALLEN LEAF LAKE @BRIDGE	821	617	284	2,948	1,168
PIVOT C	1	154	1,355	2,067	894
452 FLL ROAD	370	472	493	558	473
FALLEN LEAF LAKE ES6	357	569	399	294	405
FALLEN LEAF LAKE ES5	182	417	161	194	239
FAIRWAY SEWER LIFT STN	25	682	20	31	190
FALLEN LEAF LAKE ES9	52	307	101	157	154
544 FLL RD	1	0	0	552	138
506 FALLEN LEAF RD	1	0	0	385	97

* Data anomalies may exist in original source data

4.3 Future Refinements to GHG Inventory

The District is partnering with Civic Sparks to complete a comprehensive inventory to calculate all of its GHG emissions. This additional GHG work is expected to be completed in 2020 and will identify additional GHG reduction opportunities for the District to consider. The scope of Civic Sparks' work includes:

1. An analysis of energy usage including a breakdown of electricity, natural gas and other energy consumption by facility from 2015-2018, this will build on the information presented in Section 4.2. The analysis will also include evaluate the cost and efficiency impacts of significant capital improvement projects.

2. Based on Item 1, conduct a greenhouse gas emissions inventory for 2015-2018 including data collection and GHG emissions calculations for all District operations

3. Data tracking system including

    a. Systems to monitor of real-time energy usage by conducting research and development of possible systems; testing and quality assurance, and providing technical assistance and support

    b. Systems to monitor energy for capital improvement projects by conducting research and development of possible systems; testing and quality assurance, and providing technical assistance and support

    c. Researching options for connecting the new data system to SCADA

Section 5: Adaptation and Mitigation

5.1 Actions to Mitigate Vulnerabilities

Outlined below are specific actions covering all aspects of the District's authority, that it intends to take to address the causes and effects of climate change. The District has initiated work in several of the areas and/or will incorporate the specific items in its upcoming projects and expects to update this CAP periodically to reflect these changes:

- Incorporate Climate Resiliency Planning into Capital Improvements Plan and Projects
    - Identify and Protect Vulnerable Facilities
    - Review Backup Power and Fuel Source for Critical Facilities
    - Complete Structural Assessment and Potential Retrofits of Critical Infrastructure
    - Increase Pumping Efficiency
    - Attenuate Peak Flows and Loadings
    - Reduce Inflow and Infiltration
- Review the 2019 District Local Hazardous Mitigation Plan and update to address Risk and Resiliency Assessment (RRA) and Emergency Response Plan (ERP) requirements (RRA is due by June 30, 2021 and ERP by December 30, 2021 per US Environmental Protection Agency)
- Development of a District Environmental Policy addressing Climate and Energy Management

An overview of these individual topics and the relative cost of implementation is provided in the section that follows.

5.2 Description and Relative Cost of Mitigation Actions

Incorporate Climate Resiliency Planning into Capital Improvement Plans and Projects

Relative Cost: LOW

Description: Plans to build or expand/rehabilitate infrastructure should consider the vulnerability of the proposed locations to inland flooding, erosion, power loss and other impacts associated with extreme climate events. This could be implemented by preparation of a climate-related checklist for the facilities to be utilized early in planning/design. District staff have initiated the following activities including prioritizing condition assessment of underground utilities near surface water features and identifying critical facilities that lack emergency stand-by power.

The items below are specific measures that the District will consider:

Identify and Protect Vulnerable Facilities

Relative Cost: MEDIUM

Description: Operational measures to isolate and protect the most vulnerable systems or assets at a facility will be considered. For example, critical wells and lift stations would include those serving a large portion of the service area population and those located in a flood zone. Protection of these assets would then be prioritized based on the likelihood of flood damage and the consequence of service disruption. As the District advances projects in these critical facilities such as at underground utilities that cross surface water features, initial planning will include assessing their vulnerability to these risks.

Review Backup Power and Fuel Source for Critical Facilities

Relative Cost: MEDIUM

Description: Water utilities are one of the major consumers of electricity in the United States. With future electricity demand forecasted to grow, localized energy shortages may occur, especially during wildfire curtailments and/or large flood events. The development of "off-grid" sources can be a good hedging strategy for electricity shortfalls. Moreover, redundant power supply can provide resiliency for situations in which natural disasters cause power outages. On-site sources can include solar, wind, inline microturbines biogas (methane from wastewater treatment), and traditional diesel generators as well as alternative fuel generators that could be easier to supply. New and back-up electrical equipment should be located above potential flood levels. The District has backup power at many of its critical facilities; and has initiated an evaluation of overall backup power needs.

Attenuate Peak Flows and Loadings

Relative Cost: MEDIUM

Description: Reduce wastewater treatment plant loading by using equalization basins and system-wide leak detection and repair to attenuate peak flows. The District has identified portions of the sewer collection system that are susceptible to flooding and has already incorporated some of these measures at its facilities; as an example, peak flow estimates were used for sizing of the facilities should be reevaluated in light of potential future increases.

Reduce Inflow/Infiltration (I/I)

Relative Cost: MEDIUM

Description: Wastewater flow models can estimate the impact of wet weather flows on wastewater collection system and treatment plant capacity and operations. Based on comparison of model results with monitoring data, areas in need of infiltration reduction measures or additional collection capacity can be identified. Preventing illegal connections and leaks at grouting connections by sliplining or using watertight manhole covers can reduce

stormwater infiltration volumes. As noted above, the District has been identifying and implementing I/I measures as part of its sanitary sewer management plan.

Increase Pumping Efficiency

Relative Cost: MEDIUM

Description: Increase pumping efficiency by reducing and managing loads, modifying pumps, optimizing motor and drive selection, or pursuing automated control. The District considers pump and motor efficiency during replacement and has initiated energy audits and energy usage tracking systems at water and wastewater facilities.

Complete Structural Assessments/Retrofits of Critical Infrastructure

Relative Cost: MEDIUM

Description: Bring structures to Earthquake Code Compliance. For the water system, seismic risk evaluation will be a part of the 2020 Urban Water Management Plan cycle under SB664 which reads:

> "This bill would require an urban water supplier to include within its plan, beginning January 1, 2020, a seismic risk assessment and mitigation plan to assess the vulnerability of each of the various facilities of a water system and mitigate those vulnerabilities."

The Seismic Risk Assessment can be the first step to identifying the structures in the water system that may need to be brought into compliance with building codes to meet earthquake standards. The 2019 District Local Hazard Mitigation Plan addresses seismic risk as a natural hazard and will likely fulfill this requirement.

Complete a Risk and Resiliency Assessment and Emergency Response Plan

Relative Cost: LOW

Description: Identify Risks and outline activities and procedures to follow in case of an incident, from preparation to recovery. As noted in the Section 5.1, the RRA and ERP are required by USEPA and can incorporate elements of items above. The District's 2019 Local Hazard Mitigation Plan will be reviewed and updated to address these topics.

Develop a Climate Policy

Relative Cost: LOW

Description: Building on this Climate Action Plan and the upcoming GHG inventory work by Civic Sparks, the District is in the process of developing an Environmental Policy which will include a Climate element and describe broad policy direction on topics such as energy efficiency standards, fleet/equipment purchases, climate change mitigation actions including flood resilience. The District has installed a 56kW hydroelectric turbine generator on the recycled water export pipeline to implement a renewables program within its own facilities

Develop an Energy Management Strategy

Relative Cost: LOW

Description: Develop an energy management plan and investigate opportunities for funding efficiency measures through state and local government assistance programs and other funding sources. Investigate alternative power supplies to support operations in case of loss of power. Strategy should have top-level management endorsement and support. As noted earlier, the District's Environmental Policy which is under development will include addressing energy management. The GHG Inventory being conducted by Civic Sparks can inform the best opportunities for the Energy Management portion of the Environmental Policy.

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Kennedy Jenks

Appendix A

2019 STPUD Local Hazard Mitigation Plan

SOUTH TAHOE PUBLIC UTILITY DISTRICT LOCAL HAZARD MITIGATION PLAN

2019 Update

TABLE OF CONTENTS

I. INTRODUCTION

A. DISTRICT PROFILE

The South Tahoe Public Utility District (STPUD), a public agency chartered in 1950, operates on the south shore of Lake Tahoe in El Dorado County. The District supplies drinking water and provides wastewater collection and treatment for the community of South Lake Tahoe. The District recycles 100% of its wastewater and transports it to Alpine County, where its application benefits agricultural land. Lake Tahoe's seasonal tourism and the large number of part-time residents cause wide fluctuations in both daily water production and wastewater flows.

The District serves water to more than 14,000 homes and businesses, with annual water production at nearly 2.6 billion gallons. The water system includes 16 active wells, 22 water tanks, 15 booster stations, and 370 miles of water mainline.

The District's unique water distribution system is an amalgam of small private water systems dating back to the late 1940s. The District began acquiring these private water companies in the 1970s after the passage of the Clean Water Act, when many of these companies sought to sell their systems instead of complying with the new, costly regulations. In addition to regulatory challenges, most of the waterlines in the systems did not meet the District's present standards with regards to size. Smaller waterline size impacts potable water pressure and delivery of fire-fighting water.

The District has worked diligently on replacing waterlines to improve water quality, quantity, and fire suppression capabilities. While not a legal mandate, waterline projects include fire hydrant installation at 500-foot intervals. The District considers the upsizing of waterlines and the installation of fire hydrants to be a public service for community safety.

The sewage collection system consists of more than 330 miles of collection lines and 42 lift stations, providing service to more than 17,000 homes and businesses. The wastewater treatment plant capacity is 7.7 million gallons per day. The design and operation of the wastewater treatment plant makes it possible to achieve water quality that allows water and biosolids recycling. Each year the plant treats and exports more than 1.4 billion gallons of recycled water that meets high reuse standards. Under provisions of the 1968 Porter-Cologne Water Quality Control Act, the District transports the recycled water nearly 26 miles out of the Tahoe Basin to the District-owned and operated Harvey Place Dam and Reservoir. The recycled water facilities, known as Diamond Valley Ranch (DVR,) are located near Woodfords, California in neighboring Alpine County.

The District's state-certified laboratory performs more than 30,000 tests annually to monitor a variety of chemicals and microorganisms in the drinking water, wastewater treatment, and recycled water export systems. These tests on groundwater, surface water, and soils safeguard District customers and the environment.

As part of providing a high-level of customer service, the District diligently alerts and educates customers on matters affecting their water supply and water quality. The District also provides all customers with an annual Consumer Confidence Report (CCR) that easily explains critical drinking water information. The CCR is available on the District's web site at www.stpud.us.

B. BACKGROUND

Natural hazards, such as floods, landslides, and hurricanes are a part of the world around us. Their occurrence is natural and inevitable, and there is little we can do to control their force and intensity. However, through *hazard mitigation planning*, we can control what comes afterward. By minimizing the impact of natural hazards upon our built environment, we can prevent such events from resulting in disasters.

"Hazard mitigation" is simply a technical term for reducing risks to people and property from natural hazards. It includes both structural measures, such as protecting buildings and infrastructure from the forces of wind and water, and non-structural measures, such as natural resource protection and wise floodplain management. These activities can target existing development or seek to protect future development by avoiding any new hazardous construction.

The easiest way a community can get serious about hazard mitigation is through the development and adoption of a local **hazard mitigation plan**. A mitigation plan will ensure that measures to reduce the present and future vulnerability of a community are thoroughly considered before, during, and after the next disaster strikes.

Mitigation planning has the potential to produce long-term and recurring benefits by breaking the repetitive cycle of disaster loss. A core assumption of mitigation is that current dollars invested in mitigation practices will significantly reduce the demand for future dollars by lessening the amount needed for emergency recovery, repair, and reconstruction.

Both the State of California and the U.S. Congress made the development of a hazard mitigation plan a specific eligibility requirement for any local government applying for mitigation grant funding. Communities with an adopted plan will therefore become "pre-positioned" and more apt to receive any available mitigation funds. "Local government" has been defined by the Federal Emergency Management Administration (FEMA) to include counties, cities, school districts, special districts, Indian tribes, and other small and large governmental entities.

The South Tahoe Public Utility District is located in a region of California that is particularly vulnerable to the effects of a range of natural hazards. These hazards threaten the life and safety of District employees and local residents, and have the potential to damage or destroy both public and private property. The District has, in fact, suffered disaster losses in years past that resulted in significant property damage.

The South Tahoe Public Utility District Local Hazard Mitigation Plan satisfies the federal legislation, The Disaster Mitigation Act of 2000, and the requirement for local governments to formulate and enact a pre-disaster mitigation program in order "to identify the natural hazards that impact them, to identify actions and activities to reduce any losses from those hazard, and to establish a coordinated process to take advantage of the plan, taking advantage of a wide range of resources." (44 CFR, sec. 201.1)

The District has the option to file a stand alone plan or an addendum to El Dorado County's Plan. The South Tahoe Public Utility District staff has chosen to prepare the LHMP as an addendum to the El Dorado County Plan.

C. PURPOSE

The purpose of this Local Hazard Mitigation Plan is:

- To protect life, safety and property by reducing the potential for future damages and economic losses that result from natural hazards;
- To qualify for additional grant funding, in both the pre-disaster and post-disaster environment;
- To speed recovery and redevelopment following future disaster events;
- To demonstrate a firm commitment to hazard mitigation principles; and
- To comply with both state and federal legislative requirements for local hazard mitigation plans.

D. PARTICIPANTS IN THE PLANNING PROCESS

Local Contact:
Lynn Nolan
Grant Coordinator
STPUD
1275 Meadow Crest Dr.
South Lake Tahoe, CA 96150
lnolan@stpud.dst.ca.us

The participants in the development of the 2008 Local Hazard Mitigation Plan included the persons listed in the following table.

Name	Job Title
Richard H. Solbrig	General Manager
Paul Sciuto	Assistant General Manager
Randy Curtis	Manager of Field Operations
Mary Alsbury	Computer Systems Tech II
Ivo Bergsohn	Hydro-Geologist
Hal Bird	Land Application Manager
Linda Brown	Purchasing Agent
Dennis Cocking	District Information Officer
Bill Frye	Information Systems Administrator

Jim Hoggatt	Construction Manager/Engineer
Nancy Hussmann	Director of Human Resources
Ross Johnson	Manager of Plant Operations
Jeff Lee	Operations Supervisor
Larry Norton	Electrical/Instrumentation Tech
Jeff Penner	Pump Station Operator II
Glenn Roderick	Pump Station Operator II
Rhonda McFarlane	Chief Financial Officer
Kathy Sharp	Executive Services Manager
Carol Swain	Information Systems Manager
John Thiel	Senior Engineer
Christina Dingman	Engineer

The participants in the development of the Local Hazard Mitigation Plan 2017 Update included the persons listed in the following table.

Name	**Job Title**
Richard H. Solbrig	General Manager
Shannon Cotulla	Assistant General Manager
Chris Stanley	Manager of Field Operations
Jim Hilton	Water Reuse Manager
John Thiel	Engineering Manager
Nancy Hussmann	Director of Human Resources
Jeff Lee	Interim Manager of Plant Operations
Paul Hughes	Chief Financial Officer
Chris Skelly	Information Technology Manager
Terry Powers	Lab Manager
Debbie Henderson	Accounting Manager

Other Jurisdictions participating in plan development

Agency	**Name**	**Job Title**
El Dorado County	Todd Crawford	Sheriff's Deputy

E. DESCRIPTION OF THE PLANNING PROCESS

The planning process began in 1999 with natural hazard mitigation plan meetings with Department Managers. The purpose of the meetings was to identify plan participants and stakeholders, and to develop an approach for researching, writing, and implementing an effective natural hazard mitigation strategy for the South Tahoe Public Utility District. Natural hazards that could potentially affect District facilities, staff, and infrastructure were identified and analyzed. Data Tables assessing the hazards and providing a vulnerability analysis were created and over the next 3 years were circulated amongst plan participants. These tables allowed for input by the concerned parties while surveying the plan participants about their specific natural hazard concerns. In addition, site visitations were scheduled with each plan participant to inventory assets and estimate potential losses.

Concurrently, District staff was also involved in the development of the Alpine County Local Hazard Mitigation Plan, completed and adopted in 2004. This plan includes objectives and mitigation action items specific to the wastewater distribution system located in Alpine County. As a part of this process, community meetings and public meetings via the Alpine County Board of Supervisors were held for input regarding the development of mitigation objectives. A full description of this process is included in the Alpine County LHMP. The District sent staff to Alpine County to attend these public meetings, where they assisted in the development of the plan and gained valuable insight into hazard mitigation planning and the creation of mitigation objectives.

The next stage of the planning process for STPUD was the development of mitigation projects for the identified hazards for each department. Mitigation goals were formulated and objectives and actions were identified for each natural hazard. In 2005, development of the actual Hazard Mitigation Plan Document began. Bi-monthly meetings were held with the Maintenance, Operations, and Engineering departments where the plan was discussed, developed, and updated.

In July of 2008, the information and input gathered over the prior years was assembled into the South Tahoe Public Utility District's Local Hazard Mitigation Plan. At that time, a draft of the plan with all current revisions was made available for public input. The STPUD Board of Supervisors also held a public hearing for comments on the draft LHMP. Although there were no written or verbal comments received from the public, the Board offered several suggestions and comments that were incorporated into the final plan.

In 2016 the LHMP was distributed to District staff for review. The LHMP was updated and the Local Hazard Mitigation Plan 2017 Update was published on the District's website for public review and comment. On January 19, 2017, the South Tahoe Public Utility District Board of Directors conducted a public hearing and adopted the updated plan by resolution No. 3049-17.

II. HAZARD IDENTIFICATION AND ANALYSIS

The South Tahoe Public Utility District has identified several hazards that are examined and addressed within this Hazard Mitigation Plan. These include: wildland fires, thunderstorms, flooding, drought, landslide, avalanche, high winds, severe winter storms, and earthquakes. In addition, several human and technological hazards have been identified which may impact District operations. The following is the hazard identification and risk assessment for these hazards.

A. NATURAL HAZARDS

Wildland fires: Wildland fire is one of the most dangerous natural disaster threats in the Lake Tahoe Basin. Regardless of the seasonal environmental variables that act as indicators of wildland fire potential, most wildland fire events are caused by human actions. Whether the ignition source is a discarded cigarette, an unattended campfire, or

and act of arson, it is people who have the greatest impact on and control over the number of wildland fires in a fire season. Mother Nature can also be responsible for igniting wildland fires. Lightning is an especially dangerous element during the dry summer season.

Hazard Assessment: Wildland fire danger is a seasonal hazard and provides some measures of awareness and predictability to the hazard. The threat of wildland fire increases as winter snowpack melts, summer temperatures rise, and forest fuels become dry and susceptible to fire. These fires can have devastating effects that are essentially measured in terms of how much area is burned in the fire.

The District's facilities and infrastructure are at risk due to the fire load and terrain setting. A wildfire storm could potentially destroy power facilities, interfere with water delivery & storage, create water contamination, cause environmental damage, and cause potential injury and/or death to staff and the public. In summer of 2007, the Angora fire occurred in the Lake Tahoe Basin, burning approximately 3,100 acres, 242 residences, and 67 commercial structures. The District suffered minor, but costly, losses as a result of damage caused by the Angora fire to two structures, the Forest Mountain Tank and Pump Station.

Severe Storms: The climate of the Lake Tahoe Basin is conducive to severe storm weather events, which can happen at any time of the year. These severe weather events can be broken down into two categories:

1) Severe Thunderstorms
2) Severe Winter Storms

Severe Thunderstorms: During the summer months, climatic factors combine to promote the development of thunderstorms. As heated air from lower elevations rises and rapidly cools, intense thunderstorm cells can develop in some of the Lake Tahoe Basin's high elevation landscape.

Severe Winter Storms: A winter storm is an event in which the dominant varieties of precipitation are forms that only occur at cold temperatures, such as snow or sleet, or a rainstorm where ground temperatures are cold enough to allow ice to form, causing an ice storm. Cold moisture-laden air masses are carried from the Gulf of Alaska southward with the Westerlies. Following the storm track, this moist air encounters the Sierra Nevada, becomes unstable as it is forced over this natural barrier, and provides large amounts of precipitation before migrating eastward. In the winter months, heavy snows might be the result, with strong winds accompanying the precipitation.

Hazard Assessment: Severe storms can be quite dangerous. Severe thunderstorms introduce natural hazards of lightening, hail stones, and flooding. Electricity can be interrupted by lightening strikes, property damage can occur if hail stones reach a large diameter, and flooding can occur with particularly intense or prolonged rain events associated with the thunderhead.

Electrical power outages happen with most extreme weather events. Power outages could cause temporary interruptions to the District's water supply. A 6 inch snowstorm can make unplowed roads impassible, and it is possible for roofs to collapse due to the weight of the snow load. Standing trees and power lines can also be brought down by the weight of the snow, especially if it is wet or very dense. Even a few inches of dry snow can form drifts many feet high under windy conditions.

Although snowstorms are usually considered less dangerous than ice storms, the snow brings secondary dangers. Mountain snowstorms can produce large amounts of snow in a short time period, as well as cornices and avalanches. In 1987, a heavy snow load collapsed a covered reservoir owned by the District, threatening the domestic water supply in the Stateline zone.

An additional danger, following a snowy winter, is spring flooding if the snow melts suddenly due to a dramatic rise in air temperature or a rain-on-snow event. As a result of large winter storms, the District experienced several rain-on-snow events in 1983, 1986, and 1997, causing partially treated wastewater spills.

An ice storm involves rain, which freezes upon impact. Ice forming on the roads will make them impassable, disrupting travel and making emergency response and repairs difficult. An ice coating one-fourth inch in thickness is heavy enough to damage trees, and overhead wires disrupting power and communication.

Flooding: A flood is a temporary overflow of an expanse of water that submerges land, such as from a river or lake. As a result, some of the water flows or sits outside of the normal perimeter of the body of water. Causes can range from abnormal snow melt due to untimely warm weather during the winter, to storm events depositing too much rain on already saturated soil. Floods may cause loss of life, property damage, water supply contamination, and loss of power.

The District's property and facilities are located entirely within the mountainous Sierra Nevada, in El Dorado County and Alpine County. Drainages that course from the Sierra Nevada traverse through high-relief, deeply-cut river canyons with only occasional level areas that might be termed floodplains. Regardless, tremendous amounts of water can be gravitationally fed through these river canyons; Alpine County has a long history of flood events.

Hazard Assessment: The risk of floods in the Lake Tahoe Basin is confined primarily to meadows and marshes, and the areas near waterways. The District has a few low lying pump stations and wells that could be impacted in a flood, and there is the potential that the sewer system could be inundated from storm water leaking into manholes. Most likely, the majority of flood related hazards would occur on District Property in Alpine County. The related hazard assessment and mitigation objectives are outlined in the Alpine County Natural Hazard Mitigation Plan.

Drought: A drought is an extended period of months or years when a region experiences a deficiency in its water supply. This occurs when a region receives consistently below average precipitation, either in the form of rain or snow.

Hazard Assessment: Drought can have extensive, far-reaching effects within the District. It can have a substantial impact on the ecosystem, tourism and agriculture of the region. The greatest impact of drought to the District is the threat to the water supply. All District water supplies are drawn from groundwater tables. In drought conditions, depth to water tables increases and well production can decrease. In the worst drought conditions, well production can be severely reduced or eliminated.

Drought also initiates concern for other natural hazards. Wildfire potential grows exponentially as drought conditions lengthen in time. Additionally, to a much lesser extent, drought can be responsible for landslide events. Lowered moisture content weakens soil structure characteristics and increases landslide potential.

Landslides: Landslides are caused when the stability of a slope changes from a stable to an unstable condition. Natural causes include erosion due to loss of vegetation and soil structure. Weakening of a slope can also occur through saturation by snowmelt, or heavy rains. The potential for this type of landslide increases after a wildfire event. Earthquakes can add loads to barely-stable slopes causing liquefaction and destabilizing of slopes. STPUD has facilities, water, and waste water conveyance systems that have been identified as being in geologically active zones. Additionally, human causes which include earthwork, construction, and forestry activities can alter the shape of a slope, or imposes new loads on an existing slope.

Hazard Assessment: Landslides that occur within the District's service area and/or properties are most often experienced as part of a larger, more widespread natural hazard event. Landslides can take place as a result of severe storms, floods, and earthquakes. They can also happen as an aftermath to wildland fires.

The District has several water tanks located on steep hillsides, which could be damaged or destroyed in the event of a major landslide. If electrical lines are compromised within the slide, electrical power can be lost causing momentary interruptions in District Services. Water lines and other buried facilities can be put in danger or lost to a landslide as well.

Another danger is the potential for a land or mudslide due to a malfunction in the District-operated ditch system in Alpine County, which is used for the transportation of fresh water to Indian Creek Reservoir. Recently, the District-operated Snowshoe Thompson Ditch #1 became clogged with debris and overflowed, causing a mudslide. The slide hit a motel located at the base of the slope and caused extensive and costly structural damage.

Avalanches: An avalanche shall refer to any fall, release, or slide of snow in an amount sufficient enough to cause damage to or threaten the safety of people. Avalanches are possible when weak layers of snow within the cumulative seasonal snowpack fail to

support the weight of the snow above and collapse. The result causes the overlying snow to break free and flow down hill.

Hazard Assessment: The effects of an avalanche are for all intents and purposes confined to the areas within and around the avalanche path. The areas of substantial avalanche danger are clearly known and usually avoided. Thus, few unplanned or damage-causing avalanches occur in places where people or property might be threatened. Still, avalanches can and do happen in the Lake Tahoe Basin and potentially could impact STPUD personnel and/or water and wastewater conveyance systems and roadways, especially in remote areas and in Alpine County. The District also has Water Tanks located on steep hillsides which could be vulnerable to avalanches. A massive avalanche could potentially damage and interrupt service for extended periods of time.

High Winds: Significantly high winds can and often do occur at all times of the year in the Lake Tahoe Basin, especially during winter storms and thunderstorms. Falling objects, property damage, downed trees and downed power lines are dangerous risks associated with high winds.

Hazard Assessment: High winds pose potential hazards. Power and phone lines may be knocked over and electrical power might be lost. Downed power lines pose a fire and/or electrocution threat. Much of the District's property is located in heavily forested areas and could be easily damaged by uprooted or downed trees and fallen limbs. Uprooted trees and fallen limbs also pose possible hazards to District vehicles and staff.

Earthquakes: California has often been associated with geologic events and there are several active and inactive faults within the Lake Tahoe basin. Earthquakes can cause a variety of hazards including damage to buildings and bridges, disruption of communications, gas, electric, water, recycled water, and sewer lines. Earthquakes can also often cause flash floods, fires, landslides, and avalanches.

Lakes in seismically active areas, such as Lake Tahoe, are significantly at risk from tsunami and seiches. Geological evidence indicates that the shores of Lake Tahoe may have been hit by seiches and tsunamis as much as 33 feet high in prehistoric times.

Hazard Assessment: Earthquakes can also initiate other natural hazard events. An earthquake can be the direct cause of landslides, avalanches, and dam failure due to seismic shaking of the ground and fracturing that might accompany any shaking. The damages wrought within an earthquake event can be the indirect cause of other natural hazard events too. Damages resulting from an earthquake might be responsible for igniting wildland fires if fallen power lines ignite or gas lines are ruptured.

The primary concern in assessing earthquake hazard is structural damage from the earthquake event. High magnitude earthquakes would most probably cause widespread structural damage to District property, especially near the epicenter of the seismic activity. Too, areas more susceptible to ground shaking are at a greater risk of damage from earthquakes. In that earthquakes cannot be predicted, all of the structures within STPUD's service area and property are at risk of damage to one degree or another.

In an extreme earthquake, dam failure can become a concern. There are 3 small dams on District property in Alpine County at Harvey Place Reservoir and Indian Creek Reservoir. Although these dams have not been damaged in past earthquakes, it is impossible to measure their success in any future hazard event. If the dam of a reservoir were to be compromised as a result of an earthquake, there would be many resulting ramifications to residents in the resulting path of inundation. Fortunately, Alpine County has few residents and threat to life is minimal. Still tremendous property damage could be anticipated in the event of any dam failure resulting from an earthquake.

Dam Failure: Dam Failure is a potential "man-made" natural disaster that has the possibility to impact the District. It is man-made in that the dam itself was constructed through human effort. It is a natural disaster from two perspectives. First, the inundation from released waters resulting from dam failure is related to naturally occurring floodwaters. Second, dam failure would most probably happen in consequence of another natural disaster such as an earthquake, severe storm, or flood.

Hazard Assessment: There are three damns located on land owned by the District in Alpine County: Harvey Place Dam and Harvey Place Auxiliary Dam, which hold back Harvey Place Reservoir, and Indian Creek Dam, which holds back Indian Creek Reservoir. Both of the Harvey Place dams are used to hold treated waste water. If dam failure were to occur, it could result in treated wastewater entering Millich Ditch or Indian Creek (both freshwater channels) and eventually the Carson River, a main source of water for Carson City. There is also the possibility that Diamond Valley Road might be made impassible by mud and debris from a resulting flood.

B. HUMAN HAZARDS

Contamination: The uncontrolled distribution of material in a given environment. The hazards to people and the environment from contamination depend on the nature of the contaminant, the level of contamination, and the extent of the spread of contamination.
Waterborne Disease: Waterborne diseases are caused by pathogenic microorganisms which are directly transmitted when contaminated drinking water is consumed. Contaminated drinking water, used in the preparation of food, can be the source of food borne disease through consumption of the same microorganisms.
Fire/Arson: Arson is the crime of maliciously, voluntarily, and willfully setting fire to woodlands or to the buildings, or property of others.
Loss of key Staff: Loss of critical management decision makers and/or loss of on site personnel necessary to maintain or repair equipment and critical water and sewer systems.
Fuel Shortage: An inadequate supply of fuel necessary for emergency response vehicles and back up generators and pumps.
Terrorism/Sabotage: The willful destruction or impairment of facilities or equipment necessary for the continued operation of water and sewer systems.
Canal Failure: Flooding due to a breech of an embankment or channel allowing the uncontrolled flow of water.

Chemical Spill: Chemicals have the ability to react when exposed to other chemicals under certain physical conditions. When chemical reactions are not properly managed, they can create harmful or catastrophic consequences, such as toxic fumes, fires, and explosions. These reactions may result in death and injury to people, damage to physical property, and severe effects on the environment.
Wastewater Spill: Uncontrolled discharge of sewage or unprocessed waste causing contamination of drinking water, property, recreational facilities, and the environment.

C. TECHNOLOGICAL HAZARDS

Power Outage: Power failure can be a defect in a power station, damage to a power line or other part of the distribution system, a short circuit, or the overloading of electricity mains.
Natural Gas Outage: An unexpected disruption in natural gas supply. Utility services are often jeopardized by natural and man-made disasters. Weather related occurrences can lead to loss of heat, resulting in frozen pipes and safety hazards such as fire and explosion.
HVAC Failure: Plumbing & HVAC failures have been the cause of leakages and flooding in numerous buildings, this results in lost time and damage to property, due to failure of boilers, fire water pipes, drainage lines, and can cause associated electric fires. Leakages in plumbing systems are caused by improper assembly of joints, sub-standard fittings, corrosion, pressure surges, traffic loads and non compatible pumping equipment.
Road Closure: Inability to respond to and move material, personnel, and supplies where needed.
Communication Failure: Inability to communicate with the staff or public regarding safety, and the efficient movement of material, personnel, supplies and equipment.
Supervisory Control and Data Acquitision (SCADA) system Failure: Refers to an industrial control system monitoring and coordinating a process. The process can include water treatment and distribution, wastewater collection and treatment, electrical power transmission and distribution, and large communication systems.
Computer Failure: Computer failure can affect the districts ability to maintain control of monitoring equipment. It can also affect communication, information systems, engineering, accounting, purchasing, billing, payables and payroll.

D. IDENTIFIED ASSETS AND POTENTIAL LOSSES

The South Tahoe Public Utility Local Hazard Mitigation Plan identifies critical facilities located within the District and the hazards to which these facilities are susceptible. The the critical facilities and the potential losses that might occur are Reflected in 2013 Appraisal of Selected Assets contained in Addendum 1.

E. Hazard Assessment and Vulnerability Analysis Tables

The Hazard and Risk Assessments of this plan have been quantified and scaled in order to recognize which hazards pose the greatest threat to STPUD's operations and to provide an overall assessment of where those threats lie. From these tables, a measure of the identified hazards was calculated. The Hazard Assessment/Vulnerability Analysis Tables provide the foundation from which to build a more refined comprehension and plan of action to mitigate hazardous threats within the district.

South Tahoe Public Utility District

Location: Administration Administration Building

Date of Analysis: April 16, 1999 Reviewed/Updated: December 2017

Hazard Assessment				**Vulnerability Analysis**	
Hazard Type	Probability of Occurrence	Reaction Factor	Hazard Factor	System Impact	Weight
Natural Events					
Earthquake	2	3	6	3	18
Forest Fire	2	2	4	3	12
Severe Storm	3	2	6	2	12
High Winds (70+mph)	2	2	4	1	4
Heavy Snow	3	2	6	1	6
Avalanche	1	3	3	2	6
Landside	1	3	3	2	6
Flood	3	2	6	3	18
Drought	2	1	2	0	0
Hurricane	0	2	0	0	0
Man-made Events					
Contamination	2	3	6	3	18
Waterborne Disease	1	3	3	3	9
Fire/Arson	2	3	6	3	18
Loss of Key Staff	2	2	4	3	12
Fuel Shortage	2	2	4	0	0
Dam Failure	2	3	6	0	0
Terrorism/Sabotage	2	3	6	3	18
Canal Failure	3	3	9	0	0
Chemical Spill	2	3	6	2	12
Wastewater Spill	3	3	9	2	18
Technological Events					
Power Outage	3	3	9	3	27
Natural Gas Outage	2	3	6	2	12
HVAC Failure	2	3	6	0	0
Road Closure	3	3	9	3	27
Communication Failure	2	3	6	2	12
SCADA Failure	2	3	6	0	0
Computer Failure	1	3	3	3	12

South Tahoe Public Utility District

Location: Bijou, Ski Run, and Al Tahoe Force Main

Date of Analysis: April 19, 1999 Reviewed/Updated: December 2017

Hazard Assessment				**Vulnerability Analysis**	
Hazard Type	Probability of Occurrence	Reaction Factor	Hazard Factor	System Impact	Weight
Natural Events					
Earthquake	2	3	6	2	12
Forest Fire	2	2	4	0	0
Severe Storm	3	2	6	1	6
High Winds (70+mph)	2	2	4	0	0
Heavy Snow	3	2	6	0	0
Avalanche	1	3	3	0	0
Landside	1	3	3	0	0
Flood	3	2	6	0	0
Drought	2	1	2	0	0
Hurricane	0	2	0	0	0
Man-made Events					
Contamination	2	3	6	0	0
Waterborne Disease	1	3	3	0	0
Fire/Arson	2	3	6	0	0
Loss of Key Staff	2	2	4	0	0
Fuel Shortage	2	2	4	0	0
Dam Failure	2	3	6	0	0
Terrorism/Sabotage	2	3	6	2	12
Canal Failure	3	3	9	0	0
Chemical Spill	2	3	6	0	0
Wastewater Spill	3	3	9	0	0
Technological Events					
Power Outage	3	3	9	0	0
Natural Gas Outage	2	3	6	0	0
HVAC Failure	2	3	6	0	0
Road Closure	3	3	9	1	9
Communication Failure	2	3	6	0	0
SCADA Failure	2	3	6	0	0
Computer Failure	1	3	3	0	0

South Tahoe Public Utility District

Location: Booster Stations

Date of Analysis: June 18, 1999 Reviewed/Updated: December 2017

Hazard Assessment				**Vulnerability Analysis**	
Hazard Type	Probability of Occurrence	Reaction Factor	Hazard Factor	System Impact	Weight
Natural Events					
Earthquake	2	3	6	2	12
Forest Fire	2	2	4	2	8
Severe Storm	3	2	6	2	12
High Winds (70+mph)	2	2	4	2	8
Heavy Snow	3	2	6	2	12
Avalanche	1	3	3	2	6
Landside	1	3	3	2	6
Flood	3	2	6	2	12
Drought	2	1	2	0	0
Hurricane	0	2	0	0	0
Man-made Events					
Contamination	1	3	3	3	9
Waterborne Disease	1	3	3	3	9
Fire/Arson	2	3	6	3	18
Loss of Key Staff	2	2	4	1	4
Fuel Shortage	2	2	4	2	8
Dam Failure	2	3	6	0	0
Terrorism/Sabotage	2	3	6	3	18
Canal Failure	3	3	9	0	0
Chemical Spill	2	3	6	0	0
Wastewater Spill	3	3	9	0	0
Technological Events					
Power Outage	3	3	9	1	9
Natural Gas Outage	2	3	6	0	0
HVAC Failure	2	3	6	0	0
Road Closure	3	3	9	1	9
Communication Failure	2	3	6	1	6
SCADA Failure	2	3	6	1	6
Computer Failure	1	3	3	0	0

South Tahoe Public Utility District

Location: District EOC & Operations 1275 Meadow Crest Drive

Date of Analysis: January 2008 Reviewed/Updated: December 2017

Hazard Assessment				**Vulnerability Analysis**	
Hazard Type	Probability of Occurrence	Reaction Factor	Hazard Factor	System Impact	Weight
Natural Events					
Earthquake	2	3	6	2	12
Forest Fire	2	2	4	2	8
Severe Storm	3	2	6	1	6
High Winds (70+mph)	2	2	4	1	4
Heavy Snow	3	2	6	1	6
Avalanche	1	3	3	0	0
Landside	1	3	3	0	0
Flood	3	2	6	1	6
Drought	2	1	2	0	0
Hurricane	0	2	0	0	0
Man-made Events					
Contamination	2	3	6	0	0
Waterborne Disease	1	3	3	0	0
Fire/Arson	2	3	6	1	6
Loss of Key Staff	2	2	4	3	12
Fuel Shortage	2	2	4	0	0
Dam Failure	2	3	6	0	0
Terrorism/Sabotage	2	3	6	2	12
Canal Failure	3	3	9	0	0
Chemical Spill	2	3	6	1	6
Wastewater Spill	3	3	9	1	9
Technological Events					
Power Outage	3	3	9	2	18
Natural Gas Outage	2	3	6	1	6
HVAC Failure	2	3	6	1	6
Road Closure	3	3	9	1	9
Communication Failure	2	3	6	3	18
SCADA Failure	2	3	6	0	0
Computer Failure	1	3	3	3	9

South Tahoe Public Utility District

Location: Emergency Retention Basin

Date of Analysis: August 8, 1999 Reviewed/Updated: December 2017

Hazard Assessment				**Vulnerability Analysis**	
Hazard Type	Probability of Occurrence	Reaction Factor	Hazard Factor	System Impact	Weight
Natural Events					
Earthquake	3	3	9	3	27
Forest Fire	3	2	6	2	12
Severe Storm	2	2	4	1	4
High Winds (70+mph)	3	2	6	1	6
Heavy Snow	2	2	4	2	8
Avalanche	1	3	3	1	3
Landside	1	2	2	2	4
Flood	1	2	2	2	4
Drought	2	1	2	0	0
Hurricane	0	2	0	0	0
Man-made Events					
Contamination	2	3	6	0	0
Waterborne Disease	0	3	0	0	0
Fire/Arson	2	2	4	2	8
Loss of Key Staff	2	3	6	3	18
Fuel Shortage	0	1	0	0	0
Dam Failure	1	3	3	3	9
Terrorism/Sabotage	2	3	6	3	18
Canal Failure	0	3	0	0	0
Chemical Spill	0	3	0	0	0
Wastewater Spill					
Technological Events					
Power Outage	0	3	0	0	0
Natural Gas Outage	0	3	0	0	0
HVAC Failure	0	3	0	0	0
Millennium Bug	0	3	0	0	0
Road Closure	2	3	6	1	6
Communication Failure	0	3	0	0	0
SCADA Failure	0	3	0	0	0
Computer Virus	0	3	0	0	0

South Tahoe Public Utility District

Location: Export System: A-Line

Date of Analysis: April 1999 Reviewed/Updated: December 20017

Hazard Assessment				**Vulnerability Analysis**	
Hazard Type	Probability of Occurrence	Reaction Factor	Hazard Factor	System Impact	Weight
Natural Events					
Earthquake	2	3	6	3	18
Forest Fire	2	2	4	0	0
Severe Storm	3	2	6	1	6
High Winds (70+mph)	2	2	4	0	0
Heavy Snow	3	2	6	0	0
Avalanche	1	3	3	0	0
Landside	1	3	3	1	3
Flood	3	2	6	1	6
Drought	2	1	2	0	0
Hurricane	0	2	0	0	0
Man-made Events					
Contamination	2	3	6	0	0
Waterborne Disease	1	3	3	0	0
Fire/Arson	2	3	6	0	0
Loss of Key Staff	2	2	4	1	4
Fuel Shortage	2	2	4	0	0
Dam Failure	2	3	6	0	0
Terrorism/Sabotage	2	3	6	3	18
Canal Failure	3	3	9	0	0
Chemical Spill	2	3	6	0	0
Wastewater Spill	3	3	9	0	0
Technological Events					
Power Outage	3	3	9	0	0
Natural Gas Outage	2	3	6	0	0
HVAC Failure	2	3	6	0	0
Road Closure	3	3	9	0	0
Communication Failure	2	3	6	0	0
SCADA Failure	2	3	6	0	0
Computer Failure	1	3	3	0	0

South Tahoe Public Utility District

Location: Export System: B-Line

Date of Analysis: April 1999 Reviewed/Updated: December 2017

Hazard Assessment				**Vulnerability Analysis**	
Hazard Type	Probability of Occurrence	Reaction Factor	Hazard Factor	System Impact	Weight
Natural Events					
Earthquake	2	3	6	3	18
Forest Fire	2	2	4	0	0
Severe Storm	3	2	6	1	6
High Winds (70+mph)	2	2	4	0	0
Heavy Snow	3	2	6	0	0
Avalanche	1	3	3	1	3
Landside	1	3	3	2	6
Flood	3	2	6	3	18
Drought	2	1	2	0	0
Hurricane	0	2	0	0	0
Man-made Events					
Contamination	2	3	6	0	0
Waterborne Disease	1	3	3	0	0
Fire/Arson	2	3	6	0	0
Loss of Key Staff	2	2	4	1	4
Fuel Shortage	2	2	4	0	0
Dam Failure	2	3	6	0	0
Terrorism/Sabotage	2	3	6	3	18
Canal Failure	3	3	9	0	0
Chemical Spill	2	3	6	0	0
Wastewater Spill	3	3	9	0	0
Technological Events					
Power Outage	3	3	9	0	0
Natural Gas Outage	2	3	6	0	0
HVAC Failure	2	3	6	0	0
Road Closure	3	3	9	0	0
Communication Failure	2	3	6	0	0
SCADA Failure	2	3	6	0	0
Computer Failure	1	3	3	0	0

South Tahoe Public Utility District

Location: Export System: C-Line

Date of Analysis: April 16, 1999 Reviewed/Updated: December 2017

Hazard Assessment				**Vulnerability Analysis**	
Hazard Type	Probability of Occurrence	Reaction Factor	Hazard Factor	System Impact	Weight
Natural Events					
Earthquake	2	3	6	3	18
Forest Fire	2	2	4	0	0
Severe Storm	3	2	6	1	6
High Winds (70+mph)	2	2	4	0	0
Heavy Snow	3	2	6	0	0
Avalanche	1	3	3	1	3
Landside	1	3	3	2	6
Flood	3	2	6	2	12
Drought	2	1	2	0	0
Hurricane	0	2	0	0	0
Man-made Events					
Contamination	2	3	6	0	0
Waterborne Disease	1	3	3	0	0
Fire/Arson	2	3	6	0	0
Loss of Key Staff	2	2	4	1	4
Fuel Shortage	2	2	4	0	0
Dam Failure	2	3	6	0	0
Terrorism/Sabotage	2	3	6	3	18
Canal Failure	2	3	9	0	0
Chemical Spill	2	3	6	0	0
Wastewater Spill	3	3	9	0	0
Technological Events					
Power Outage	3	3	9	0	0
Natural Gas Outage	2	3	6	0	0
HVAC Failure	2	3	6	0	0
Road Closure	3	3	9	0	0
Communication Failure	2	3	6	0	0
SCADA Failure	2	3	6	0	0
Computer Failure	1	3	3	0	0

South Tahoe Public Utility District

Location: Fallen Leaf Lake Force Main

Date of Analysis: April 19, 1999 Reviewed/Updated: December 2017

Hazard Assessment				**Vulnerability Analysis**	
Hazard Type	Probability of Occurrence	Reaction Factor	Hazard Factor	System Impact	Weight
Natural Events					
Earthquake	2	3	6	2	12
Forest Fire	2	2	4	0	0
Severe Storm	3	2	6	1	6
High Winds (70+mph)	2	2	4	0	0
Heavy Snow	3	2	6	1	6
Avalanche	1	3	3	1	3
Landside	1	3	3	1	3
Flood	3	2	6	1	6
Drought	2	1	2	0	0
Hurricane	0	2	0	0	0
Man-made Events					
Contamination	2	3	6	0	0
Waterborne Disease	1	3	3	0	0
Fire/Arson	2	3	6	0	0
Loss of Key Staff	2	2	4	0	0
Fuel Shortage	2	2	4	0	0
Dam Failure	2	3	6	0	0
Terrorism/Sabotage	2	3	6	2	12
Canal Failure	3	3	9	0	0
Chemical Spill	2	3	6	0	0
Wastewater Spill	3	3	9	0	0
Technological Events					
Power Outage	3	3	9	0	0
Natural Gas Outage	2	3	6	0	0
HVAC Failure	2	3	6	0	0
Road Closure	3	3	9	1	9
Communication Failure	2	3	6	0	0
SCADA Failure	2	3	6	0	0
Computer Failure	1	3	3	0	0

South Tahoe Public Utility District

Location: Fallen Leaf Lake Sewage System

Date of Analysis: June 18, 1999 Reviewed/Updated: December 2017

Hazard Assessment				**Vulnerability Analysis**	
Hazard Type	Probability of Occurrence	Reaction Factor	Hazard Factor	System Impact	Weight
Natural Events					
Earthquake	2	3	6	3	18
Forest Fire	2	2	4	3	12
Severe Storm	3	2	6	2	12
High Winds (70+mph)	2	2	4	2	8
Heavy Snow	3	2	6	3	18
Avalanche	1	3	3	3	9
Landside	1	3	3	3	9
Flood	3	2	6	3	18
Drought	2	1	2	0	0
Hurricane	0	2	0	0	0
Man-made Events					
Contamination	2	3	6	3	18
Waterborne Disease	1	3	3	3	9
Fire/Arson	2	3	6	3	18
Loss of Key Staff	2	2	4	2	8
Fuel Shortage	2	2	4	3	12
Dam Failure	2	3	6	0	0
Terrorism/Sabotage	2	3	6	3	18
Canal Failure	3	3	9	0	0
Chemical Spill	2	3	6	0	0
Wastewater Spill	3	3	9	0	0
Technological Events					
Power Outage	3	3	9	3	27
Natural Gas Outage	2	3	6	0	0
HVAC Failure	2	3	6	0	0
Road Closure	3	3	9	3	27
Communication Failure	2	3	6	3	18
SCADA Failure	2	3	6	3	18
Computer Failure	1	3	3	0	0

South Tahoe Public Utility District

Location: Finance Division - Accounting

Date of Analysis: April 6, 1999 Reviewed/Updated: December 2017

Hazard Assessment				**Vulnerability Analysis**	
Hazard Type	Probability of Occurrence	Reaction Factor	Hazard Factor	System Impact	Weight
Natural Events					
Earthquake	2	3	6	2	12
Forest Fire	2	2	4	2	8
Severe Storm	3	2	6	1	6
High Winds (70+mph)	3	2	6	1	6
Heavy Snow	3	2	6	1	6
Avalanche	0	3	0	0	0
Landside	0	3	0	0	0
Flood	1	2	2	1	2
Drought	2	1	2	0	0
Hurricane	0	2	0	0	0
Man-made Events					
Contamination	2	3	6	0	0
Waterborne Disease	1	3	3	0	0
Fire/Arson	2	3	6	2	12
Loss of Key Staff	2	2	4	3	12
Fuel Shortage	2	2	4	1	4
Dam Failure	0	3	0	0	0
Terrorism/Sabotage	2	3	6	1	6
Canal Failure	0	3	0	0	0
Chemical Spill	2	3	6	1	6
Wastewater Spill					
Technological Events					
Power Outage	1	3	3	2	6
Natural Gas Outage	1	3	3	1	3
HVAC Failure	2	3	6	1	6
Millennium Bug	1	1	1	1	1
Road Closure	3	3	9	1	9
Communication Failure	1	3	3	3	9
SCADA Failure	0	3	0	0	0
Computer Virus	1	3	3	1	3

South Tahoe Public Utility District

Location: Gravity Sewers Mainline Side

Date of Analysis: April 19, 1999 Reviewed/Updated: December 2017

Hazard Assessment				**Vulnerability Analysis**	
Hazard Type	Probability of Occurrence	Reaction Factor	Hazard Factor	System Impact	Weight
Natural Events					
Earthquake	2	3	6	1	6
Forest Fire	2	2	4	0	0
Severe Storm	3	2	6	1	6
High Winds (70+mph)	2	2	4	0	0
Heavy Snow	3	2	6	1	6
Avalanche	1	3	3	1	3
Landside	1	3	3	1	3
Flood	3	2	6	1	6
Drought	2	1	2	0	0
Hurricane	0	2	0	0	0
Man-made Events					
Contamination	2	3	6	1	6
Waterborne Disease	1	3	3	0	0
Fire/Arson	2	3	6	0	0
Loss of Key Staff	2	2	4	0	0
Fuel Shortage	2	2	4	0	0
Dam Failure	2	3	6	0	0
Terrorism/Sabotage	2	3	6	2	12
Canal Failure	3	3	9	0	0
Chemical Spill	2	3	6	1	6
Wastewater Spill	3	3	9	1	9
Technological Events					
Power Outage	3	3	9	0	0
Natural Gas Outage	2	3	6	0	0
HVAC Failure	2	3	6	0	0
Road Closure	3	3	9	1	9
Communication Failure	2	3	6	0	0
SCADA Failure	2	3	6	0	0
Computer Failure	1	3	6	0	0

South Tahoe Public Utility District

Location: Gravity Sewers Mainline Trunk

Date of Analysis: April 19, 1999 Reviewed/Updated: December 2017

Hazard Assessment				**Vulnerability Analysis**	
Hazard Type	Probability of Occurrence	Reaction Factor	Hazard Factor	System Impact	Weight
Natural Events					
Earthquake	2	3	6	3	18
Forest Fire	2	2	4	0	0
Severe Storm	3	2	6	1	6
High Winds (70+mph)	2	2	4	0	0
Heavy Snow	3	2	6	1	6
Avalanche	1	3	3	1	3
Landside	1	3	3	1	3
Flood	3	2	6	2	12
Drought	2	1	2	0	0
Hurricane	0	2	0	0	0
Man-made Events					
Contamination	2	3	6	2	12
Waterborne Disease	1	3	3	0	0
Fire/Arson	2	3	6	0	0
Loss of Key Staff	2	2	4	1	4
Fuel Shortage	2	2	4	0	0
Dam Failure	2	3	6	0	0
Terrorism/Sabotage	2	3	6	2	12
Canal Failure	3	3	9	0	0
Chemical Spill	2	3	6	0	0
Wastewater Spill	3	3	9	2	18
Technological Events					
Power Outage	3	3	9	0	0
Natural Gas Outage	2	3	6	0	0
HVAC Failure	2	3	6	0	0
Road Closure	3	3	9	1	9
Communication Failure	2	3	6	0	0
SCADA Failure	2	3	6	0	0
Computer Failure	1	3	3	0	0

South Tahoe Public Utility District

Location: Harvey Channel Alpine County

Date of Analysis: April12,1999 Reviewed/Updated: December 2017

Hazard Assessment				**Vulnerability Analysis**	
Hazard Type	Probability of Occurrence	Reaction Factor	Hazard Factor	System Impact	Weight
Natural Events					
Earthquake	2	3	6	1	6
Forest Fire	2	2	4	1	4
Severe Storm	3	2	6	2	12
High Winds (70+mph)	2	2	4	1	4
Heavy Snow	3	2	6	1	6
Avalanche	1	3	3	2	6
Landside	1	3	3	3	9
Flood	3	2	6	3	18
Drought	2	1	2	0	0
Hurricane	0	2	0	0	0
Man-made Events					
Contamination	2	3	6	0	0
Waterborne Disease	1	3	3	0	0
Fire/Arson	2	3	6	1	6
Loss of Key Staff	2	2	4	1	4
Fuel Shortage	2	2	4	0	0
Dam Failure	2	3	6	0	0
Terrorism/Sabotage	2	3	6	3	18
Canal Failure	3	3	9	3	27
Chemical Spill	2	3	6	0	0
Wastewater Spill	3	3	9	1	9
Technological Events					
Power Outage	3	3	9	0	0
Natural Gas Outage	2	3	6	0	0
HVAC Failure	2	3	6	0	0
Road Closure	3	3	9	0	0
Communication Failure	2	3	6	2	12
SCADA Failure	2	3	6	0	0
Computer Failure	1	3	3	0	0

South Tahoe Public Utility District

Location: Harvey Place Reservoir Alpine County

Date of Analysis: April 12, 1999 Reviewed/Updated: December 2017

Hazard Assessment				**Vulnerability Analysis**	
Hazard Type	Probability of Occurrence	Reaction Factor	Hazard Factor	System Impact	Weight
Natural Events					
Earthquake	2	3	6	3	18
Forest Fire	2	2	4	2	8
Severe Storm	3	2	6	1	6
High Winds (70+mph)	2	2	4	1	4
Heavy Snow	3	2	6	1	6
Avalanche	1	3	3	1	3
Landside	1	3	3	1	3
Flood	3	2	6	2	12
Drought	2	1	2	0	0
Hurricane	0	2	0	0	0
Man-made Events					
Contamination	2	3	6	3	18
Waterborne Disease	1	3	3	2	6
Fire/Arson	2	3	6	2	12
Loss of Key Staff	2	2	4	1	4
Fuel Shortage	2	2	4	1	4
Dam Failure	2	3	6	3	18
Terrorism/Sabotage	2	3	6	3	18
Canal Failure	3	3	9	1	9
Chemical Spill	2	3	6	2	12
Wastewater Spill	3	3	9	3	27
Technological Events					
Power Outage	3	3	9	2	18
Natural Gas Outage	2	3	6	1	6
HVAC Failure	2	3	6	0	0
Road Closure	3	3	9	2	18
Communication Failure	2	3	6	2	12
SCADA Failure	2	3	6	0	0
Computer Failure	1	3	3	0	0

South Tahoe Public Utility District

Location: Information Systems Administration Building

Date of Analysis: April 16, 1999 Reviewed/Updated: December 2017

Hazard Assessment				**Vulnerability Analysis**	
Hazard Type	Probability of Occurrence	Reaction Factor	Hazard Factor	System Impact	Weight
Natural Events					
Earthquake	2	3	6	2	18
Forest Fire	2	2	4	2	8
Severe Storm	3	2	6	1	6
High Winds (70+mph)	2	2	4	1	4
Heavy Snow	3	2	6	1	6
Avalanche	1	3	3	0	0
Landside	1	3	3	0	0
Flood	3	2	6	1	6
Drought	2	1	2	0	0
Hurricane	0	2	0	0	0
Man-made Events					
Contamination	2	3	6	0	0
Waterborne Disease	1	3	3	0	0
Fire/Arson	2	3	6	2	12
Loss of Key Staff	2	2	4	3	12
Fuel Shortage	2	2	4	1	4
Dam Failure	2	3	6	0	0
Terrorism/Sabotage	2	3	6	2	12
Canal Failure	3	3	9	0	0
Chemical Spill	2	3	6	1	6
Wastewater Spill	3	3	9	0	0
Technological Events					
Power Outage	3	3	9	3	27
Natural Gas Outage	2	3	6	1	6
HVAC Failure	2	3	6	1	6
Road Closure	3	3	9	2	18
Communication Failure	2	3	6	3	18
SCADA Failure	2	3	6	1	6
Computer Failure	1	3	3	3	9

South Tahoe Public Utility District

Location: Indian Creek Reservoir Alpine County

Date of Analysis: April 12, 1999 Reviewed/Updated: December 2017

Hazard Assessment				**Vulnerability Analysis**	
Hazard Type	Probability of Occurrence	Reaction Factor	Hazard Factor	System Impact	Weight
Natural Events					
Earthquake	2	3	6	3	18
Forest Fire	2	2	4	2	8
Severe Storm	3	2	6	1	6
High Winds (70+mph)	2	2	4	1	4
Heavy Snow	3	2	6	1	6
Avalanche	1	3	3	1	3
Landside	1	3	3	1	3
Flood	3	2	6	3	18
Drought	2	1	2	1	2
Hurricane	0	2	0	0	0
Man-made Events					
Contamination	2	3	6	2	12
Waterborne Disease	1	3	3	2	6
Fire/Arson	2	3	6	2	12
Loss of Key Staff	2	2	4	1	4
Fuel Shortage	2	2	4	0	0
Dam Failure	2	3	6	3	18
Terrorism/Sabotage	2	3	6	3	18
Canal Failure	3	3	9	0	0
Chemical Spill	2	3	6	2	12
Wastewater Spill	3	3	9	0	0
Technological Events					
Power Outage	3	3	9	2	18
Natural Gas Outage	2	3	6	0	0
HVAC Failure	2	3	6	0	0
Road Closure	3	3	9	0	0
Communication Failure	2	3	6	2	12
SCADA Failure	2	3	6	2	12
Computer Failure	1	3	3	0	0

South Tahoe Public Utility District

Location: Johnson Boulevard Force Main

Date of Analysis: April 19, 1999 Reviewed/Updated: December 2017

Hazard Assessment				**Vulnerability Analysis**	
Hazard Type	Probability of Occurrence	Reaction Factor	Hazard Factor	System Impact	Weight
Natural Events					
Earthquake	2	3	6	2	12
Forest Fire	2	2	4	0	0
Severe Storm	3	2	6	1	6
High Winds (70+mph)	2	2	4	0	0
Heavy Snow	3	2	6	0	0
Avalanche	1	3	3	0	0
Landside	1	3	3	0	0
Flood	3	2	6	0	0
Drought	2	1	2	0	0
Hurricane	0	2	0	0	0
Man-made Events					
Contamination	2	3	6	0	0
Waterborne Disease	1	3	3	0	0
Fire/Arson	2	3	6	0	0
Loss of Key Staff	2	2	4	0	0
Fuel Shortage	2	2	4	0	0
Dam Failure	2	3	6	0	0
Terrorism/Sabotage	2	3	6	1	6
Canal Failure	3	3	9	0	0
Chemical Spill	2	3	6	0	0
Wastewater Spill	3	3	9	0	0
Technological Events					
Power Outage	3	3	9	0	0
Natural Gas Outage	2	3	6	0	0
HVAC Failure	2	3	6	0	0
Road Closure	3	3	9	1	9
Communication Failure	2	3	6	0	0
SCADA Failure	2	3	6	0	0
Computer Failure	1	3	3	0	0

South Tahoe Public Utility District

Location: Luther Pass Pump Station

Date of Analysis: June 18, 1999 Reviewed/Updated: December 2017

Hazard Assessment				**Vulnerability Analysis**	
Hazard Type	Probability of Occurrence	Reaction Factor	Hazard Factor	System Impact	Weight
Natural Events					
Earthquake	2	3	6	3	18
Forest Fire	2	2	4	3	12
Severe Storm	3	2	6	2	12
High Winds (70+mph)	2	2	4	2	8
Heavy Snow	3	2	6	2	12
Avalanche	1	3	3	2	6
Landside	1	3	3	0	0
Flood	3	2	6	0	0
Drought	2	1	2	0	0
Hurricane	0	2	0	0	0
Man-made Events					
Contamination	2	3	6	0	0
Waterborne Disease	1	3	3	0	0
Fire/Arson	2	3	6	3	18
Loss of Key Staff	2	2	4	3	12
Fuel Shortage	2	2	4	3	12
Dam Failure	2	3	6	0	0
Terrorism/Sabotage	2	3	6	3	18
Canal Failure	3	3	9	0	0
Chemical Spill	2	3	6	2	12
Wastewater Spill	3	3	9	0	0
Technological Events					
Power Outage	3	3	9	2	18
Natural Gas Outage	2	3	6	1	6
HVAC Failure	2	3	6	1	6
Road Closure	3	3	9	2	18
Communication Failure	2	3	6	2	12
SCADA Failure	2	3	6	2	12
Computer Failure	1	3	3	0	0

South Tahoe Public Utility District

Location: Maintenance Office and Buildings

Date of Analysis: April 19, 1999 Reviewed/Updated: December 2017

Hazard Assessment				**Vulnerability Analysis**	
Hazard Type	Probability of Occurrence	Reaction Factor	Hazard Factor	System Impact	Weight
Natural Events					
Earthquake	2	3	6	1	6
Forest Fire	2	2	4	1	4
Severe Storm	3	2	6	1	6
High Winds (70+mph)	2	2	4	1	4
Heavy Snow	3	2	6	1	6
Avalanche	1	3	3	0	0
Landside	1	3	3	0	0
Flood	3	2	6	1	6
Drought	2	1	2	0	0
Hurricane	0	2	0	0	0
Man-made Events					
Contamination	2	3	6	1	6
Waterborne Disease	1	3	3	1	3
Fire/Arson	2	3	6	3	18
Loss of Key Staff	2	2	4	1	4
Fuel Shortage	2	2	4	1	4
Dam Failure	2	3	6	0	0
Terrorism/Sabotage	2	3	6	2	12
Canal Failure	3	3	9	0	0
Chemical Spill	2	3	6	1	6
Wastewater Spill	3	3	9	1	9
Technological Events					
Power Outage	3	3	9	2	18
Natural Gas Outage	2	3	6	2	12
HVAC Failure	2	3	6	1	6
Road Closure	3	3	9	1	9
Communication Failure	2	3	6	1	6
SCADA Failure	2	3	6	0	0
Computer Failure	1	3	3	1	3

South Tahoe Public Utility District

Location: On-Farm Alpine County

Date of Analysis: April 12, 1999 Reviewed/Updated: December 2017

Hazard Assessment				**Vulnerability Analysis**	
Hazard Type	Probability of Occurrence	Reaction Factor	Hazard Factor	System Impact	Weight
Natural Events					
Earthquake	2	3	6	1	6
Forest Fire	2	2	4	1	4
Severe Storm	3	2	6	2	12
High Winds (70+mph)	2	2	4	1	4
Heavy Snow	3	2	6	1	6
Avalanche	1	3	3	0	0
Landside	1	3	3	1	3
Flood	3	2	6	3	18
Drought	2	1	2	0	0
Hurricane	0	2	0	0	0
Man-made Events					
Contamination	2	3	6	1	6
Waterborne Disease	1	3	3	1	3
Fire/Arson	2	3	6	1	6
Loss of Key Staff	2	2	4	1	4
Fuel Shortage	2	2	4	0	0
Dam Failure	2	3	6	2	12
Terrorism/Sabotage	2	3	6	2	12
Canal Failure	3	3	9	3	27
Chemical Spill	2	3	6	0	0
Wastewater Spill	3	3	9	1	9
Technological Events					
Power Outage	3	3	9	0	0
Natural Gas Outage	2	3	6	0	0
HVAC Failure	2	3	6	0	0
Road Closure	3	3	9	2	18
Communication Failure	2	3	6	2	12
SCADA Failure	2	3	6	0	0
Computer Failure	1	3	3	0	0

South Tahoe Public Utility District

Location: Phones Administration Building

Date of Analysis: April 16, 1999 Reviewed/Updated: December 2017

Hazard Assessment				**Vulnerability Analysis**	
Hazard Type	Probability of Occurrence	Reaction Factor	Hazard Factor	System Impact	Weight
Natural Events					
Earthquake	2	3	6	3	18
Forest Fire	2	2	4	3	12
Severe Storm	3	2	6	2	12
High Winds (70+mph)	2	2	4	2	8
Heavy Snow	3	2	6	1	6
Avalanche	1	3	3	0	0
Landside	1	3	3	0	0
Flood	3	2	6	1	6
Drought	2	1	2	0	0
Hurricane	0	2	0	0	0
Man-made Events					
Contamination	2	3	6	0	0
Waterborne Disease	1	3	3	0	0
Fire/Arson	2	3	6	3	18
Loss of Key Staff	2	2	4	3	12
Fuel Shortage	2	2	4	1	4
Dam Failure	2	3	6	0	0
Terrorism/Sabotage	2	3	6	2	12
Canal Failure	3	3	9	0	0
Chemical Spill	2	3	6	1	6
Wastewater Spill	3	3	9	0	0
Technological Events					
Power Outage	3	3	9	3	27
Natural Gas Outage	2	3	6	1	6
HVAC Failure	2	3	6	2	12
Road Closure	3	3	9	1	9
Communication Failure	2	3	6	3	18
SCADA Failure	2	3	6	1	6
Computer Failure	1	3	3	3	9

South Tahoe Public Utility District

Location: Pioneer Village Force Main

Date of Analysis: April 19, 1999 Reviewed/Updated: December 2017

Hazard Assessment				**Vulnerability Analysis**	
Hazard Type	Probability of Occurrence	Reaction Factor	Hazard Factor	System Impact	Weight
Natural Events					
Earthquake	2	3	6	2	12
Forest Fire	2	2	4	0	0
Severe Storm	3	2	6	1	6
High Winds (70+mph)	2	2	4	0	0
Heavy Snow	3	2	6	0	0
Avalanche	1	3	3	0	0
Landside	1	3	3	0	0
Flood	3	2	6	0	0
Drought	2	1	2	0	0
Hurricane	0	2	0	0	0
Man-made Events					
Contamination	2	3	6	0	0
Waterborne Disease	1	3	3	0	0
Fire/Arson	2	3	6	0	0
Loss of Key Staff	2	2	4	0	0
Fuel Shortage	2	2	4	0	0
Dam Failure	2	3	6	0	0
Terrorism/Sabotage	2	3	6	2	12
Canal Failure	3	3	9	0	0
Chemical Spill	2	3	6	0	0
Wastewater Spill	3	3	9	0	0
Technological Events					
Power Outage	3	3	9	0	0
Natural Gas Outage	2	3	6	0	0
HVAC Failure	2	3	6	0	0
Road Closure	3	3	9	1	9
Communication Failure	2	3	6	0	0
SCADA Failure	2	3	6	0	0
Computer Failure	1	3	3	0	0

South Tahoe Public Utility District

Location: PRV's

Date of Analysis: June 18, 1999 Reviewed/Updated: December 2017

Hazard Assessment				**Vulnerability Analysis**	
Hazard Type	Probability of Occurrence	Reaction Factor	Hazard Factor	System Impact	Weight
Natural Events					
Earthquake	2	3	6	3	18
Forest Fire	2	2	4	0	0
Severe Storm	3	2	6	0	0
High Winds (70+mph)	2	2	4	0	0
Heavy Snow	3	2	6	2	12
Avalanche	1	3	3	0	0
Landside	1	3	3	0	0
Flood	3	2	6	1	6
Drought	2	1	2	0	0
Hurricane	0	2	0	0	0
Man-made Events					
Contamination	2	3	6	0	0
Waterborne Disease	1	3	3	0	0
Fire/Arson	2	3	6	0	0
Loss of Key Staff	2	2	4	1	4
Fuel Shortage	2	2	4	0	0
Dam Failure	2	3	6	0	0
Terrorism/Sabotage	2	3	6	2	12
Canal Failure	3	3	9	0	0
Chemical Spill	2	3	6	2	12
Wastewater Spill	3	3	9	2	18
Technological Events					
Power Outage	3	3	9	0	0
Natural Gas Outage	2	3	6	0	0
HVAC Failure	2	3	6	0	0
Road Closure	3	3	9	2	18
Communication Failure	2	3	6	1	6
SCADA Failure	2	3	6	0	0
Computer Failure	1	3	3	0	0

South Tahoe Public Utility District

Location: Purchasing Administration Building

Date of Analysis: April 1999 Reviewed/Updated: December 2017

Hazard Assessment				**Vulnerability Analysis**	
Hazard Type	Probability of Occurrence	Reaction Factor	Hazard Factor	System Impact	Weight
Natural Events					
Earthquake	2	3	6	3	18
Forest Fire	2	2	4	3	12
Severe Storm	3	2	6	3	18
High Winds (70+mph)	2	2	4	3	12
Heavy Snow	3	2	6	3	18
Avalanche	1	3	3	2	6
Landside	1	3	3	2	6
Flood	3	2	6	3	18
Drought	2	1	2	1	2
Hurricane	0	2	0	0	0
Man-made Events					
Contamination	2	3	6	0	0
Waterborne Disease	1	3	3	0	0
Fire/Arson	2	3	6	1	6
Loss of Key Staff	2	2	4	0	0
Fuel Shortage	2	2	4	2	8
Dam Failure	2	3	6	0	0
Terrorism/Sabotage	2	3	6	2	12
Canal Failure	3	3	9	0	0
Chemical Spill	2	3	6	2	12
Wastewater Spill	3	3	9	0	0
Technological Events					
Power Outage	3	3	9	2	18
Natural Gas Outage	2	3	6	1	6
HVAC Failure	2	3	6	1	6
Road Closure	3	3	9	2	18
Communication Failure	2	3	6	3	18
SCADA Failure	2	3	6	0	0
Computer Failure	1	3	3	1	3

South Tahoe Public Utility District

Location: Sewage Pump Stations

Date of Analysis: June 18, 1999 Reviewed/Updated: December 2017

Hazard Assessment				**Vulnerability Analysis**	
Hazard Type	Probability of Occurrence	Reaction Factor	Hazard Factor	System Impact	Weight
Natural Events					
Earthquake	2	3	6	3	18
Forest Fire	2	2	4	3	12
Severe Storm	3	2	6	3	18
High Winds (70+mph)	2	2	4	3	12
Heavy Snow	3	2	6	3	18
Avalanche	1	3	3	1	3
Landside	1	3	3	1	3
Flood	3	2	6	3	18
Drought	2	1	2	0	0
Hurricane	0	2	0	0	0
Man-made Events					
Contamination	2	3	6	0	0
Waterborne Disease	1	3	3	0	0
Fire/Arson	2	3	6	3	18
Loss of Key Staff	2	2	4	1	4
Fuel Shortage	2	2	4	3	12
Dam Failure	2	3	6	0	0
Terrorism/Sabotage	2	3	6	3	18
Canal Failure	3	3	9	0	0
Chemical Spill	2	3	6	0	0
Wastewater Spill	3	3	9	0	0
Technological Events					
Power Outage	3	3	9	2	18
Natural Gas Outage	2	3	6	0	0
HVAC Failure	2	3	6	1	6
Road Closure	3	3	9	3	27
Communication Failure	2	3	6	3	18
SCADA Failure	2	3	6	3	18
Computer Failure	1	3	3	0	0

South Tahoe Public Utility District

Location: Snowshoe Thompson Ditch No. 1 Alpine County

Date of Analysis: April 12, 1999 Reviewed/Updated: December 2017

Hazard Assessment				**Vulnerability Analysis**	
Hazard Type	Probability of Occurrence	Reaction Factor	Hazard Factor	System Impact	Weight
Natural Events					
Earthquake	2	3	6	2	12
Forest Fire	2	2	4	2	8
Severe Storm	3	2	6	3	18
High Winds (70+mph)	2	2	4	1	4
Heavy Snow	3	2	6	1	6
Avalanche	1	3	3	1	3
Landside	1	3	3	3	9
Flood	3	2	6	3	18
Drought	2	1	2	1	2
Hurricane	0	2	0	0	0
Man-made Events					
Contamination	2	3	6	1	6
Waterborne Disease	1	3	3	1	3
Fire/Arson	2	3	6	2	12
Loss of Key Staff	2	2	4	1	4
Fuel Shortage	2	2	4	0	0
Dam Failure	2	3	6	0	0
Terrorism/Sabotage	2	3	6	3	18
Canal Failure	3	3	9	3	27
Chemical Spill	2	3	6	0	0
Wastewater Spill	3	3	9	0	0
Technological Events					
Power Outage	3	3	9	0	0
Natural Gas Outage	2	3	6	0	0
HVAC Failure	2	3	6	0	0
Road Closure	3	3	9	1	9
Communication Failure	2	3	6	2	12
SCADA Failure	2	3	6	0	0
Computer Failure	1	3	3	0	0

South Tahoe Public Utility District

Location: Tahoe Keys Force Main

Date of Analysis: April 19, 1999 Reviewed/Updated: December 2017

Hazard Assessment				**Vulnerability Analysis**	
Hazard Type	Probability of Occurrence	Reaction Factor	Hazard Factor	System Impact	Weight
Natural Events					
Earthquake	2	3	6	2	12
Forest Fire	2	2	4	0	0
Severe Storm	3	2	6	1	6
High Winds (70+mph)	2	2	4	0	0
Heavy Snow	3	2	6	0	0
Avalanche	1	3	3	0	0
Landside	1	3	3	0	0
Flood	3	2	6	1	6
Drought	2	1	2	0	0
Hurricane	0	2	0	0	0
Man-made Events					
Contamination	2	3	6	0	0
Waterborne Disease	1	3	3	0	0
Fire/Arson	2	3	6	0	0
Loss of Key Staff	2	2	4	0	0
Fuel Shortage	2	2	4	0	0
Dam Failure	2	3	6	0	0
Terrorism/Sabotage	2	3	6	1	6
Canal Failure	3	3	9	0	0
Chemical Spill	2	3	6	0	0
Wastewater Spill	3	3	9	0	0
Technological Events					
Power Outage	3	3	9	0	0
Natural Gas Outage	2	3	6	0	0
HVAC Failure	2	3	6	0	0
Road Closure	3	3	9	1	9
Communication Failure	2	3	6	0	0
SCADA Failure	2	3	6	0	0
Computer Failure	1	3	3	0	0

South Tahoe Public Utility District

Location: Tallac Force Main

Date of Analysis: April 19, 1999 Reviewed/Updated: December 2017

Hazard Assessment				**Vulnerability Analysis**	
Hazard Type	Probability of Occurrence	Reaction Factor	Hazard Factor	System Impact	Weight
Natural Events					
Earthquake	2	3	6	2	12
Forest Fire	2	2	4	0	0
Severe Storm	3	2	6	1	6
High Winds (70+mph)	2	2	4	0	0
Heavy Snow	3	2	6	0	0
Avalanche	1	3	3	0	0
Landside	1	3	3	0	0
Flood	3	2	6	0	0
Drought	2	1	2	0	0
Hurricane	0	2	0	0	0
Man-made Events					
Contamination	2	3	6	0	0
Waterborne Disease	1	3	3	0	0
Fire/Arson	2	3	6	0	0
Loss of Key Staff	2	2	4	0	0
Fuel Shortage	2	2	4	0	0
Dam Failure	2	3	6	0	0
Terrorism/Sabotage	2	3	6	2	12
Canal Failure	3	3	9	0	0
Chemical Spill	2	3	6	0	0
Wastewater Spill	3	3	9	0	0
Technological Events					
Power Outage	3	3	9	0	0
Natural Gas Outage	2	3	6	0	0
HVAC Failure	2	3	6	0	0
Road Closure	3	3	9	1	9
Communication Failure	2	3	6	0	0
SCADA Failure	2	3	6	0	0
Computer Failure	1	3	3	0	0

South Tahoe Public Utility District

Location: Upper Dressler Ditch Alpine County

Date of Analysis: April 12, 1999 Reviewed/Updated: December 2017

Hazard Assessment				**Vulnerability Analysis**	
Hazard Type	Probability of Occurrence	Reaction Factor	Hazard Factor	System Impact	Weight
Natural Events					
Earthquake	2	3	6	2	12
Forest Fire	2	2	4	1	4
Severe Storm	3	2	6	1	6
High Winds (70+mph)	2	2	4	1	4
Heavy Snow	3	2	6	1	6
Avalanche	1	3	3	1	3
Landside	1	3	3	2	6
Flood	3	2	6	3	18
Drought	2	1	2	0	0
Hurricane	0	2	0	0	0
Man-made Events					
Contamination	2	3	6	0	0
Waterborne Disease	1	3	3	0	0
Fire/Arson	2	3	6	1	6
Loss of Key Staff	2	2	4	1	4
Fuel Shortage	2	2	4	0	0
Dam Failure	2	3	6	0	0
Terrorism/Sabotage	2	3	6	2	12
Canal Failure	3	3	9	3	27
Chemical Spill	2	3	6	0	0
Wastewater Spill	3	3	9	0	0
Technological Events					
Power Outage	3	3	9	0	0
Natural Gas Outage	2	3	6	0	0
HVAC Failure	2	3	6	0	0
Road Closure	3	3	9	0	0
Communication Failure	2	3	6	1	6
SCADA Failure	2	3	6	0	0
Computer Failure	1	3	3	0	0

South Tahoe Public Utility District

Location: Upper Truckee Force Main

Date of Analysis: April 19, 1999 Reviewed/Updated: December 2017

Hazard Assessment				**Vulnerability Analysis**	
Hazard Type	Probability of Occurrence	Reaction Factor	Hazard Factor	System Impact	Weight
Natural Events					
Earthquake	2	3	6	2	12
Forest Fire	2	2	4	0	0
Severe Storm	3	2	6	1	6
High Winds (70+mph)	2	2	4	0	0
Heavy Snow	3	2	6	0	0
Avalanche	1	3	3	0	0
Landside	1	3	3	0	0
Flood	3	2	6	1	6
Drought	2	1	2	0	0
Hurricane	0	2	0	0	0
Man-made Events					
Contamination	2	3	6	0	0
Waterborne Disease	1	3	3	0	0
Fire/Arson	2	3	6	0	0
Loss of Key Staff	2	2	4	0	0
Fuel Shortage	2	2	4	0	0
Dam Failure	2	3	6	0	0
Terrorism/Sabotage	2	3	6	2	12
Canal Failure	3	3	9	0	0
Chemical Spill	2	3	6	0	0
Wastewater Spill	3	3	9	0	0
Technological Events					
Power Outage	3	3	9	0	0
Natural Gas Outage	2	3	6	0	0
HVAC Failure	2	3	6	0	0
Road Closure	3	3	9	1	9
Communication Failure	2	3	6	0	0
SCADA Failure	2	3	6	0	0
Computer Failure	1	3	3	0	0

South Tahoe Public Utility District

Location: Wastewater Treatment Plant

Date of Analysis: August 1999 Reviewed/Updated: December 2017

Hazard Assessment				**Vulnerability Analysis**	
Hazard Type	Probability of Occurrence	Reaction Factor	Hazard Factor	System Impact	Weight
Natural Events					
Earthquake	3	3	9	3	27
Forest Fire	3	2	6	2	12
Severe Storm	2	2	4	2	8
High Winds (70+mph)	3	2	6	2	12
Heavy Snow	2	2	4	2	8
Avalanche	1	3	3	1	3
Landside	1	2	2	1	2
Flood	2	2	4	2	8
Drought	2	1	2	0	0
Hurricane	0	2	0	0	0
Man-made Events					
Contamination	2	3	6	0	0
Waterborne Disease	2	3	6	0	0
Fire/Arson	2	2	4	2	8
Loss of Key Staff	2	3	6	3	18
Fuel Shortage	2	1	2	1	2
Dam Failure	1	3	3	1	3
Terrorism/Sabotage	2	3	6	3	18
Canal Failure	0	3	0	0	0
Chemical Spill	2	3	6	1	6
Wastewater Spill					
Technological Events					
Power Outage	3	3	9	1	9
Natural Gas Outage	3	3	9	1	9
HVAC Failure	2	3	6	1	6
Road Closure	2	3	6	1	6
Communication Failure	2	3	6	1	6
SCADA Failure	2	3	6	1	6
Computer Failure	2	3	6	1	6

South Tahoe Public Utility District

Location: Water Distribution, Primary Lines

Date of Analysis: April 19, 1999 Reviewed/Updated: December 2017

Hazard Assessment				**Vulnerability Analysis**	
Hazard Type	Probability of Occurrence	Reaction Factor	Hazard Factor	System Impact	Weight
Natural Events					
Earthquake	2	3	6	2	12
Forest Fire	2	2	4	0	0
Severe Storm	3	2	6	0	0
High Winds (70+mph)	2	2	4	0	0
Heavy Snow	3	2	6	0	0
Avalanche	1	3	3	0	0
Landside	1	3	3	1	3
Flood	3	2	6	1	6
Drought	2	1	2	0	0
Hurricane	0	2	0	0	0
Man-made Events					
Contamination	2	3	6	3	18
Waterborne Disease	2	3	6	3	18
Fire/Arson	2	3	6	0	0
Loss of Key Staff	2	2	4	1	4
Fuel Shortage	2	2	4	0	0
Dam Failure	2	3	6	0	0
Terrorism/Sabotage	2	3	6	3	18
Canal Failure	3	3	9	0	0
Chemical Spill	2	3	6	3	18
Wastewater Spill	3	3	9	0	0
Technological Events					
Power Outage	3	3	9	0	0
Natural Gas Outage	2	3	6	0	0
HVAC Failure	2	3	6	0	0
Road Closure	3	3	9	1	9
Communication Failure	2	3	6	0	0
SCADA Failure	2	3	6	0	0
Computer Failure	1	3	3	0	0

South Tahoe Public Utility District

Location: Water Distribution, Secondary

Date of Analysis: April 1999 Reviewed/Updated: December 2017

Hazard Assessment				**Vulnerability Analysis**	
Hazard Type	Probability of Occurrence	Reaction Factor	Hazard Factor	System Impact	Weight
Natural Events					
Earthquake	2	3	6	1	6
Forest Fire	2	2	4	0	0
Severe Storm	3	2	6	0	0
High Winds (70+mph)	2	2	4	0	0
Heavy Snow	3	2	6	0	0
Avalanche	1	3	3	0	0
Landside	1	3	3	1	3
Flood	3	2	6	1	6
Drought	2	1	2	0	0
Hurricane	0	2	0	0	0
Man-made Events					
Contamination	2	3	6	3	18
Waterborne Disease	2	3	6	3	18
Fire/Arson	2	3	6	0	0
Loss of Key Staff	2	2	4	1	4
Fuel Shortage	2	2	4	0	0
Dam Failure	2	3	6	0	0
Terrorism/Sabotage	2	3	6	3	18
Canal Failure	3	3	9	0	0
Chemical Spill	2	3	6	3	18
Wastewater Spill	3	3	9	0	0
Technological Events					
Power Outage	3	3	9	0	0
Natural Gas Outage	2	3	6	0	0
HVAC Failure	2	3	6	0	0
Road Closure	3	3	9	1	9
Communication Failure	2	3	6	0	0
SCADA Failure	2	3	6	0	0
Computer Failure	1	3	3	0	0

South Tahoe Public Utility District

Location: Water Interties

Date of Analysis: April 19, 1999 Reviewed/Updated: December 2017

Hazard Assessment				**Vulnerability Analysis**	
Hazard Type	Probability of Occurrence	Reaction Factor	Hazard Factor	System Impact	Weight
Natural Events					
Earthquake	2	3	6	1	6
Forest Fire	2	2	4	0	0
Severe Storm	3	2	6	0	0
High Winds (70+mph)	2	2	4	0	0
Heavy Snow	3	2	6	1	6
Avalanche	1	3	3	0	0
Landside	1	3	3	0	0
Flood	3	2	6	1	6
Drought	2	1	2	0	0
Hurricane	0	2	0	0	0
Man-made Events					
Contamination	1	3	3	1	3
Waterborne Disease	1	3	3	1	3
Fire/Arson	0	0	0	0	0
Loss of Key Staff	2	2	4	1	4
Fuel Shortage	0	0	0	0	0
Dam Failure	2	3	6	0	0
Terrorism/Sabotage	2	3	6	1	6
Canal Failure	3	3	9	0	0
Chemical Spill	2	3	6	1	6
Wastewater Spill	3	3	9	0	0
Technological Events					
Power Outage	3	3	9	0	0
Natural Gas Outage	2	3	6	0	0
HVAC Failure	2	3	6	0	0
Road Closure	3	3	9	1	9
Communication Failure	2	3	6	0	0
SCADA Failure	2	3	6	0	0
Computer Failure	1	3	3	0	0

South Tahoe Public Utility District

Location: Water Storage Tanks

Date of Analysis: June 18, 1999 Reviewed/Updated: December 20017

Hazard Assessment				**Vulnerability Analysis**	
Hazard Type	Probability of Occurrence	Reaction Factor	Hazard Factor	System Impact	Weight
Natural Events					
Earthquake	2	3	6	3	18
Forest Fire	2	2	4	1	4
Severe Storm	3	2	6	0	0
High Winds (70+mph)	2	2	4	0	0
Heavy Snow	3	2	6	0	0
Avalanche	1	3	3	2	6
Landside	1	3	3	2	6
Flood	3	2	6	0	0
Drought	2	1	2	0	0
Hurricane	0	2	0	0	0
Man-made Events					
Contamination	2	3	6	3	18
Waterborne Disease	2	3	6	3	18
Fire/Arson	2	3	6	0	0
Loss of Key Staff	2	2	4	1	4
Fuel Shortage	2	2	4	1	4
Dam Failure	2	3	6	0	0
Terrorism/Sabotage	2	3	6	3	18
Canal Failure	3	3	9	0	0
Chemical Spill	2	3	6	0	0
Wastewater Spill	3	3	9	0	0
Technological Events					
Power Outage	3	3	9	2	18
Natural Gas Outage	2	3	6	0	0
HVAC Failure	2	3	6	0	0
Road Closure	2	3	9	1	9
Communication Failure	2	2	4	1	4
SCADA Failure	2	2	4	1	4
Computer Failure	1	3	3	0	0

South Tahoe Public Utility District

Location: Wells

Date of Analysis: June 18, 1999 Reviewed/Updated: December 2017

Hazard Assessment				**Vulnerability Analysis**	
Hazard Type	Probability of Occurrence	Reaction Factor	Hazard Factor	System Impact	Weight
Natural Events					
Earthquake	2	3	6	3	18
Forest Fire	2	2	4	2	8
Severe Storm	3	2	6	2	12
High Winds (70+mph)	2	2	4	2	8
Heavy Snow	3	2	6	2	12
Avalanche	1	3	3	0	0
Landside	1	3	3	0	0
Flood	3	2	6	1	6
Drought	2	1	2	1	2
Hurricane	0	2	0	0	0
Man-made Events					
Contamination	2	3	6	3	18
Waterborne Disease	2	3	6	3	18
Fire/Arson	2	3	6	3	18
Loss of Key Staff	2	2	4	1	4
Fuel Shortage	2	2	4	2	8
Dam Failure	2	3	6	0	0
Terrorism/Sabotage	2	3	6	3	18
Canal Failure	3	3	9	0	0
Chemical Spill	2	3	6	2	12
Wastewater Spill	3	3	9	2	18
Technological Events					
Power Outage	3	3	9	2	18
Natural Gas Outage	2	3	6	0	0
HVAC Failure	2	3	6	0	0
Road Closure	3	3	9	1	9
Communication Failure	2	3	6	3	18
SCADA Failure	2	3	6	3	18
Computer Failure	1	3	3	0	0

III. STPUD NATURAL HAZARD MITIGATION STRATEGY

A. Existing Authorities, Policies, Programs and Resources

The STPUD is a local utility agency with water and wastewater services. Its enabling legislation is the provisions of Section 9 of the "Public Utility District Act", approved May 31, 1921, as amended (Act 6391 of Deering's General Laws).STPUD has the authority to construct and operate works of improvement for water/wastewater related purposes; to execute related contracts, incur debt, and issue bonds for works of improvement; to fix rates, collect charges, and levy assessments for such purposes; and to acquire real property and related property rights such as easements and rights of way, including eminent domain authority if necessary. These core authorities provide STPUD a fundamental basis upon which to implement its hazard mitigation plan..

The STPUD policies are predominantly represented in its adopted STPUD Administrative Code (A codification of the Administration, Water, Sewer, Street Lighting and Groundwater Management Plan Ordinances of the STPUD. January 3, 2019) .These codes and standards set forth uniform requirements and enable the District to comply with all applicable State and Federal laws including the Clean Water Act of 1977, as amended, and the General Pretreatment Regulations (40 CFR Part 403).

By ordinance, the STPUD can establish regulations (codes) and standards and enforce compliance for any current and future changes that affect operations or project implementation. This includes any new improvements to be designed and constructed to withstand or be more resilient in responding to hazards.

The STPUD has a Capital Improvements Plan. This plan describes the infrastructure projects that are planned over the next ten (10) years to meet the needs of the water system and the wastewater system facilities that the Agency manages. These projects can take the form of pipelines, storage tanks, and treatment facilities, The projects are designed to meet regulatory requirements and to replace aging facilities. The Ten Year Financial Plan (Capital Improvement Plan) is modified each year to reflect changes in regulatory requirements and budget constraints. A diverse group of departments at STPUD supports Capital Projects and they include: Design Engineering, Construction Management, CAD/GIS, and Field Operations. Together, these departments ensure that infrastructure projects are implemented in compliance with regulatory requirements and industry standards.

In addition to the Capital Improvement Plan, the STPUD has several Strategic Plans approved by its Board of Directors listing strategic priorities for all aspects of the District's operations. The strategic priorities identify key initiatives related to water supply, sustainability, sanitation, and organizational effectiveness. These priorities were developed with the intent to routinely renew as necessary or as required by statute. Some of these strategic plans include: Urban Water Management Plan; Wastewater Treatment

Plant Master Plan (pending); Water System Optimization Plan, Wastewater Collection System Plan, and Alpine County Recycled Water Master Plan.

B. Administrative and Technical Mitigation Capabilities

Administration	Yes	STPUD's administrative capacity is more than adequate to meet mitigation capabilities.
Planning	Y	Planning is included through the Districts Engineering Department; Finance Department; Operations Department; Field Operations Department and the Information Technology Department
Mitigation Planning	Y	Planning is included through the Districts Engineering Department; Operations Department; and the Information Technology Department
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems)	Yes	The District has a fully staffed maintenance department with dedicated positions to keep facilities in proper order.
Mutual aid agreements	Yes	The District has mutual aid agreements with many neighboring agencies including, Tahoe City PUD, North Tahoe PUD, City of South Lake Tahoe, CSLT Fire Department, Lake Valley Fire Department; Incline Village GID; Lukins Brothers Water; Tahoe Keys Water; Round Hill GID; and Kingsbury GID.
Staff	Yes	Is staffing adequate to enforce regulations? Yes, the District has 115 full time employees that enforce all regulations. Is staff trained on hazards and mitigation? Yes, the District does hazard training annually. Is coordination between agencies and staff effective? Yes, the District participates in regularly scheduled inter-agency meetings with both local agencies, including the City of South Lake Tahoe, and regional agencies such as the Forest Service, Lahontan WQCB. Staff to staff communication has been established with all agencies, and emergency response/hazard protocols are in place.
Chief Building Official	N/A	This is a City, County function and the District coordinates with this entity on an as-needed basis.
Floodplain Administrator	N/A	This is a City, County function and STPUD coordinates with this entity on an as-needed basis.

Emergency Manager	Yes	The District has a risk manager that will act as an emergency manager during an emergency. Table top emergency exercises are practiced with multiple agencies every 5 years. STPUD also has a safety committee that meets monthly.
Community Planner STPUD coordinates with this entity on an as-needed basis.	N/A	The Tahoe Regional Planning Agency provides this function and
Civil Engineer	Yes	The District has an in house engineering department with a staff of 6 licensed engineers trained in all aspects of District functions.
GIS Coordinator	Yes	The District has a drafting division that maintains the Districts GIS system. The group has coordinated with outside agencies during emergencies to provide mapping information.
Technical	**Yes**	**STPUD maintains technical engineering and operating capabilities to assess and mitigate risk, and when necessary, acquires outside resources in the form of consulting engineering and construction firms to help assess and mitigate hazards and provide plans and specifications for implementing mitigation projects.**
Warning systems/services (Reverse 911, outdoor warning signals)	Yes	Facilities are manned or monitored on a 24 hour a day 7 day a week basis. The District also utilizes an answering service as backup and is part of reverse 911 local services. STPUD also utilizes a SCADA system for remote monitoring of operations throughout the District.
Hazard data and information	Yes	The District maintains a current SDS data base
Grant writing	Yes	The District has an in house grant writer. The District has utilized the opportunity to apply for both Disaster Funding and Mitigation Funding and continues to seek all funding sources that would help to implement mitigation goals and objectives.

How can these capabilities by expanded and improved to reduce risk?
STPUD has incorporated natural and man-made hazard analysis into the Capital Improvement Planning process. As part of the evaluation process to establish a priority project list, the consequence of failure and probably of failure is used to calculate a total risk score as part of the priority project evaluation. This is a recent improvement in the capital improvement planning process to help reduce risks.

C. Fiscal Mitigation Capabilities

Funding Resources (See Descriptions Below):		
Capital improvements project funding	Yes	Funding source is included in
Authority to levy taxes for specific purposes	Yes	The District receives a small portion of local government taxes through an agreement with the Counties
Fees for water, sewer, gas, or electric services	Yes	Fees include funding of operations and capital improvements
Impact fees for new development	Yes	Impact fees are limited by the ordinances regulating new development in the Lake Tahoe Basin.
Storm water utility fee	No	
Incur debt through general obligation bonds and/or special tax bonds	No	The District has the capability to issue general obligation bonds but does not utilize this as a revenue source.
Incur debt through private activities	Yes	The District has obtained private low-interest loans for capital improvement projects
Community Development Block Grant	No	
Other federal funding programs	Yes	The District has been the recipient of FEMA/OES Disaster Funds and has a pending HMGP project;
State funding programs	Yes	State Revolving Loan funding; Department of Water Resources funding

How can these capabilities be expanded and improved to reduce risk? STPUD recognizes that expanding staff resources to pursue additional mitigation funding will help to implement mitigation measures more effectively. An additional grants staff member is proposed for the next fiscal year.

D. MITIGATION GOALS

The goals identified in the STPUD Local Hazard Mitigation Plan are to:

- Save lives and protect property.

- Ensure adequate resources for continued operation.
- Accelerate recovery from disasters.
- Enable post-disaster funding.
- Reduce the impact of future disaster events.

The goals listed above are applicable to all hazards identified in this plan. The objectives of South Tahoe Public Utility District's Local Hazard Mitigation Plan have been formulated by these goals. In Section III.C, these objectives are listed and have been arranged to individually address each hazard.

E. PRIORITIZING MITIGATION MEASURES

In the event of a disaster, we have assessed our facilities and systems and determined a restoration priority list. This list will assist us in prioritizing which facilities/systems will have the greatest impact and allow for the highest level of continued operation.

District Facilities

Administration
Bijou, Ski Run, and Al Tahoe Force Mains
Booster Stations
Customer Service Operations
District EOC & Operations
Emergency Retention Basin
Export System A-Line
Export System B-Line
Export System C-Line
Fallen Leaf Lake Force Main
Fallen Leaf Lake Sewer System
Finance Division-Accounting
Fountain Shop
Gravity Sewer, Mainline Side (laterals)
Gravity Sewer, Mainline Trunk (mainline down street)
Harvey Channel
Harvey Place Reservoir
Information Systems
Indian Creek Reservoir
Johnson Boulevard Force Main
Luther Pass Pump Station
Maintenance Office and Buildings
On-farm System (Alpine County)
Phones
Pioneer Village Force Main
PRV Stations
Purchasing
Sewage Pump Stations
Snowshoe Ditch No. 1 (Alpine County)
Tahoe Keys Force Main
Tallac Force Main
Upper Dressler Ditch
Upper Truckee Force Main
Wastewater Treatment Plant
Water Distribution, Primary Lines (lines going down the street) Water Distribution, Secondary Lines (service lines to individual properties)
Water Interties and Zone Isolation Valves
Water Storage Tanks
Wells

Facilities Restoration Priority List

Highest Priority = 1 **Medium Priority = 2** **Lowest Priority List = 3**

Priority 1

- ❑ Water Tanks
- ❑ Wells
- ❑ Gravity Sewer – Main Line Side
- ❑ Gravity Sewer – Main Trunk Line
- ❑ Water Distribution – Primary Lines
- ❑ Bijou Force Main
- ❑ Upper Truckee Force Main
- ❑ Tahoe Keys / Al Tahoe Force Main
- ❑ Johnson Boulevard Force Main
- ❑ Purchasing
- ❑ Wastewater Treatment Plant
- ❑ Booster Stations
- ❑ Sewage Pump Stations
- ❑ SCADA System
- ❑ Phone System

Priority 2

- ❑ Maintenance Shop
- ❑ Radio Communications Equipment
- ❑ Water Distribution – Secondary Lines
- ❑ Export System: A-Line
- ❑ Export System: B-Line
- ❑ Luther Pass Pump Station
- ❑ Finance Division / Accounting
- ❑ Emergency Retention Basin (ERB)
- ❑ Information Systems
- ❑ PRV's

Priority 3

- ❑ Customer Service Operations
- ❑ Administration Building
- ❑ Water Interties
- ❑ Pioneer Village Force Main
- ❑ Fallen Leaf Lake Force Main
- ❑ Fallen Leaf Lake Sewer System
- ❑ Export System: C-Line
- ❑ Harvey Place Reservoir
- ❑ Diamond Ditch

F. MITIGATION OBJECTIVES

Following is a list of objectives developed in conjunction with the overall goals of this plan. Each objective involves one or more actions designed to accomplish the objective. The objectives are organized by specific natural and man made hazards and are arranged in order of priority, as identified in the Natural Hazard Rating Table. The highest priority objectives and actions are listed first; the lowest priority objectives and actions listed last.

Wildland Fires

Objective #1: Minimize the threat to lives and property posed by the possibility of wildland fire within STPUD boundaries.

Action 1.1: Create defensible space by eliminating fuel sources within identified District areas subject to wildland fires. Cut and remove trees and vegetation adjacent to structures.
Timeframe: On-going.
Funding: Funding required.
Staff: STPUD personnel, Contractor, U.S. Forest Service, and affected government agencies.

Action 1.2: Install backup power at each water tank, pump, and booster station location. Needed to maintain communication and monitor tank levels with SCADA system, ensuring that pumps will activate, are running, and water levels remain sufficient for fire suppression in the event that power lines are destroyed.
Timeframe: On-going.
Funding: Funding required.
Staff: STPUD staff, Contractor.

Action 1.3: Examine options for burying power lines to/from remote sources as additional power backup.
Timeframe: On-going.
Funding: Funding required.
Staff: STPUD staff, Contractor.

Action 1.4: Improve fire flows by a) increasing water delivery pipe size and b) increasing number of pumps and pump capacity.
Timeframe: On-going
Funding: Funding required.
Staff: STPUD staff, Contractor.

Action 1.5: Add new or upsize existing wells, water storage tanks, and install hydrants throughout service area to provide fire flow.
Timeframe: On-going
Funding: Funding required.
Staff: STPUD staff, Contractor.

Action 1.6: Partner with Fire Safety Council to protect District structures.
Timeframe: On-going.
Funding: No funding required at this time.
Staff: STPUD staff, Fire Safety Council staff.

Action 1.7: Determine high risk areas in close proximity to wildlands and improve water supply in those areas.
Timeframe: On-going.

Funding: Funding required.
Staff: STPUD staff.

Severe Storms

Objective #2: Minimize storm related damage from all types of severe storms that impact district facilities.
Action 2.1: Review snow removal, snow removal equipment, and snow storage and drainage capability. Review backup generator capacity and fuel storage and implement improvements
Timeframe: Ongoing
Funding: Funding required.
Staff: STPUD staff, Contractor.
Action 2.2: Assess and remove hazard trees.
Timeframe: 3 years
Funding: Funding required.
Staff: STPUD staff, Contractor.

Earthquakes

Objective #3: Minimize the threat to lives and property as a result of a possible earthquake.
Action 3.1: Inspect and evaluate all District facilities, including pipes, treatment and pumping structures, roads and dams for seismic stability. Where applicable, upgrade structures to withstand earthquake events.
Timeframe: Ongoing.
Funding: Funding required.
Staff: Outside contract specialists.
Action 3.2: Purchase emergency response equipment, such as pumps and hoses, to help improve effectiveness of response.
Timeframe: Ongoing
Funding: Funding required.
Staff: STPUD staff, Consultant.

Floods / Seiche Wave

Objective #4: Minimize the threat to lives and property posed by the possibility of flood within STPUD jurisdiction or on property in Alpine County.
Action 4.1: Review recognized flood-prone areas and match to exposures of personnel, facilities and equipment. Review protection of collection system from I & I.
Timeframe: Ongoing
Funding: No funding required at this time.
Staff: Planning Department.
Action 4.2: Build a sufficient inventory of pumps, sandbags and related equipment to ensure an adequate supply to combat erosion during flood events. Develop a quick response team.
Timeframe: Ongoing.
Funding: Funding required.
Staff: To be determined

Action 4.3: Establish a safety zone and prepare an evacuation plan in the event of seismic induced tsunami and/or seiche wave activity.
Timeframe: Ongoing.
Funding: Funding required.
Staff: To be determined
Action 4.4: Consider structural improvements of those pump stations that are within 45 feet of the maximum lake level to resist wave impacts as these facilities are renovated.
Timeframe: Ongoing
Funding: No funding required at this time.
Staff: STPUD staff, Contractor.

Landslides
Objective #5: Reduce soil erosion and possible landslide occurrences within STPUD property jurisdiction.
Action 5.1: As part of the District Erosion Control Program, inspect road cuts and fills for signs of slope failure. If necessary, stabilize slopes.
Timeframe: On-going.
Funding: Funding may be required.
Staff: Internal work crews.
Action 5.2: Identify questionable hillsides. Construct "rock pens" and drill & anchor points, and provide cut and fill techniques for finished slopes at the angle of repose at District facilities.
Timeframe: Ongoing
Funding: Funding required.
Staff: Internal and external support.

Drought
Objective #6: Minimize the threat to the natural environment and property posed by the possibility of drought.
Action 6.1: Develop and distribute a Resident's guide to water conservation techniques.
Timeframe: Current and on-going.
Funding: Grant Funded.
Staff: Water Conservation Coordinator.
Action 6.2: Initiate landscaping rebates, commercial water saving programs, and incentive rebates for customer purchase of water saving devices.
Timeframe: Current and on-going.
Funding: Grant Funded.
Staff: Water Conservation Coordinator.
Action 6.3: Improve back-up well capacity.
Timeframe: Ongoing
Funding: Funding required.
Staff: STPUD staff.

Avalanche
Objective #7: To diminish the threat to lives and property posed by the potential for avalanche by developing effective techniques of informing workers and the public on the level of avalanche danger within the STPUD's backcountry regions .

Action 7.1: Educate District personnel on cold weather survival, avalanche survival techniques, and travel by skis and snowshoes.
Timeframe: On-going.
Funding: Funding required.
Staff: Search and Rescue employees, cold weather survival school, and ski resort personnel.
Action 7.2: Train additional personnel in the safe operation of the Districts Snow Cat vehicles and become a "mutual aid" resource.
Timeframe: On-going.
Funding: Funding required.
Staff: Vendor.
Action 7.3: Assess threat to District facilities and install additional protection where appropriate.
Timeframe: On-going
Funding: Funding required
Staff: STPUD staff

Security
Objective #8: To protect District infrastructure from security breeches.
Action 8.1: Perform a SCADA vulnerability assessment and add upgrades to improve security.
Timeframe: On-going.
Funding: Funding required.
Staff: Consultant.
Action 8.2: Perform facility security assessment for 50+ out buildings to include lighting, fencing, CCTV, and intrusion alarms. Install components as time and cost allow for it.
Timeframe: Ongoing
Funding: Funding required.
Staff: Contractor.
Action 8.3: Perform a Business Network Vulnerability assessment and add upgrades to improve security
Timeframe: Ongoing
Funding: Funding required.
Staff: STPUD staff, Contractor.

G. IMPLEMENTING MITIGATION STRATEGIES

The STPUD Hazard Mitigation Plan is designed to function as an enhancement to preexisting plans, ordinance, rules and regulations.

Some of the mitigating actions are new and are not a part of any preexisting government requirement. The implementation of these action strategies will be contingent upon the necessary approvals from the appropriate governmental agencies. Implementation is also dependant on securing necessary funding from yet to be determined sources. STPUD will seek to secure funding for natural hazard mitigation through a variety of avenues including, but not limited to, consulting the Federal Emergency Management Agency's website for a comprehensive list of available federal and state natural hazard mitigation grant funding and federal mitigation programs.

We have placed a primary emphasis on implementing actions that provide the highest cost-to-benefit ratio. The greatest natural hazard threat to lives and property in our area is wildland fire. We have placed a high priority on mitigation activities that will reduce the threat of wildland fires in the District and provide the greatest benefit.

H. PLAN MAINTENANCE

STPUD's Local Hazard Mitigation Plan will be evaluated, at a minimum, every year to determine its continued effectiveness.

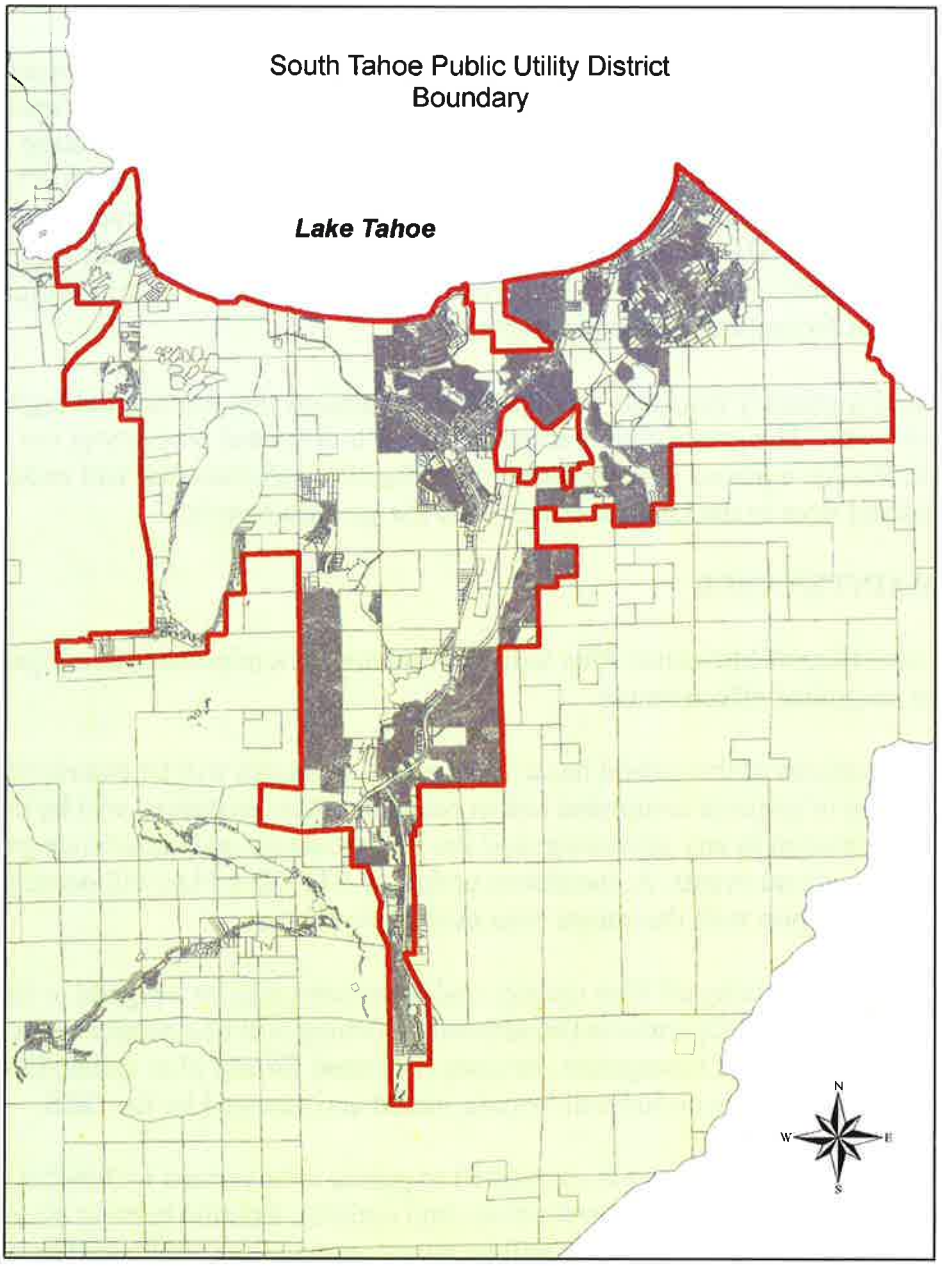
The annual evaluations of the natural hazard mitigation strategies will be examined to assess the number of projects completed and in progress. Also examined will be their effectiveness in relation to any prevailing land use requirements, and experience gained from dealing with actual events. A mandatory update to STPUD's Plan will occur every five years in conjunction with the annual plan evaluation process.

Responsibility for organizing all Plan updates and/or reviews will be assigned to the District's Engineering and Operations Departments. Timing will be coordinated with the El Dorado County Office of Emergency Services. The need for any plan update in excess of the fixed five-year update period will be determined and assessed by the OES.

South Tahoe Public Utility District is committed to public involvement within this hazard mitigation plan. For all plan review evaluations and updates, a public hearing may be held by the STPUD Board. The hearing will be announced and the public will be asked for comments concerning the plan.

In conjunction with El Dorado County, South Tahoe Public Utility District will strive to continue to develop the STPUD LHMP and utilize it as a capital projects planning tool. It is our goal to help the citizens of Lake Tahoe and Alpine County, and the customers of STPUD, to create a safer place to live, work, and play.

ATTACHMENT "A"



ADDENDUM A

2013 Appraisal of Selected Assets

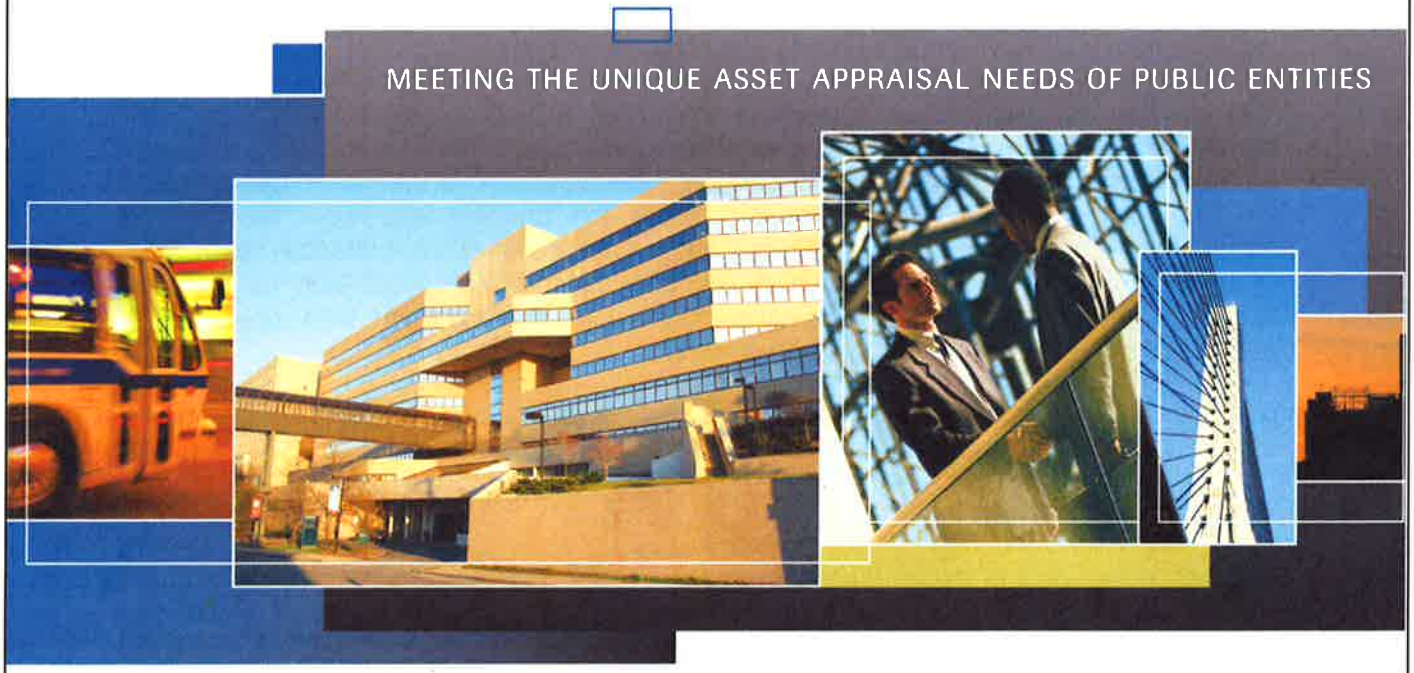
ALLIANT INSURANCE SERVICES

Appraisal Services

SELECTED ASSETS OF

South Tahoe Public Utility District

As of 9/05/2013



Alliant

Alliant Insurance Services • 1301 Dove St • Suite 200 • Newport Beach, CA 92660
(800) 789-5655 Toll-Free • (949) 260-5034 Phone • (619) 699-0942 Fax • lmartin@alliantinsurance.com

Appraisal Date: 9/05/2013

Alliant Insurance Services, Inc.
1301 Dove St, Suite 200
Newport Beach, CA 92660

RE: Appraisal Services for 1 structure for South Tahoe Public Utility District.

In response to your request and authorization, we have undertaken the investigations and analyses necessary to estimate the replacement cost new of the structures contained in the schedule of values for South Tahoe Public Utility District.

Scope of Work:

The scope of this assignment is to develop an opinion of value for replacement cost new of the structures for insurance purposes. The value of the land on which the improvements are attached is not included in this analysis. The most meaningful and reliable approach to determine replacement cost new for the insurable value is the cost approach.

Replacement cost new is the cost of creating a building having similar utility, using current standards of design and materials. It is not necessarily the cost of creating a replica of the existing structure if the improvements are constructed of outdated materials, technique, and design. Excluded from the appraisal are assets of intangible nature, records and drawings, inventory items, personal property and leased property. Insurable value is based on current base construction costs, excluding site improvements, indirect costs, land and entrepreneurial profit.

The services provided include close examination all structures on the list provided. All aspects of the structural improvements which include construction type, quality, size, and other attributes are considered in the analysis. Structure size is based on data provided by the client; the size data is verified during the building analysis. Sources for replacement cost information include, but are not limited to actual historical costs, files, databases, and industry price guides. The selected unit of comparison for the cost approach analysis is cost per square foot, which is consistent with how market participants typically evaluate construction costs.

A Detail Building Report for each structure is developed and provided in this report which indicates general building characteristics and the total replacement cost.

Fluctuations in Values:

It appears that most of the variances in previously reported values are the result of dated information. Other possible reasons for variances may be the result of inaccurate reporting of improvement size, quality or features. Additionally, previously reported values may have been calculated using an estimate average price per square foot, while not taking into consideration individual building characteristics, local and current cost adjustments for each structure.

Value Comparison Report:

A review of the Value Comparison Report and the individual building detail reports reflects some changes in the replacement cost values. The appraised values reflect the replacement cost of the building improvements only and do not include personal property or business interruption values.

The Value Comparison Report, found before the Appraisal Building Detail Report pages, identifies and explains the variance ratios and applicable changes of the structures' attributes including square footage and/or other features identified during the site inspections.

Overall, the differences in the estimated values for the structures appear to be primarily due to the updating of current replacement costs. The structures appear to be well built and well maintained properties with the overall value changes falling within a reasonable range.

We appreciate the opportunity to work with you on this project and hope that the findings and detailed information on the individual structures is helpful to you and the client. Please contact us if we can be of any further assistance.

Sincerely,

Alliant Appraisal Services

CERTIFICATION

We the undersigned do hereby certify that to the best of my knowledge and belief except as otherwise noted in this report:

1. We have previously appraised properties of this type and are competent to appraise this property.

2. That the reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and is my personal, unbiased professional analyses, opinions, and conclusions.

3. That we have no present or prospective interest in the property that is the subject of this report, and I have no personal interest or bias with respect to the parties involved. The appraisal assignment was not based on a requested minimum valuation, a specific valuation, or the approval of a loan.

4. That our compensation is not contingent upon the reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value estimate, the attainment of a stipulated result, or the occurrence of a subsequent event.

5. That, to the best of our knowledge and belief, the reported analyses, opinions and conclusions were developed, and this report has been prepared, in conformity with the requirements of the Code of Professional Ethics and the Standards of Professional Practice of the Appraisal Institute and the Uniform Standards of Professional Appraisal Practice (USPAP). Standards rules 2-2(c).

6. Alliant Appraiser, Wanda Gindlesperger has made on-site inspections of the properties in this report.

7. No one has provided significant professional assistance to Alliant Appraisal Services or the persons preparing this report.

8. That, the use of this report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives.

Alliant Appraisal Services

The client and intended user of this report are Alliant Insurance Services and their client. The purpose of this report is for use in insurance placement. A cost approach is utilized to develop the insurable value. This is part of the fee simple interest in the structure.

ASSUMPTIONS AND LIMITING CONDITIONS

To assist the reader in interpreting the report, such assumptions and limiting conditions as related to the properties considered in this report are set forth as follows:

SPECIAL ASSUMPTIONS AND LIMITING CONDITIONS

None

STANDARD ASSUMPTIONS AND LIMITING CONDITIONS

1. The conclusions and opinions expressed in this report apply to the date of the survey.

2. The appraiser assumes no responsibility for economic, physical or demographic factors which may affect or alter the opinions in this report if said economic, physical or demographic factors were not present as of the date of the letter of transmittal accompanying this report. The appraiser is not obligated to predict future political, economic or social trends.

3. Disclosure of the contents of this appraisal report is governed by the Code of Professional Ethics and the Standards of Professional Practice of the Appraisal Institute and the Uniform Standards of Professional Appraisal Practice (USPAP).

4. In preparing this report, the appraiser was required to rely on information furnished by other individuals or found in previously existing records and/or documents. Unless otherwise indicated, such information is presumed to be reliable. However, no warranty, either express or implied, is given by the appraiser for the accuracy of such information and the appraiser assumes no responsibility for information relied upon later found to have been inaccurate. No responsibility is assumed for errors or omissions, or for information not disclosed which might otherwise affect the valuation estimate. The appraiser reserves the right to make such adjustments to the analyses, opinions and conclusions set forth in this report as may be required by consideration of additional data or more reliable data that may become available.

5. No opinion as to the title of the subject is rendered. The scope of this assignment is limited to the extent that ownership is not at issue.

6. The appraiser assumes no responsibility for hidden or non-apparent conditions of the structures that render the subject property more or less valuable. No responsibility is assumed for arranging for engineering, geologic or environmental studies that may be required to discover such hidden or non-apparent conditions.

7. The appraiser has not been provided any written information regarding the presence of any material or substance on or in any portion of the subject property or improvements thereon, which material or substance possesses or may possess toxic, hazardous and/or other harmful and/or dangerous characteristics.

8. Appraisers are not generally qualified to investigate or test for the presence of such materials or substances. The presence of such materials or substances may adversely affect the value of the subject property. The value estimated in this report is predicated on the assumption that no such material or substance is present on or in the subject property or in such proximity thereto that it would cause a loss in value. The appraiser assumes no responsibility for the presence of any such substance or material on or in the subject property, nor for any expertise or engineering knowledge required to discover the presence of such substance or material.

9. This report assumes the subject property is in compliance with all federal, state and local environmental laws, regulations and rules.

10. The subject property is assumed to be in full compliance with all applicable zoning and land use regulations and restrictions.

11. The property is assumed to have all required licenses, permits, certificates, consents or other legislative and/or administrative authority from any local, state or national government or private entity or organization have been or can be obtained or renewed for any use on which the value estimate contained in this report is based.

12. No opinion is expressed as to the value of subsurface oil, gas or mineral rights or whether the property is subject to surface entry for the exploration or removal or such materials, except as is expressly stated.

13. Maps, plats and exhibits included or referenced in this report are for illustration only to serve as an aid in visualizing matters discussed within the report. They should not be considered as surveys or relied upon for any other purpose, nor should they be removed from, reproduced or used apart from the report.

14. No opinion is intended to be expressed for matters which require legal expertise or specialized investigation or knowledge beyond that customarily employed by real estate appraisers.

15. The liability of the appraiser is limited to the client only and to the fee actually received. If any legal action is brought against the appraiser, and the appraiser prevails, the party initiating such legal action shall reimburse the appraiser for all costs, including legal fees, incurred by the appraiser.

16. Possession of this report, or a copy of it, does not carry with it the right of publication. Without the written consent of the appraiser, this report may not be used for any purpose by any person other than the party to whom it is addressed. In any event, this report may be used only with proper written qualification and only in its entirety for its stated purpose. Neither all, nor any part, of the contents

of this report shall be disseminated to the public through advertising media, public relations, news media, sales media, or any public means of communication without prior written consent and approval of the appraiser.

17. The property that is the subject of this report is within a geographic area prone to earthquakes and other seismic disturbances. Except as specifically indicated in the report, no seismic or geologic studies have been provided to the appraiser concerning the geologic and/or seismic condition of the subject property. The appraiser assumes no responsibility for the possible effect on the subject property of seismic activity and/or earthquakes.

18. Testimony or attendance in court or at any other hearing is not required by reason or rendering this report, unless such arrangements are made a reasonable time in advance of said hearing. Further, unless otherwise indicated, separate arrangements shall be made concerning compensation for the appraiser's time to prepare for and attend any such hearing.

19. The appraiser finds no obvious evidence of structural deficiencies in any improvements located on the subject property. However, the appraiser assumes no responsibility for hidden defects or non-conformity with specific governmental requirements, such as fire, building and safety, earthquake or occupancy codes, unless inspections by qualified independent professionals or governmental agencies were provided to the appraiser. Further, the appraiser is not a licensed engineer or architect and assumes no responsibility for structural deficiencies not apparent to the appraiser at the time of inspection.

20. No termite, dry rot, wet rot, pest or other infestation report was made available to the appraiser. It is assumed that there is no related damage or infestation, unless otherwise stated.

21. No engineering survey has been made by the appraiser. Except as specifically stated, data relative to size and area of the subject property was taken from sources considered reliable and no encroachment of the subject properties considered to exist.

22. No soils or geological studies or reports were made available to the appraiser. It is therefore assumed that there are no soil conditions which negatively affect the subject property. As no hydrology studies were available for review, it is assumed that any drainage through or across the subject property would be contained, and the property under appraisement would not be subject to flooding.

23. The inspection of the subject property could not determine if asbestos was present in the building structure. No report was made available concerning the presence/absence of asbestos, and therefore the appraiser has not considered the presence of asbestos as a factor in this appraisal.

24. The Americans with Disabilities Act (ADA) became effective January 26, 1992. The appraiser has not made a specific compliance survey and analysis of the subject property to determine whether or not it is in conformity with the various detailed requirement of the ADA. It is possible that a compliance survey of the property, together with a detailed analysis of the requirements of the ADA, could

well reveal that the subject property is not in compliance with one or more of the requirements of the Act. If so, this fact could have a negative effect upon the value of the subject property. Since the appraisers have no direct evidence relating to this issue, possible non-compliance with the requirements of the ADA in estimating the value of the property has not been considered.

Value Comparison Report

Appraisal Inspection Date 9/5/2013

Y DISTRICT

Appraiser Name: Wanda Gindlesperger, SRA

Existing Real Property Insured Value)	Updated Real Property (Insured Value)	Change in Real Property ($/%) (Insured Value)	Existing Real Property per SF (Insured Value)	Updated Real Property per SF (Insured Value)	Existing Size (SF)	Updated Size (SF)	Notes
$ 14,927,266	$ 15,681,600	$ 754,334 5.05%	N/A	N/A			This is the Harvey Place Reservoir which has a capacity of 3,800 acre-feet of water. Included in this capacity is the normal storage of 3,000 acre-feet of reclaimed water and 800 acre-feet of flood water. There is an additional 250 acre-feet of dead storage. The updates replacement cost is higher than previously indicated . Sources for replacement cost information includ but are not limited to, water treatme plant cost databases, industry price guidelines, manufacturers' costs, plant modeling software and historic cost data. Client Escorts: Nancy Hussman / Human Resource Director Hal Bird / Land Application Mgr
$ 14,927,266	$ 15,681,600	$ 754,334 5.05%					
$ 14,927,266	$ 15,681,600	$ 754,334 5.05%					

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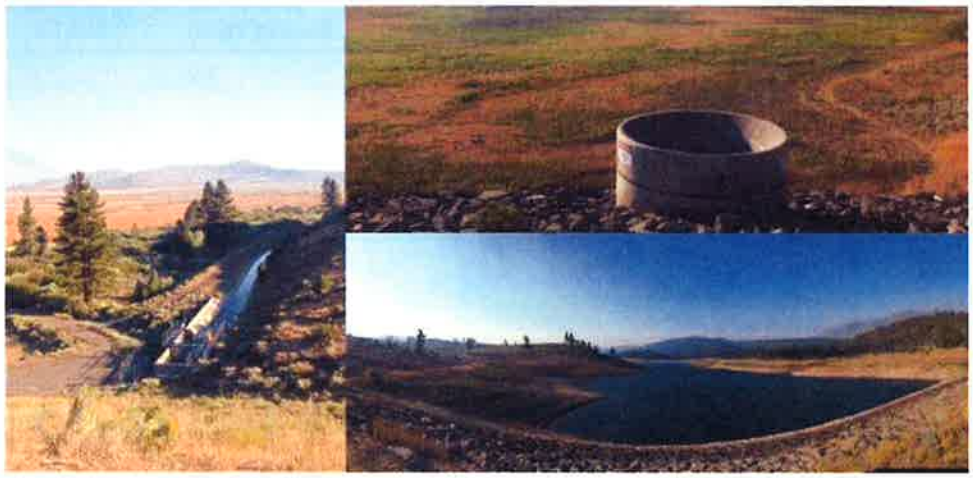
96120

ERVOIR



VALUATION CONCLUSIONS

Replacement Cost New:	15,681,600
Exclusion Amount:	0
Replacement Cost Less Exclusions:	15,681,600

ervoir replaced the Indian Creek Reservoir as the District's storage reservoir in
d to contain all District wastewater effluent as well as maximum flood flow. The
litches to supply certain land owners with reclaimed wastewater from the
summer released water is used for irrigation.
l in the Diamond Valley, Wade Valley, and Fredericksburg areas. Harvey Place
) acre-feet of water. Included in this capacity is the normal storage of 3,000
800 acre-feet of flood water. There is an additional 250 acre-feet of dead

vw.stpud.us/alpineco.html

ırces Director

CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

Includes B & M

Real Property Trend Factor: 3.88%
Personal Property Trend Factor: 0.02%

January 27, 2014

ccupancy	Construction	Auto Spklr	Year Built	Year Apprs		Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
Q. FT.	Class: C	Yes	2006	2006	EQ:	G	No	No	No	*2013*	*$10,313,985*	*$2,088,919*	*$0*	*$12,402,904*
ADMINISTRATION	MASONRY CONST/WOOD ROOF				Flood:	A	No	No	No	**2014**	**$10,714,168**	**$2,089,337**	**$0**	**$12,803,505**
RATION														
: 100%														
Q. FT.	Class: B	No	1980	2005	EQ:	G	No	No	No	*2013*	*$674,252*	*$770,619*	*$0*	*$1,444,871*
PUMP STATION	ALL REINFORCED CONCRETE				Flood:	A	No	No	No	**2014**	**$700,413**	**$770,773**	**$0**	**$1,471,186**
ICY PUMP STATION														
Q. FT.	Class: S	No	1968	2005	EQ:	G	No	No	No	*2013*	*$2,127,424*	*$743,590*	*$0*	*$2,871,014*
ILTER BUILDING	ALL STEEL				Flood:	A	No	No	No	**2014**	**$2,209,968**	**$743,739**	**$0**	**$2,953,707**
JILDING														
: 0%														
Q. FT.	Class: B	No	1966	2005	EQ:	G	No	No	No	*2013*	*$7,278,574*	*$807,827*	*$0*	*$8,086,401*
SECONDARY	ALL REINFORCED CONCRETE				Flood:	A	No	No	No	**2014**	**$7,560,983**	**$807,989**	**$0**	**$8,368,972**
R (3)														
RY CLARIFIERS														
: 0%														

CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

Includes B & M

Real Property Trend Factor: 3.88%
Personal Property Trend Factor: 0.02%

January 27, 2014

ccupancy	Construction	Auto Spklr	Year Built	Year Apprs		Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
Q. FT.	Class: C	No	1966	2005	EQ:	G	No	No	No	*2013*	*$469,052*	*$579,095*	*$0*	*$1,048,147*
PUMP STATION	MASONRY CONST/WOOD ROOF				Flood:	A	No	No	No	**2014**	**$487,251**	**$579,211**	**$0**	**$1,066,462**
DING														
Q. FT.	Class: C	No	1980	2005	EQ:	G	No	No	No	*2013*	*$195,803*	*$59,732*	*$0*	*$255,535*
DRAGE BLDG.	MASONRY CONST/WOOD ROOF				Flood:	A	No	No	No	**2014**	**$203,400**	**$59,744**	**$0**	**$263,144**
Y FOR FILES														
BLDG.														
Q. FT.	Class: C	No	1966	2005	EQ:	G	No	No	No	*2013*	*$236,398*	*$47,358*	*$0*	*$283,756*
GARAGE	MASONRY CONST/WOOD ROOF				Flood:	A	No	No	No	**2014**	**$245,570**	**$47,367**	**$0**	**$292,937**
NCE BUILDING #1														
Q. FT.	Class: C	No	1980	2005	EQ:	G	No	No	No	*2013*	*$460,988*	*$94,639*	*$0*	*$555,627*
GARAGE	MASONRY CONST/WOOD ROOF				Flood:	A	No	No	No	**2014**	**$478,874**	**$94,658**	**$0**	**$573,532**
NCE BUILDING #2														

CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

Includes B & M

Real Property Trend Factor: 3.88%
Personal Property Trend Factor: 0.02%

January 27, 2014

ccupancy	Construction	Auto Spklr	Year Built	Year Apprs		Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
Q. FT.	Class: C	No	1980	2005	EQ:	G	No	No	No	*2013*	*$165,813*	*$135,227*	*$0*	*$301,040*
GARAGE	MASONRY CONST/WOOD ROOF				Flood:	A	No	No	No	**2014**	**$172,247**	**$135,254**	**$0**	**$307,501**
NCE BUILDING #3														
Q. FT.	Class: C	No	1980	2005	EQ:	G	No	No	No	*2013*	*$149,727*	*$41,778*	*$0*	*$191,505*
GARAGE	MASONRY CONST/WOOD ROOF				Flood:	A	No	No	No	**2014**	**$155,536**	**$41,786**	**$0**	**$197,322**
NCE BUILDING #4 - OR STORAGE														
Q. FT.	Class: C	No	1980	2005	EQ:	G	No	No	No	*2013*	*$2,003,943*	*$502,020*	*$0*	*$2,505,963*
GARAGE	MASONRY CONST/WOOD ROOF				Flood:	A	No	No	No	**2014**	**$2,081,696**	**$502,120**	**$0**	**$2,583,816**
NCE BUILDING #5														
Q. FT.	Class: S	No	1995	2005	EQ:	G	No	No	No	*2013*	*$228,251*	*$73,298*	*$0*	*$301,549*
STORAGE BUILDING	ALL STEEL				Flood:	A	No	No	No	**2014**	**$237,107**	**$73,313**	**$0**	**$310,420**
RAGE BUILDING														

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CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

Includes B & M

Real Property Trend Factor: 3.88%
Personal Property Trend Factor: 0.02%

January 27, 2014

ccupancy	Construction	Auto Spklr	Year Built	Year Apprs	Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
). FT.	Class: B	No	2009	2005	EQ: G	No	No	No	*2013*	*$103,140*	*$78,334*	*$0*	*$181,474*
NT PLANT SAMPLER	ALL REINFORCED CONCRETE				Flood: A	No	No	No	**2014**	**$107,142**	**$78,350**	**$0**	**$185,492**
NT PLANT SAMPLER													
Q. FT.	Class: B	No	1958	2005	EQ: G	No	No	No	*2013*	*$4,851,007*	*$0*	*$0*	*$4,851,007*
PRIMARY CLARIFIER	ALL REINFORCED CONCRETE				Flood: A	No	No	No	**2014**	**$5,039,226**	**$0**	**$0**	**$5,039,226**
CLARIFIERS													
: 0%													
Q. FT.	Class: C	No	1958	2005	EQ: G	No	No	No	*2013*	*$807,266*	*$543,095*	*$0*	*$1,350,361*
COMPRESSOR	MASONRY CONST/WOOD ROOF				Flood: A	No	No	No	**2014**	**$838,588**	**$543,204**	**$0**	**$1,381,792**
BUILDING													
Q. FT.	Class: B	No	1959	2005	EQ: G	No	No	No	*2013*	*$1,408,233*	*$100,327*	*$0*	*$1,508,560*
EQUILIZATION BED	ALL REINFORCED CONCRETE				Flood: A	No	No	No	**2014**	**$1,462,872**	**$100,347**	**$0**	**$1,563,219**
JILIZATION BASIN													
: 0%													

CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

Includes B & M

Real Property Trend Factor: 3.88%
Personal Property Trend Factor: 0.02%

January 27, 2014

ccupancy	Construction	Auto Spklr	Year Built	Year Apprs		Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
Q. FT.	Class: B	No	1958	2005	EQ:	G	No	No	No	*2013*	*$8,173,626*	*$1,134,550*	*$0*	*$9,308,176*
ERATION BASIN	ALL REINFORCED CONCRETE				Flood:	A	No	No	No	**2014**	**$8,490,763**	**$1,134,777**	**$0**	**$9,625,540**
BASINS														
SQ. FT.	Class: B	No	1958	2005	EQ:	G	No	No	No	*2013*	*$2,044,600*	*$0*	*$0*	*$2,044,600*
ONDS	ALL REINFORCED CONCRETE				Flood:	A	No	No	No	**2014**	**$2,123,930**	**$0**	**$0**	**$2,123,930**
ONDS														
: 0%														
Q. FT.	Class: B	No	2008	2005	EQ:	G	No	No	No	*2013*	*$1,930,778*	*$851,235*	*$0*	*$2,782,013*
UMP STATION	ALL REINFORCED CONCRETE				Flood:	A	No	No	No	**2014**	**$2,005,692**	**$851,405**	**$0**	**$2,857,097**
MPING STATION														
Q. FT.	Class: C	No	2009	2005	EQ:	G	No	No	No	*2013*	*$552,829*	*$877,346*	*$0*	*$1,430,175*
UMP STATION	MASONRY CONST/WOOD ROOF				Flood:	A	No	No	No	**2014**	**$574,279**	**$877,521**	**$0**	**$1,451,800**
ICY GENERATOR														

CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

Includes B & M

Real Property Trend Factor: 3.88%
Personal Property Trend Factor: 0.02%

January 27, 2014

ccupancy	Construction	Auto Spklr	Year Built	Year Apprs		Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
). FT.	Class: C	No	1968	2005	EQ:	G	No	No	No	*2013*	*$33,525*	*$42,253*	*$0*	*$75,778*
/ALVE HOUSE	MASONRY CONST/WOOD ROOF				Flood:	A	No	No	No	**2014**	**$34,826**	**$42,261**	**$0**	**$77,087**
ICY RETENTION														
.LVE HOUSE)														
SQ. FT.	Class: B	No	2011	2005	EQ:	G	No	No	No	*2013*	*$2,011,049*	*$0*	*$0*	*$2,011,049*
BASIN	ALL REINFORCED CONCRETE				Flood:	A	No	No	No	**2014**	**$2,089,078**	**$0**	**$0**	**$2,089,078**
ICY RETENTION														
). FT.	Class: S	No	1968	2005	EQ:	G	No	No	No	*2013*	*$158,111*	*$0*	*$0*	*$158,111*
STORAGE BUILDING	ALL STEEL				Flood:	A	No	No	No	**2014**	**$164,246**	**$0**	**$0**	**$164,246**
STORAGE														
). FT.	Class: D	No	1999	2005	EQ:	G	No	No	No	*2013*	*$0*	*$0*	*$0*	*$0*
PORTABLE OFFICE	ALL COMB (WOOD FRAME)				Flood:	A	No	No	No	**2014**	**$0**	**$0**	**$0**	**$0**
RAILER														

CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

Includes B & M

Real Property Trend Factor: 3.88%
Personal Property Trend Factor: 0.02%

January 27, 2014

ccupancy	Construction	Auto Spklr	Year Built	Year Apprs		Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
FT.	Class: N	No	1995	2005	EQ:	G	No	No	No	*2013*	*$0*	*$1,014,204*	*$0*	*$1,014,204*
ICABLE					Flood:	A	No	No	No	**2014**	**$0**	**$1,014,407**	**$0**	**$1,014,407**
MERGENCY														
OR														
. FT.	Class: C	No	1960	2005	EQ:	G	No	No	No	*2013*	*$403,054*	*$270,454*	*$0*	*$673,508*
UMP STATION	MASONRY CONST/WOOD ROOF				Flood:	A	No	No	No	**2014**	**$418,692**	**$270,508**	**$0**	**$689,200**
EEK PUMP SEWER														
TION LOWER														
E														
FT.	Class: S	No	2003	2005	EQ:	G	No	No	No	*2013*	*$425,656*	*$98,354*	*$0*	*$524,010*
LUDGE STORAGE	ALL STEEL				Flood:	A	No	No	No	**2014**	**$442,171**	**$98,374**	**$0**	**$540,545**
not map due to														
rmation														
. FT.	Class: C	No	2004	2005	EQ:	G	No	No	No	*2013*	*$6,587,515*	*$2,185,636*	*$0*	*$8,773,151*
IO BUILDING	MASONRY CONST/WOOD ROOF				Flood:	A	No	No	No	**2014**	**$6,843,111**	**$2,186,073**	**$0**	**$9,029,184**

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CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

Includes B & M

Real Property Trend Factor: 3.88%
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January 27, 2014

ccupancy	Construction	Auto Spklr	Year Built	Year Apprs	Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
not map due to rmation													
Q. FT.	Class: S	No	2004	2005	EQ: G	No	No	No	*2013*	*$229,382*	*$84,147*	*$0*	*$313,529*
.ORITE BUILDING	ALL STEEL				Flood: A	No	No	No	**2014**	**$238,282**	**$84,164**	**$0**	**$322,446**
not map due to rmation													
FT.	Class: N/A	No	1961	2005	EQ: G	No	No	No	*2013*	*$1,642,537*	*$0*	*$0*	*$1,642,537*
PROCESS PIPING :OUND PROCESS I PLANT)					Flood: A	No	No	No	**2014**	**$1,706,267**	**$0**	**$0**	**$1,706,267**
). FT.	Class: S	No	1970	2005	EQ: G	No	No	No	*2013*	*$171,228*	*$161,117*	*$0*	*$332,345*
)OSTER STATION LACK BART LIFT	ALL STEEL				Flood:	No	No	No	**2014**	**$177,872**	**$161,149**	**$0**	**$339,021**
not map due to rmation													
Q. FT.	Class: C	Yes	1968	2005	EQ: G	No	No	No	*2013*	*$1,281,628*	*$8,724,214*	*$0*	*$10,005,842*
.IFT STATION 'ASS LIFT STATION : 0%	MASONRY CONST/WOOD ROOF				Flood:	No	No	No	**2014**	**$1,331,355**	**$8,725,959**	**$0**	**$10,057,314**

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CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

Includes B & M

Real Property Trend Factor: 3.88%
Personal Property Trend Factor: 0.02%

January 27, 2014

ccupancy	Construction	Auto Spklr	Year Built	Year Apprs	Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
cision: ZIP Code													
). FT.	Class: C	No	1970	2005	EQ: G	No	No	No	*2013*	*$412,559*	*$235,003*	*$0*	*$647,562*
.IFT STATION	MASONRY CONST/WOOD ROOF				Flood:	No	No	No	**2014**	**$428,566**	**$235,050**	**$0**	**$663,616**
BEACH LIFT													
not map due to rmation													
). FT.	Class: C	No	1970	2005	EQ: G	No	No	No	*2013*	*$412,559*	*$235,003*	*$0*	*$647,562*
.IFT STATION	MASONRY CONST/WOOD ROOF				Flood:	No	No	No	**2014**	**$428,566**	**$235,050**	**$0**	**$663,616**
:REEK LIFT STATION													
not map due to rmation													
). FT.	Class: C	No	1970	2005	EQ: G	No	No	No	*2013*	*$412,559*	*$235,003*	*$0*	*$647,562*
.IFT STATION	MASONRY CONST/WOOD ROOF				Flood:	No	No	No	**2014**	**$428,566**	**$235,050**	**$0**	**$663,616**
CH LIFT STATION													
not map due to rmation													
). FT.	Class: C	No	1970	2005	EQ: G	No	No	No	*2013*	*$412,559*	*$235,003*	*$0*	*$647,562*
.IFT STATION	MASONRY CONST/WOOD ROOF				Flood:	No	No	No	**2014**	**$428,566**	**$235,050**	**$0**	**$663,616**
HARDSON LIFT													

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CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

Includes B & M

Real Property Trend Factor: 3.88%
Personal Property Trend Factor: 0.02%

January 27, 2014

ccupancy	Construction	Auto Sprklr	Year Built	Year Apprs	Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
not map due to rmation													
). FT.	Class: D	No	1970	2005	EQ: G	No	No	No	*2013*	*$412,559*	*$238,503*	*$0*	*$651,062*
.IFT STATION	ALL COMB (WOOD FRAME)				Flood:	No	No	No	**2014**	**$428,566**	**$238,551**	**$0**	**$667,117**
'Z LIFT STATION													
ld not map this :EET													
). FT.	Class: C	No	1970	2005	EQ: G	No	No	No	*2013*	*$384,100*	*$273,732*	*$0*	*$657,832*
.IFT STATION -	MASONRY CONST/WOOD ROOF				Flood:	No	No	No	**2014**	**$399,003**	**$273,787**	**$0**	**$672,790**
:YS LIFT STATION													
ld not map this													
Q. FT.	Class: C	No	1965	2005	EQ: G	No	No	No	*2013*	*$1,031,398*	*$443,895*	*$0*	*$1,475,293*
.IFT STATION -	MASONRY CONST/WOOD ROOF				Flood:	No	No	No	**2014**	**$1,071,416**	**$443,984**	**$0**	**$1,515,400**
:UCKEE LIFT 3W END OF BARBRA													
ld not map this													

CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

Includes B & M

Real Property Trend Factor: 3.88%
Personal Property Trend Factor: 0.02%

January 27, 2014

ccupancy	Construction	Auto Spklr	Year Built	Year Apprs		Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
. FT.	Class: S	No	1970	2005	EQ:	G	No	No	No	*2013*	*$127,386*	*$78,334*	*$0*	*$205,720*
.IFT STATION -	ALL STEEL				Flood:		No	No	No	**2014**	**$132,329**	**$78,350**	**$0**	**$210,679**
\CH LIFT STATION														
ld not map this														
. FT.	Class: S	No	1970	2005	EQ:	G	No	No	No	*2013*	*$127,386*	*$78,334*	*$0*	*$205,720*
.IFT STATION -	ALL STEEL				Flood:		No	No	No	**2014**	**$132,329**	**$78,350**	**$0**	**$210,679**
\CH LIFT STATION														
ld not map this														
ł. FT.	Class: D	No	2004	2005	EQ:	G	No	No	No	*2013*	*$1,340,818*	*$313,338*	*$0*	*$1,654,156*
.IFT STATION -	ALL COMB (WOOD FRAME)				Flood:	C	No	No	No	**2014**	**$1,392,842**	**$313,401**	**$0**	**$1,706,243**
! MOUNTAIN LIFT														
ł. FT.	Class: C	No	1970	2005	EQ:	G	No	No	No	*2013*	*$154,710*	*$261,115*	*$0*	*$415,825*
.IFT STATION	MASONRY CONST/WOOD ROOF				Flood:	C	No	No	No	**2014**	**$160,713**	**$261,167**	**$0**	**$421,880**
)F BELLEVUE LIFT @ EL DORADO														

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CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

Includes B & M

Real Property Trend Factor: 3.88%
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January 27, 2014

ccupancy	Construction	Auto Spklr	Year Built	Year Apprs	Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
ld not map this													
). FT.	Class: C	No	1970	2005	EQ: G	No	No	No	*2013*	*$721,979*	*$522,230*	*$0*	*$1,244,209*
.IFT STATION	MASONRY CONST/WOOD ROOF				Flood:	No	No	No	**2014**	**$749,992**	**$522,334**	**$0**	**$1,272,326**
LIFT STATION #1													
ld not map this													
). FT.	Class: C	No	1996	2005	EQ: G	No	No	No	*2013*	*$447,308*	*$256,761*	*$0*	*$704,069*
.IFT STATION	MASONRY CONST/WOOD ROOF				Flood:	No	No	No	**2014**	**$464,664**	**$256,812**	**$0**	**$721,476**
STORAGE													
ld not map this													
). FT.	Class: D	No	1970	2005	EQ: G	No	No	No	*2013*	*$190,809*	*$182,780*	*$0*	*$373,589*
GENERATOR	ALL COMB (WOOD FRAME)				Flood:	No	No	No	**2014**	**$198,212**	**$182,817**	**$0**	**$381,029**
ATION #1													
TOR)													
ld not map this													

CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

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January 27, 2014

ccupancy	Construction	Auto Sprklr	Year Built	Year Apprs		Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
). FT.	Class: B	No	1970	2005	EQ:	G	No	No	No	*2013*	*$515,699*	*$522,230*	*$0*	*$1,037,929*
JFT STATION -	ALL REINFORCED CONCRETE				Flood:		No	No	No	**2014**	**$535,708**	**$522,334**	**$0**	**$1,058,042**
T STATION #2														
. FT.	Class: S	No	1970	2005	EQ:	G	No	No	No	*2013*	*$151,442*	*$161,117*	*$0*	*$312,559*
JFT STATION	ALL STEEL				Flood:		No	No	No	**2014**	**$157,318**	**$161,149**	**$0**	**$318,467**
LIFT STATION														
ld not map this REET														
. FT.	Class: S	No	1970	2005	EQ:	G	No	No	No	*2013*	*$151,442*	*$161,117*	*$0*	*$312,559*
JFT STATION	ALL STEEL				Flood:		No	No	No	**2014**	**$157,318**	**$161,149**	**$0**	**$318,467**
E LIFT STATION														
ld not map this REET														
). FT.	Class: C	No	1970	2005	EQ:	G	No	No	No	*2013*	*$515,699*	*$417,784*	*$0*	*$933,483*
JFT STATION	MASONRY CONST/WOOD ROOF				Flood:		No	No	No	**2014**	**$535,708**	**$417,868**	**$0**	**$953,576**
LIFT STATION														

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CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

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January 27, 2014

ccupancy	Construction	Auto Spklr	Year Built	Year Apprs	Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
). FT.	Class: D	No	1980	2005	EQ: G	No	No	No	*2013*	*$257,850*	*$208,892*	*$0*	*$466,742*
.IFT STATION	ALL COMB (WOOD FRAME)				Flood:	No	No	No	**2014**	**$267,855**	**$208,934**	**$0**	**$476,789**
FT STATION													
). FT.	Class: C	No	1970	2005	EQ: G	No	No	No	*2013*	*$309,420*	*$235,003*	*$0*	*$544,423*
.IFT STATION	MASONRY CONST/WOOD ROOF				Flood:	No	No	No	**2014**	**$321,425**	**$235,050**	**$0**	**$556,475**
VILLAGE SEWER													
ION													
). FT.	Class: D	No	1997	2005	EQ: G	No	No	No	*2013*	*$360,989*	*$208,892*	*$0*	*$569,881*
.IFT STATION -	ALL COMB (WOOD FRAME)				Flood:	No	No	No	**2014**	**$374,995**	**$208,934**	**$0**	**$583,929**
IFT STATION													
Id not map this													
). FT.	Class: D	No	1997	2005	EQ: G	No	No	No	*2013*	*$639,843*	*$270,454*	*$0*	*$910,297*
.IFT STATION -	ALL COMB (WOOD FRAME)				Flood: C	No	No	No	**2014**	**$664,669**	**$270,508**	**$0**	**$935,177**
)SA LIFT STATION													

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SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

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January 27, 2014

ccupancy	Construction	Auto Spklr	Year Built	Year Apprs	Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
). FT.	Class: D	No	1970	2005	EQ: G	No	No	No	*2013*	*$75,292*	*$88,779*	*$0*	*$164,071*
ENERATOR	ALL COMB (WOOD FRAME)				Flood:	No	No	No	**2014**	**$78,213**	**$88,797**	**$0**	**$167,010**
D CAMP													
OR BLDG													
ld not map this													
). FT.	Class: C	No	1970	2005	EQ: G	No	No	No	*2013*	*$412,559*	*$235,003*	*$0*	*$647,562*
.IFT STATION	MASONRY CONST/WOOD ROOF				Flood:	No	No	No	**2014**	**$428,566**	**$235,050**	**$0**	**$663,616**
FT STATION													
ld not map this													
). FT.	Class: C	No	1970	2005	EQ: G	No	No	No	*2013*	*$319,922*	*$271,547*	*$0*	*$591,469*
.IFT STATION - MAIN	MASONRY CONST/WOOD ROOF				Flood:	No	No	No	**2014**	**$332,335**	**$271,601**	**$0**	**$603,936**
EAF LAKE LIFT													
not map due to rmation													

CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

Includes B & M

Real Property Trend Factor: 3.88%
Personal Property Trend Factor: 0.02%

January 27, 2014

ccupancy	Construction	Auto Spklr	Year Built	Year Apprs		Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
. FT.	Class: B	No	1970	2005	EQ:	G	No	No	No	*2013*	*$103,140*	*$73,112*	*$0*	*$176,252*
.IFT STATION	ALL REINFORCED CONCRETE				Flood:		No	No	No	**2014**	**$107,142**	**$73,127**	**$0**	**$180,269**
EAF LAKE ELECTRIC														
ION #1 (ES #1)														
ld not map this														
. FT.	Class: B	No	1970	2005	EQ:	G	No	No	No	*2013*	*$103,140*	*$73,112*	*$0*	*$176,252*
.IFT STATION	ALL REINFORCED CONCRETE				Flood:		No	No	No	**2014**	**$107,142**	**$73,127**	**$0**	**$180,269**
EAF LAKE ELECTRIC														
ION #2 (ES #2)														
ld not map this														
. FT.	Class: B	No	1970	2005	EQ:	G	No	No	No	*2013*	*$103,140*	*$73,112*	*$0*	*$176,252*
.IFT STATION	ALL REINFORCED CONCRETE				Flood:		No	No	No	**2014**	**$107,142**	**$73,127**	**$0**	**$180,269**
EAF LAKE ELECTRIC														
ION #3 (ES #3)														
ld not map this														

CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

Includes B & M

Real Property Trend Factor: 3.88%
Personal Property Trend Factor: 0.02%

January 27, 2014

ccupancy	Construction	Auto Spklr	Year Built	Year Apprs		Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
. FT.	Class: B	No	1970	2005	EQ:	G	No	No	No	*2013*	*$103,140*	*$73,112*	*$0*	*$176,252*
.IFT STATION	ALL REINFORCED CONCRETE				Flood:		No	No	No	**2014**	**$107,142**	**$73,127**	**$0**	**$180,269**
EAF LAKE ELECTRIC														
ION #5 (ES #5)														
. FT.	Class: B	No	1970	2005	EQ:	G	No	No	No	*2013*	*$103,140*	*$73,112*	*$0*	*$176,252*
.IFT STATION	ALL REINFORCED CONCRETE				Flood:		No	No	No	**2014**	**$107,142**	**$73,127**	**$0**	**$180,269**
EAF LAKE ELECTRIC														
ION #6 (ES #6)														
. FT.	Class: B	No	1970	2005	EQ:	G	No	No	No	*2013*	*$103,140*	*$73,112*	*$0*	*$176,252*
.IFT STATION	ALL REINFORCED CONCRETE				Flood:		No	No	No	**2014**	**$107,142**	**$73,127**	**$0**	**$180,269**
EAF LAKE ELECTRIC														
ION #7 (ES #7)														
. FT.	Class: B	No	1970	2005	EQ:	G	No	No	No	*2013*	*$103,140*	*$73,112*	*$0*	*$176,252*
.IFT STATION	ALL REINFORCED CONCRETE				Flood:		No	No	No	**2014**	**$107,142**	**$73,127**	**$0**	**$180,269**
EAF LAKE ELECTRIC														
ION #8 (ES #8)														

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CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

Includes B & M

Real Property Trend Factor: 3.88%
Personal Property Trend Factor: 0.02%

January 27, 2014

ccupancy	Construction	Auto Spklr	Year Built	Year Apprs	Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
. FT.	Class: B	No	1970	2005	EQ: G	No	No	No	*2013*	*$103,140*	*$73,112*	*$0*	*$176,252*
.IFT STATION	ALL REINFORCED CONCRETE				Flood:	No	No	No	**2014**	**$107,142**	**$73,127**	**$0**	**$180,269**
EAF LAKE ELECTRIC													
ION #9 (ES #9)													
. FT.	Class: B	No	1970	2005	EQ: G	No	No	No	*2013*	*$103,140*	*$73,112*	*$0*	*$176,252*
/ACUUM VALVE	ALL REINFORCED CONCRETE				Flood:	No	No	No	**2014**	**$107,142**	**$73,127**	**$0**	**$180,269**
EAF LAKE VACUUM													
ATION #3													
ld not map this													
. FT.	Class: B	No	1970	2005	EQ: G	No	No	No	*2013*	*$103,140*	*$73,112*	*$0*	*$176,252*
/ACUUM VALVE	ALL REINFORCED CONCRETE				Flood:	No	No	No	**2014**	**$107,142**	**$73,127**	**$0**	**$180,269**
EAF LAKE VACUUM													
ATION #4													
ld not map this													

CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

Includes B & M

Real Property Trend Factor: 3.88%
Personal Property Trend Factor: 0.02%

January 27, 2014

ccupancy	Construction	Auto Spklr	Year Built	Year Apprs		Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
. FT.	Class: C	No	1970	2005	EQ:	G	No	No	No	*2013*	*$103,140*	*$73,112*	*$0*	*$176,252*
/ACUUM VALVE	MASONRY CONST/WOOD ROOF				Flood:		No	No	No	**2014**	**$107,142**	**$73,127**	**$0**	**$180,269**
EAF LAKE VACUUM ATION #5														
ld not map this EET														
. FT.	Class: B	No	1970	2005	EQ:	G	No	No	No	*2013*	*$103,140*	*$73,112*	*$0*	*$176,252*
/ACUUM VALVE	ALL REINFORCED CONCRETE				Flood:		No	No	No	**2014**	**$107,142**	**$73,127**	**$0**	**$180,269**
EAF LAKE VACUUM ATION #6														
. FT.	Class: B	No	1970	2005	EQ:	G	No	No	No	*2013*	*$103,140*	*$73,112*	*$0*	*$176,252*
/ACUUM VALVE	ALL REINFORCED CONCRETE				Flood:		No	No	No	**2014**	**$107,142**	**$73,127**	**$0**	**$180,269**
EAF LAKE VACUUM ATION #7														
. FT.	Class: B	No	1970	2005	EQ:	G	No	No	No	*2013*	*$103,140*	*$73,112*	*$0*	*$176,252*
/ACUUM VALVE	ALL REINFORCED CONCRETE				Flood:		No	No	No	**2014**	**$107,142**	**$73,127**	**$0**	**$180,269**
EAF LAKE VACUUM ATION #8														

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CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

Includes B & M

Real Property Trend Factor: 3.88%
Personal Property Trend Factor: 0.02%

January 27, 2014

ccupancy	Construction	Auto Spklr	Year Built	Year Apprs	Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
). FT.	Class: S	No	1978	2005	EQ: G	No	No	No	*2013*	*$309,420*	*$104,446*	*$0*	*$413,866*
UMPING STATION	ALL STEEL				Flood:	No	No	No	**2014**	**$321,425**	**$104,467**	**$0**	**$425,892**
WELL													
ld not map this													
). FT.	Class: C	No	1992	2005	EQ: G	No	No	No	*2013*	*$294,305*	*$256,864*	*$0*	*$551,169*
UMPING STATION	MASONRY CONST/WOOD ROOF				Flood:	No	No	No	**2014**	**$305,724**	**$256,915**	**$0**	**$562,639**
WELL #2													
ld not map this													
EET													
). FT.	Class: S	No	1956	2005	EQ: G	No	No	No	*2013*	*$77,355*	*$9,576*	*$0*	*$86,931*
TORAGE BUILDING	ALL STEEL				Flood:	No	No	No	**2014**	**$80,356**	**$9,578**	**$0**	**$89,934**
STORAGE													
ld not map this													
EET													

CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

Includes B & M

Real Property Trend Factor: 3.88%
Personal Property Trend Factor: 0.02%

January 27, 2014

ccupancy	Construction	Auto Spklr	Year Built	Year Apprs		Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
). FT.	Class: C	No	1957	2005	EQ:	G	No	No	No	*2013*	*$51,570*	*$10,445*	*$0*	*$62,015*
UMPING STATION	MASONRY CONST/WOOD ROOF				Flood:		No	No	No	**2014**	**$53,571**	**$10,447**	**$0**	**$64,018**
CK WELL #1 & #2														
). FT.	Class: D	No	1981	2005	EQ:	G	No	No	No	*2013*	*$352,945*	*$291,802*	*$0*	*$644,747*
UMPING STATION	ALL COMB (WOOD FRAME)				Flood:		No	No	No	**2014**	**$366,639**	**$291,860**	**$0**	**$658,499**
WELL														
ld not map this														
). FT.	Class: C	No	1960	2005	EQ:	G	No	No	No	*2013*	*$979,936*	*$382,662*	*$0*	*$1,362,598*
UMPING STATION	MASONRY CONST/WOOD ROOF				Flood:		No	No	No	**2014**	**$1,017,958**	**$382,739**	**$0**	**$1,400,697**
IB WELL														
). FT.	Class: C	No	2004	2005	EQ:	G	No	No	No	*2013*	*$309,420*	*$208,892*	*$0*	*$518,312*
UMPING STATION	MASONRY CONST/WOOD ROOF				Flood:		No	No	No	**2014**	**$321,425**	**$208,934**	**$0**	**$530,359**
OD WELL #2														

CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

Includes B & M

Real Property Trend Factor: 3.88%
Personal Property Trend Factor: 0.02%

January 27, 2014

ccupancy	Construction	Auto Spklr	Year Built	Year Apprs		Zone	Real Prop	Pers Prop	Bl / Rents	Year	Real Property	Personal Property	Bl / Rents	Totals
). FT.	Class: C	No	1966	2005	EQ:	G	No	No	No	*2013*	*$206,280*	*$104,446*	*$0*	*$310,726*
PUMPING STATION	MASONRY CONST/WOOD ROOF				Flood:		No	No	No	**2014**	**$214,284**	**$104,467**	**$0**	**$318,751**
ELL #2														
). FT.	Class: C	No	1974	2005	EQ:	G	No	No	No	*2013*	*$0*	*$0*	*$0*	*$0*
PUMPING STATION	MASONRY CONST/WOOD ROOF				Flood:		No	No	No	**2014**	**$0**	**$0**	**$0**	**$0**
VENUE WELL														
ld not map this														
REET														
). FT.	Class: C	No	1961	2005	EQ:	G	No	No	No	*2013*	*$154,710*	*$52,223*	*$0*	*$206,933*
PUMPING STATION	MASONRY CONST/WOOD ROOF				Flood:		No	No	No	**2014**	**$160,713**	**$52,233**	**$0**	**$212,946**
N VIEW WELL														
ld not map this														
). FT.	Class: D	No	1994	2005	EQ:	G	No	No	No	*2013*	*$412,559*	*$208,892*	*$0*	*$621,451*
PUMPING STATION	ALL COMB (WOOD FRAME)				Flood:		No	No	No	**2014**	**$428,566**	**$208,934**	**$0**	**$637,500**
WELL														

page.

CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

Includes B & M

Real Property Trend Factor: 3.88%
Personal Property Trend Factor: 0.02%

January 27, 2014

ccupancy	Construction	Auto Spklr	Year Built	Year Apprs	Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
. FT.	Class: D	No	1990	2005	EQ: G	No	No	No	*2013*	*$21,992*	*$18,037*	*$0*	*$40,029*
PUMPING STATION	ALL COMB (WOOD FRAME)				Flood:	No	No	No	**2014**	**$22,845**	**$18,041**	**$0**	**$40,886**
VELL													
Q. FT.	Class: D	No	1994	2005	EQ: G	No	No	No	*2013*	*$1,495,528*	*$313,338*	*$0*	*$1,808,866*
PUMPING STATION	ALL COMB (WOOD FRAME)				Flood: C	No	No	No	**2014**	**$1,553,554**	**$313,401**	**$0**	**$1,866,955**
ELD WELL													
: 0%													
). FT.	Class: C	No	2010	2005	EQ: G	No	No	No	*2013*	*$2,503,095*	*$282,384*	*$0*	*$2,785,479*
PUMPING STATION	MASONRY CONST/WOOD ROOF				Flood:	No	No	No	**2014**	**$2,600,215**	**$282,440**	**$0**	**$2,882,655**
EAD WELL #3													
). FT.	Class: D	No	1999	2005	EQ: G	No	No	No	*2013*	*$214,932*	*$197,185*	*$0*	*$412,117*
VELL	ALL COMB (WOOD FRAME)				Flood:	No	No	No	**2014**	**$223,271**	**$197,224**	**$0**	**$420,495**

cision: ZIP Code

CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

Includes B & M

Real Property Trend Factor: 3.88%
Personal Property Trend Factor: 0.02%

January 27, 2014

ccupancy	Construction	Auto Spklr	Year Built	Year Apprs		Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
). FT.	Class: D	No	1946	2005	EQ:	G	No	No	No	*2013*	*$103,140*	*$81,962*	*$0*	*$185,102*
VELL	ALL COMB (WOOD FRAME)				Flood:		No	No	No	**2014**	**$107,142**	**$81,978**	**$0**	**$189,120**
). FT.	Class: D	No	1999	2005	EQ:	G	No	No	No	*2013*	*$0*	*$0*	*$0*	*$0*
PUMPING STATION	ALL COMB (WOOD FRAME)				Flood:	C	No	No	No	**2014**	**$0**	**$0**	**$0**	**$0**
WELL - OFFLINE														
). FT.	Class: C	No	1965	2005	EQ:	G	No	No	No	*2013*	*$154,710*	*$62,668*	*$0*	*$217,378*
PUMPING STATION	MASONRY CONST/WOOD ROOF				Flood:	C	No	No	No	**2014**	**$160,713**	**$62,681**	**$0**	**$223,394**
OOSTER STATION														
). FT.	Class: C	No	1965	2005	EQ:	G	No	No	No	*2013*	*$206,280*	*$94,001*	*$0*	*$300,281*
PUMPING STATION	MASONRY CONST/WOOD ROOF				Flood:	C	No	No	No	**2014**	**$214,284**	**$94,020**	**$0**	**$308,304**
NE BOOSTER														

CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

Includes B & M

Real Property Trend Factor: 3.88%
Personal Property Trend Factor: 0.02%

January 27, 2014

ccupancy	Construction	Auto Spklr	Year Built	Year Apprs		Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
). FT.	Class: C	No	1965	2005	EQ:	G	No	No	No	*2013*	*$120,534*	*$94,659*	*$0*	*$215,193*
PUMPING STATION	MASONRY CONST/WOOD ROOF				Flood:	C	No	No	No	**2014**	**$125,211**	**$94,678**	**$0**	**$219,889**
MOUNTAIN STATION														

Id not map this

). FT.	Class: C	No	2011	2005	EQ:	G	No	No	No	*2013*	*$177,570*	*$1,121,778*	*$0*	*$1,299,348*
PUMPING STATION	MASONRY CONST/WOOD ROOF				Flood:	C	No	No	No	**2014**	**$184,460**	**$1,122,002**	**$0**	**$1,306,462**
BOOSTER STATION														

. FT.	Class: C	No	1970	2005	EQ:	G	No	No	No	*2013*	*$616,479*	*$164,401*	*$0*	*$780,880*
PUMPING STATION	MASONRY CONST/WOOD ROOF				Flood:	C	No	No	No	**2014**	**$640,398**	**$164,434**	**$0**	**$804,832**
N BOOSTER														

Id not map this
REET

). FT.	Class: S	No	1970	2005	EQ:	G	No	No	No	*2013*	*$124,650*	*$123,936*	*$0*	*$248,586*
PUMPING STATION	ALL STEEL				Flood:		No	No	No	**2014**	**$129,486**	**$123,961**	**$0**	**$253,447**
EEK FILTER PLANT														
BOOSTER STATION														

page.

CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

Includes B & M

Real Property Trend Factor: 3.88%
Personal Property Trend Factor: 0.02%

January 27, 2014

ccupancy	Construction	Auto Spklr	Year Built	Year Apprs	Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
). FT.	Class: S	No	1961	2005	EQ: G	No	No	No	*2013*	*$52,601*	*$62,668*	*$0*	*$115,269*
PUMPING STATION	ALL STEEL				Flood:	No	No	No	**2014**	**$54,642**	**$62,681**	**$0**	**$117,323**
EEK BOOSTER TANK													
STATION													
. FT.	Class: S	No	1970	2005	EQ: G	No	No	No	*2013*	*$28,321*	*$20,304*	*$0*	*$48,625*
PUMPING STATION	ALL STEEL				Flood: C	No	No	No	**2014**	**$29,420**	**$20,308**	**$0**	**$49,728**
BOOSTER													
ld not map this													
). FT.	Class: D	No	1970	2005	EQ: G	No	No	No	*2013*	*$482,809*	*$530,698*	*$0*	*$1,013,507*
PUMPING STATION	ALL COMB (WOOD FRAME)				Flood: C	No	No	No	**2014**	**$501,542**	**$530,804**	**$0**	**$1,032,346**
AIRSTRIPPER													

CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

Includes B & M

Real Property Trend Factor: 3.88%
Personal Property Trend Factor: 0.02%

January 27, 2014

ccupancy	Construction	Auto Spklr	Year Built	Year Apprs		Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
). FT.	Class: D	No	2000	2005	EQ:	G	No	No	No	*2013*	*$433,187*	*$192,834*	*$0*	*$626,021*
PUMPING STATION	ALL COMB (WOOD FRAME)				Flood:	C	No	No	No	**2014**	**$449,995**	**$192,873**	**$0**	**$642,868**
MOUNTAIN														

ld not map this

). FT.	Class: C	No	1997	2005	EQ:	G	No	No	No	*2013*	*$257,850*	*$147,269*	*$0*	*$405,119*
PUMPING STATION	MASONRY CONST/WOOD ROOF				Flood:	C	No	No	No	**2014**	**$267,855**	**$147,298**	**$0**	**$415,153**
E BOOSTER														

ld not map this
REET

. FT.	Class: D	No	1994	2005	EQ:	G	No	No	No	*2013*	*$16,695*	*$13,971*	*$0*	*$30,666*
PUMPING STATION	ALL COMB (WOOD FRAME)				Flood:		No	No	No	**2014**	**$17,343**	**$13,974**	**$0**	**$31,317**
BOOSTER STATION														

ld not map this

CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

Includes B & M

Real Property Trend Factor: 3.88%
Personal Property Trend Factor: 0.02%

January 27, 2014

ccupancy	Construction	Auto Spklr	Year Built	Year Apprs		Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
Q. FT.	Class: S	No	1970	2005	EQ:	G	No	No	No	*2013*	*$486,126*	*$0*	*$0*	*$486,126*
ANK - GROUND	ALL STEEL				Flood:		No	No	No	**2014**	**$504,988**	**$0**	**$0**	**$504,988**
AL.														
WATER TANK														
Id not map this														
Q. FT.	Class: S	No	1970	2005	EQ:	G	No	No	No	*2013*	*$2,124,434*	*$0*	*$0*	*$2,124,434*
ANK - GROUND	ALL STEEL				Flood:		No	No	No	**2014**	**$2,206,862**	**$0**	**$0**	**$2,206,862**
GAL.														
/ATER TANK #1														
Q. FT.	Class: S	No	1970	2005	EQ:	G	No	No	No	*2013*	*$333,960*	*$0*	*$0*	*$333,960*
ANK - GROUND	ALL STEEL				Flood:		No	No	No	**2014**	**$346,918**	**$0**	**$0**	**$346,918**
AL.														
/ATER TANK #2														
Q. FT.	Class: S	No	1970	2005	EQ:	G	No	No	No	*2013*	*$1,547,098*	*$0*	*$0*	*$1,547,098*
ANK - GROUND	ALL STEEL				Flood:		No	No	No	**2014**	**$1,607,125**	**$0**	**$0**	**$1,607,125**
GAL.														
Y WATER TANK														
Id not map this														

page.

CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

Includes B & M

Real Property Trend Factor: 3.88%
Personal Property Trend Factor: 0.02%

January 27, 2014

ccupancy	Construction	Auto Spklr	Year Built	Year Apprs	Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
). FT.	Class: S	No	2010	2005	EQ: G	No	No	No	*2013*	*$609,420*	*$0*	*$0*	*$609,420*
ANK - GROUND	ALL STEEL				Flood:	No	No	No	**2014**	**$633,065**	**$0**	**$0**	**$633,065**
L													
WATER TANK													
ld not map this													
). FT.	Class: S	No	2010	2005	EQ: G	No	No	No	*2013*	*$559,710*	*$0*	*$0*	*$559,710*
ANK - GROUND	ALL STEEL				Flood:	No	No	No	**2014**	**$581,427**	**$0**	**$0**	**$581,427**
AL.													
W WATER TANK													
ld not map this													
). FT.	Class: S	No	1995	2005	EQ: G	No	No	No	*2013*	*$614,673*	*$0*	*$0*	*$614,673*
ANK - GROUND	ALL STEEL				Flood:	No	No	No	**2014**	**$638,522**	**$0**	**$0**	**$638,522**
GAL.													
EAD WATER TANK													
ld not map this													
). FT.	Class: S	No	1970	2005	EQ: G	No	No	No	*2013*	*$347,710*	*$0*	*$0*	*$347,710*
ANK - GROUND	ALL STEEL				Flood:	No	No	No	**2014**	**$361,201**	**$0**	**$0**	**$361,201**
AL.													
MOUNTAIN WATER													

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CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

Includes B & M

Real Property Trend Factor: 3.88%
Personal Property Trend Factor: 0.02%

January 27, 2014

ccupancy	Construction	Auto Spklr	Year Built	Year Apprs	Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
ld not map this													
Q. FT.	Class: S	No	1970	2005	EQ: G	No	No	No	*2013*	*$347,700*	*$0*	*$0*	*$347,700*
ANK - GROUND	ALL STEEL				Flood:	No	No	No	**2014**	**$361,191**	**$0**	**$0**	**$361,191**
AL.													
MOUNTAIN WATER													
ld not map this													
Q. FT.	Class: S	No	2009	2005	EQ: G	No	No	No	*2013*	*$495,071*	*$0*	*$0*	*$495,071*
ANK - GROUND	ALL STEEL				Flood:	No	No	No	**2014**	**$514,280**	**$0**	**$0**	**$514,280**
AL.													
CLUB WATER													
Q. FT.	Class: S	No	1970	2005	EQ: G	No	No	No	*2013*	*$696,226*	*$0*	*$0*	*$696,226*
ANK - GROUND	ALL STEEL				Flood:	No	No	No	**2014**	**$723,240**	**$0**	**$0**	**$723,240**
AL.													
WATER TANKS (1)													

CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

Includes B & M

Real Property Trend Factor: 3.88%
Personal Property Trend Factor: 0.02%

January 27, 2014

ccupancy	Construction	Auto Spklr	Year Built	Year Apprs		Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
). FT.	Class: S	No	1998	2005	EQ:	G	No	No	No	*2013*	*$329,700*	*$0*	*$0*	*$329,700*
ANK - GROUND	ALL STEEL				Flood:		No	No	No	**2014**	**$342,492**	**$0**	**$0**	**$342,492**
AL.														
AS VALLEY WATER														

ld not map this

Q. FT.	Class: S	No	1970	2005	EQ:	G	No	No	No	*2013*	*$773,549*	*$0*	*$0*	*$773,549*
ANK - GROUND	ALL STEEL				Flood:		No	No	No	**2014**	**$803,563**	**$0**	**$0**	**$803,563**
AL.														
EEK WATER TANK														

). FT.	Class: S	No	1970	2005	EQ:	G	No	No	No	*2013*	*$309,420*	*$0*	*$0*	*$309,420*
ANK - GROUND	ALL STEEL				Flood:		No	No	No	**2014**	**$321,425**	**$0**	**$0**	**$321,425**
AL.														
' WATER TANK														

ld not map this

). FT.	Class: S	No	2003	2005	EQ:	G	No	No	No	*2013*	*$329,700*	*$0*	*$0*	*$329,700*
ANK - GROUND	ALL STEEL				Flood:	C	No	No	No	**2014**	**$342,492**	**$0**	**$0**	**$342,492**
AL.														
MOUNTAIN WATER														

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CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

Includes B & M

Real Property Trend Factor: 3.88%
Personal Property Trend Factor: 0.02%

January 27, 2014

ccupancy	Construction	Auto Sprklr	Year Built	Year Apprs	Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
Q. FT.	Class: S	No	1970	2005	EQ: G	No	No	No	*2013*	*$329,700*	*$0*	*$0*	*$329,700*
ANK - GROUND	ALL STEEL				Flood:	No	No	No	**2014**	**$342,492**	**$0**	**$0**	**$342,492**
AL.													
ER TANK													
Q. FT.	Class: S	No	1970	2005	EQ: G	No	No	No	*2013*	*$2,062,797*	*$0*	*$0*	*$2,062,797*
ANK - GROUND	ALL STEEL				Flood:	No	No	No	**2014**	**$2,142,834**	**$0**	**$0**	**$2,142,834**
GAL.													
E WATER TANK #1													
ld not map this													
REET													
Q. FT.	Class: S	No	1970	2005	EQ: G	No	No	No	*2013*	*$1,237,678*	*$0*	*$0*	*$1,237,678*
ANK - GROUND	ALL STEEL				Flood:	No	No	No	**2014**	**$1,285,700**	**$0**	**$0**	**$1,285,700**
GAL.													
E WATER TANK #2													
ld not map this													
REET													
Q. FT.	Class: S	No	1970	2005	EQ: G	No	No	No	*2013*	*$329,700*	*$0*	*$0*	*$329,700*
ANK - GROUND	ALL STEEL				Flood:	No	No	No	**2014**	**$342,492**	**$0**	**$0**	**$342,492**
AL.													
E WATER TANK #1													

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CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

Includes B & M

Real Property Trend Factor: 3.88%
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January 27, 2014

ccupancy	Construction	Auto Spklr	Year Built	Year Apprs	Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
ld not map this													
Q. FT.	Class: S	No	1970	2005	EQ: G	No	No	No	*2013*	*$329,700*	*$0*	*$0*	*$329,700*
ANK - GROUND	ALL STEEL				Flood:	No	No	No	**2014**	**$342,492**	**$0**	**$0**	**$342,492**
AL.													
E WATER TANK #2													
ld not map this													
Q. FT.	Class: S	No	1970	2005	EQ: G	No	No	No	*2013*	*$1,031,398*	*$0*	*$0*	*$1,031,398*
ANK - GROUND	ALL STEEL				Flood:	No	No	No	**2014**	**$1,071,416**	**$0**	**$0**	**$1,071,416**
GAL.													
ANK #1													
ld not map this													
Q. FT.	Class: S	No	1996	2005	EQ: G	No	No	No	*2013*	*$515,699*	*$0*	*$0*	*$515,699*
ANK - GROUND	ALL STEEL				Flood:	No	No	No	**2014**	**$535,708**	**$0**	**$0**	**$535,708**
AL.													
ANK #2													
ld not map this													

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CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

Includes B & M

Real Property Trend Factor: 3.88%
Personal Property Trend Factor: 0.02%

January 27, 2014

ccupancy	Construction	Auto Spklr	Year Built	Year Apprs	Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
). FT.	Class: C	No	2000	2005	EQ: G	No	No	No	*2013*	*$63,854*	*$61,198*	*$0*	*$125,052*
SATELINE TANKS	MASONRY CONST/WOOD ROOF				Flood:	No	No	No	**2014**	**$66,332**	**$61,210**	**$0**	**$127,542**
BUILDING													
ld not map this													
REET													
). FT.	Class: C	No	1995	2005	EQ: G	No	No	No	*2013*	*$28,384*	*$27,321*	*$0*	*$55,705*
/ALVE BUILDING	MASONRY CONST/WOOD ROOF				Flood:	No	No	No	**2014**	**$29,485**	**$27,326**	**$0**	**$56,811**
). FT.	Class: S	No	2000	2005	EQ: G	No	No	No	*2013*	*$309,420*	*$0*	*$0*	*$309,420*
ANK - GROUND	ALL STEEL				Flood:	No	No	No	**2014**	**$321,425**	**$0**	**$0**	**$321,425**
AL.													
). FT.	Class: C	No	1980	2005	EQ: G	No	No	No	*2013*	*$77,355*	*$11,489*	*$0*	*$88,844*
STORAGE BUILDING	MASONRY CONST/WOOD ROOF				Flood: C	No	No	No	**2014**	**$80,356**	**$11,491**	**$0**	**$91,847**
J AVENUE STORAGE													

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CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

Includes B & M

Real Property Trend Factor: 3.88%
Personal Property Trend Factor: 0.02%

January 27, 2014

ccupancy	Construction	Auto Spklr	Year Built	Year Apprs	Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
Q. FT.	Class: C	No	1980	2005	EQ: G	No	No	No	*2013*	*$309,420*	*$52,223*	*$0*	*$361,643*
GARAGE	MASONRY CONST/WOOD ROOF				Flood: C	No	No	No	**2014**	**$321,425**	**$52,233**	**$0**	**$373,658**
J SHOP													
). FT.	Class: D	No	1980	2005	EQ: G	No	No	No	*2013*	*$44,045*	*$12,413*	*$0*	*$56,458*
STORAGE BUILDING	ALL COMB (WOOD FRAME)				Flood: C	No	No	No	**2014**	**$45,754**	**$12,415**	**$0**	**$58,169**
J VEHICLE													
). FT.	Class: D	No	1990	2005	EQ: G	No	No	No	*2013*	*$145,854*	*$21,422*	*$0*	*$167,276*
PORTABLE OFFICE	ALL COMB (WOOD FRAME)				Flood: C	No	No	No	**2014**	**$151,513**	**$21,426**	**$0**	**$172,939**
ARADISE OFFICE													
). FT.	Class: D	No	1990	2005	EQ: G	No	No	No	*2013*	*$103,140*	*$20,300*	*$0*	*$123,440*
STORAGE BUILDING	ALL COMB (WOOD FRAME)				Flood: C	No	No	No	**2014**	**$107,142**	**$20,304**	**$0**	**$127,446**
STORAGE													

CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

Includes B & M

Real Property Trend Factor: 3.88%
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January 27, 2014

ccupancy	Construction	Auto Spklr	Year Built	Year Apprs		Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
FT.	Class: N	No	1960	2005	EQ:	E	No	No	No	*2013*	*$14,369,721*	*$0*	*$0*	*$14,369,721*
					Flood:		No	No	No	**2014**	**$14,927,266**	**$0**	**$0**	**$14,927,266**
PLACE DAM											**** Member changes pending Alliant acceptance***			
Q. FT.	Class: B	No	1989	2005	EQ:	E	No	No	No	*2013*	*$521,438*	*$109,340*	*$0*	*$630,778*
DIVERSION RE	ALL REINFORCED CONCRETE				Flood:		No	No	No	**2014**	**$541,670**	**$109,362**	**$0**	**$651,032**
RESERVOIR OUTLET RE														
). FT.	Class: S	No	1989	2005	EQ:	E	No	No	No	*2013*	*$45,015*	*$15,324*	*$0*	*$60,339*
COMPRESSOR	ALL STEEL				Flood:		No	No	No	**2014**	**$46,762**	**$15,327**	**$0**	**$62,089**
PLACE RESERVOIR SSOR BUILDING														
not map due to rmation														
FT.	Class: N	No	1989	2005	EQ:	E	No	No	No	*2013*	*$4,235,426*	*$0*	*$0*	*$4,235,426*
					Flood:		No	No	No	**2014**	**$4,399,761**	**$0**	**$0**	**$4,399,761**
PLACE AUXILLARY														
: 0%														
not map due to rmation														
FT.	Class: N	No	1989	2005	EQ:	G	No	No	No	*2013*	*$431,092*	*$0*	*$0*	*$431,092*
ON STRUCTURE CHANNEL ON STRUCTURE					Flood:		No	No	No	**2014**	**$447,818**	**$0**	**$0**	**$447,818**
not map due to rmation														

CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

Includes B & M

Real Property Trend Factor: 3.88%
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January 27, 2014

ccupancy	Construction	Auto Spklr	Year Built	Year Apprs		Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
FT.	Class: B	No	1989	2005	EQ:	E	No	No	No	*2013*	*$2,126,341*	*$0*	*$0*	*$2,126,341*
ICABLE	ALL REINFORCED CONCRETE				Flood:		No	No	No	**2014**	**$2,208,843**	**$0**	**$0**	**$2,208,843**
DITCH														
: 0%														
not map due to rmation														
Q. FT.	Class: N	No	1967	2005	EQ:	E	No	No	No	*2013*	*$4,323,858*	*$0*	*$0*	*$4,323,858*
					Flood:		No	No	No	**2014**	**$4,491,624**	**$0**	**$0**	**$4,491,624**
REEK DAM														
: 0%														
. FT.	Class: CB	No	2009	2005	EQ:	E	No	No	No	*2013*	*$308,647*	*$517,766*	*$0*	*$826,413*
	CONCRETE BLOCK				Flood:		No	No	No	**2014**	**$320,623**	**$517,870**	**$0**	**$838,493**
REEK COMPRESSOR														
cision: ZIP Code														
FT.	Class: N	No	1989	2005	EQ:	E	No	No	No	*2013*	*$161,765*	*$0*	*$0*	*$161,765*
IR					Flood:		No	No	No	**2014**	**$168,041**	**$0**	**$0**	**$168,041**
PLACE RESERVOIR														
not map due to rmation														
FT.	Class: N	No	1989	2005	EQ:	E	No	No	No	*2013*	*$1,617,646*	*$0*	*$0*	*$1,617,646*
IR					Flood:		No	No	No	**2014**	**$1,680,411**	**$0**	**$0**	**$1,680,411**
REEK RESERVOIR														
not map due to rmation														

CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

Includes B & M

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January 27, 2014

ccupancy	Construction	Auto Spklr	Year Built	Year Apprs		Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
FT.	Class: B	No	1980	2005	EQ:	G	No	No	No	*2013*	*$96,915*	*$67,614*	*$0*	*$164,529*
IFT STATION -	ALL REINFORCED CONCRETE				Flood:	C	No	No	No	**2014**	**$100,675**	**$67,628**	**$0**	**$168,303**

ld not map this

FT.	Class: B	No	1980	2005	EQ:	G	No	No	No	*2013*	*$96,915*	*$67,614*	*$0*	*$164,529*
IFT STATION -	ALL REINFORCED CONCRETE				Flood:	C	No	No	No	**2014**	**$100,675**	**$67,628**	**$0**	**$168,303**

ld not map this

Q. FT.	Class: D	No	1940	2005	EQ:	E	No	No	No	*2013*	*$124,990*	*$12,786*	*$0*	*$137,776*
	ALL COMB (WOOD FRAME)				Flood:	D	No	No	No	**2014**	**$129,840**	**$12,789**	**$0**	**$142,629**

Q. FT.	Class: S	No	2002	2005	EQ:	E	No	No	No	*2013*	*$411,599*	*$126,111*	*$0*	*$537,710*
LDING & OFFICE	ALL STEEL				Flood:	D	No	No	No	**2014**	**$427,569**	**$126,136**	**$0**	**$553,705**

CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

Includes B & M

Real Property Trend Factor: 3.88%
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January 27, 2014

ccupancy	Construction	Auto Spklr	Year Built	Year Apprs		Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
. FT.	Class: D	No	2006		EQ:	E	No	No	No	*2013*	*$7,549*	*$0*	*$0*	*$7,549*
	ALL COMB (WOOD FRAME)				Flood:		No	No	No	**2014**	**$7,842**	**$0**	**$0**	**$7,842**
not map due to rmation														
. FT.	Class: D	No	1970		EQ:	G	No	No	No	*2013*	*$5,393*	*$0*	*$0*	*$5,393*
	ALL COMB (WOOD FRAME)				Flood:		No	No	No	**2014**	**$5,602**	**$0**	**$0**	**$5,602**
). FT.	Class: D	No	2007		EQ:	E	No	No	No	*2013*	*$10,784*	*$0*	*$0*	*$10,784*
	ALL COMB (WOOD FRAME)				Flood:		No	No	No	**2014**	**$11,202**	**$0**	**$0**	**$11,202**
). FT.	Class: D	No			EQ:	G	No	No	No	*2013*	*$21,568*	*$0*	*$0*	*$21,568*
	ALL COMB (WOOD FRAME)				Flood:		No	No	No	**2014**	**$22,405**	**$0**	**$0**	**$22,405**
Q. FT.	Class: C	No	2006		EQ:	G	No	No	No	*2013*	*$1,237,678*	*$1,253,352*	*$0*	*$2,491,030*
WELL, CONTROLS E, STORAGE	MASONRY CONST/WOOD ROOF				Flood:		No	No	No	**2014**	**$1,285,700**	**$1,253,603**	**$0**	**$2,539,303**

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CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

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January 27, 2014

ccupancy	Construction	Auto Spklr	Year Built	Year Apprs	Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
). FT.	Class: C	No	1960		EQ: G	No	No	No	*2013*	*$324,891*	*$83,557*	*$0*	*$408,448*
	MASONRY CONST/WOOD ROOF				Flood:	No	No	No	**2014**	**$337,497**	**$83,574**	**$0**	**$421,071**
). FT.	Class:	No	1988		EQ: G	No	No	No	*2013*	*$2,062,797*	*$0*	*$0*	*$2,062,797*
	UNKNOWN				Flood:	No	No	No	**2014**	**$2,142,834**	**$0**	**$0**	**$2,142,834**
H, CONCRETE ED													
). FT.	Class:	No	1860		EQ: E	No	No	No	*2013*	*$2,062,797*	*$0*	*$0*	*$2,062,797*
	UNKNOWN				Flood:	No	No	No	**2014**	**$2,142,834**	**$0**	**$0**	**$2,142,834**
H, PIPED													
cision: ZIP Code													
FT.	Class:	No	1860		EQ: E	No	No	No	*2013*	*$1,031,398*	*$0*	*$0*	*$1,031,398*
	UNKNOWN				Flood:	No	No	No	**2014**	**$1,071,416**	**$0**	**$0**	**$1,071,416**
H													
cision: ZIP Code													

CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

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January 27, 2014

ccupancy	Construction	Auto Spklr	Year Built	Year Apprs	Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
). FT.	Class:	No	1860		EQ: E	No	No	No	*2013*	*$1,547,098*	*$0*	*$0*	*$1,547,098*
	UNKNOWN				Flood:	No	No	No	**2014**	**$1,607,125**	**$0**	**$0**	**$1,607,125**
H, PIPED													
cision: ZIP Code													
FT.	Class:	No	1989		EQ: E	No	No	No	*2013*	*$3,094,195*	*$0*	*$0*	*$3,094,195*
E DITCH SECTIONS	UNKNOWN				Flood:	No	No	No	**2014**	**$3,214,250**	**$0**	**$0**	**$3,214,250**
H, PIPED													
FT.	Class:	No	1989		EQ: E	No	No	No	*2013*	*$1,547,098*	*$0*	*$0*	*$1,547,098*
T STRUCTURES	UNKNOWN				Flood:	No	No	No	**2014**	**$1,607,125**	**$0**	**$0**	**$1,607,125**
0 FEET													
3 DIRT DITCH, 2.5													
NCRETE LINED DH													
cision: ZIP Code													
. FT.	Class: B	No			EQ: G	No	No	No	*2013*	*$103,140*	*$10,445*	*$0*	*$113,585*
	ALL REINFORCED CONCRETE				Flood:	No	No	No	**2014**	**$107,142**	**$10,447**	**$0**	**$117,589**
RATION													
FT.	Class: A	No	1983		EQ: G	No	No	No	*2013*	*$20,628*	*$2,611*	*$0*	*$23,239*
	NON COMB STEEL FRAME				Flood:	No	No	No	**2014**	**$21,428**	**$2,612**	**$0**	**$24,040**
ANFORD CAMP													

CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

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January 27, 2014

ccupancy	Construction	Auto Spklr	Year Built	Year Apprs	Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
Q. FT.	Class: B	No	2010		EQ: G	No	No	No	*2013*	*$887,003*	*$647,565*	*$0*	*$1,534,568*
	ALL REINFORCED CONCRETE				Flood: C	No	No	No	**2014**	**$921,419**	**$647,695**	**$0**	**$1,569,114**
WATER BOOSTER ATION													
ision: Nearest '00-1739] Lake Tahoe oe, -120.01282													
FT.	Class: B	No	2009		EQ: G	No	No	No	*2013*	*$752,921*	*$490,896*	*$0*	*$1,243,817*
	ALL REINFORCED CONCRETE				Flood: C	No	No	No	**2014**	**$782,134**	**$490,994**	**$0**	**$1,273,128**
EAD WELL #3 WATER NT FACILITY													
FT.	Class: C	Yes	2006		EQ: G	No	No	No	*2013*	*$4,125,594*	*$0*	*$0*	*$4,125,594*
	MASONRY CONST/WOOD ROOF				Flood:	No	No	No	**2014**	**$4,285,667**	**$0**	**$0**	**$4,285,667**
: 100%													
Q. FT.	Class: ZZ	No	2012		EQ: G	No	No	No	*2013*	*$2,700,000*	*$2,700,000*	*$0*	*$5,400,000*
	(N/A)				Flood:	No	No	No	**2014**	**$2,804,760**	**$2,700,540**	**$0**	**$5,505,300**
& SECONDARY REATMENT BASINS													

CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

Includes B & M

Real Property Trend Factor: 3.88%
Personal Property Trend Factor: 0.02%

January 27, 2014

ccupancy	Construction	Auto Spklr	Year Built	Year Apprs		Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
). FT.	Class: B	No	2011		EQ:	G	No	No	No	*2013*	*$720,000*	*$420,000*	*$0*	*$1,140,000*
	ALL REINFORCED CONCRETE				Flood:		No	No	No	**2014**	**$747,936**	**$420,084**	**$0**	**$1,168,020**
FT.	Class: N/A	No	1961	2005	EQ:	A2	No	No	No	*2013*	*$0*	*$0*	*$0*	*$0*
PROCESS PIPING					Flood:		No	No	No	**2014**	**$0**	**$0**	**$0**	**$0**
OUND PROCESS														
) DISTRICT														
ld not map this														
). FT.	Class: C	No	2012		EQ:	E	No	No	No	*2013*	*$140,000*	*$1,190,000*	*$0*	*$1,330,000*
	MASONRY CONST/WOOD ROOF				Flood:		No	No	No	**2014**	**$145,432**	**$1,190,238**	**$0**	**$1,335,670**
). FT.	Class: B	No	2012		EQ:		No	No	No	*2013*	*$2,700,000*	*$2,700,000*	*$0*	*$5,400,000*
	ALL REINFORCED CONCRETE				Flood:		No	No	No	**2014**	**$2,804,760**	**$2,700,540**	**$0**	**$5,505,300**

CPEPP PROPERTY SCHEDULE
SOUTH TAHOE PUBLIC UTILITY DISTRICT (CSRMA)

Includes B & M

Real Property Trend Factor: 3.88%
Personal Property Trend Factor: 0.02%

January 27, 2014

ccupancy	Construction	Auto Sprklr	Year Built	Year Apprs	Zone	Real Prop	Pers Prop	BI / Rents	Year	Real Property	Personal Property	BI / Rents	Totals
Personal Property	BI / Rents	Totals											
$45,276,476	*$0*	*$195,094,070*											
$10,813,133	*$0*	*$26,534,340*											
$34,463,343	*$0*	*$168,559,730*											
$0	*$0*	*$0*											
$0	*$0*	*$0*											

	Year	Real Property	Personal Property	BI / Rents	Totals
GRAND TOTALS:	**2014**	**$155,630,515**	**$45,285,539**	**$0**	**$200,916,054**
SPRINKLERED:	**2014**	**$16,331,190**	**$10,815,296**	**$0**	**$27,146,486**
UNSPRINKLERED:	**2014**	**$139,299,325**	**$34,470,243**	**$0**	**$173,769,568**
EARTHQUAKE:	**2014**	**$0**	**$0**	**$0**	**$0**
FLOOD:	**2014**	**$0**	**$0**	**$0**	**$0**

SIGNED / ACCEPTED BY: _____

DATE: _____

ALLIANT APPRAISAL SERVICES

Wanda M. Gindlesperger

Certified Appraiser
License No. CA AR033507

Wanda Gindlesperger has more than nine years of experience in the appraisal and valuation of real estate. Prior to joining Alliant Appraisal Services, Wanda was a Managing Partner for Direct Appraisals Group. Her duties included leadership and direction to the company's team of appraisers, and development of related IT solutions the helped ensure the accurate and timely delivery of appraisal services to clients nationwide.

She has extensive experience in the appraisal of a wide variety of property types as noted below.

Education and Professional Designations

Wanda Gindlesperger earned her Bachelor of Science in Statistics at the University of the Philippines. She also holds a Diploma in Client/Server Programming from the Computer Learning Center in Los Angeles, California graduating summa cum laude.

She has completed all the required coursework from the Appraisal Institute to earn her professional designation of SRA. She has taken classes with The American Society of Appraisers toward being certified as an Appraisal Reviewer.

She has earned the following designations/certifications:

- Associate Member of the Appraisal Institute
- Certified Residential Real Estate Appraiser
- State of California Certified Programming Instructor

Appraisal and Valuation Project Experience

Samples of prior appraisal and valuation projects include:

- Schools and other Public Entity structures
- Unit-In-Place appraisals for the Veterans Administration Housing Assets
- Places of Worship and Recreational facilities
- Multi-Family Properties and Apartment Complexes
- Vacant Land for Subdivision and Housing Development

1301 Dove St., Suite 200 | Newport Beach, CA 92660 | (949) 260-5034 | (949) 260-5070 Fax

ADDENDUM B

Plan Revisions

Substantive 2017 Plan Revisions

Section I.A. District Profile Updated

Section II.D. Identified Assets and Potential Losses tables removed from main body of report and replaced with Addendum A – 2013 appraisal of Selected Assets.

Section III.C. Mitigation Objectives updated as follows:

Wildland Fires Objective #1, Action 1.4
Action 1.4: Model fire flows throughout the service area and determine where improvements are needed most.
Action Deleted from plan - This Action was accomplished as part of the District 2016 Water System Optimization Plan

Severe Storms Objective #2, Action 2.2
Action 2.2: Assess existing older structures (including building and tanks) for snow load and wind load capacity.
Action Deleted from plan – the assessment of District staff is that the only building with this issue was the old Administrative Building, which has been removed and replaced.

Earthquakes Objective #2, Action 3.2
Action 3.2: Distribute and employee guide on techniques to prepare for an earthquake, currently being developed by Community Council.
Action Deleted from plan as it was completed.

Drought Objective #6, Action 6.4
Action 6.4: Investigate expanded use of reclaimed water to mitigate drought impact.
Deleted from plan – this was completed as part of the Diamond Valley Ranch Master Plan and Environmental Impact effort.

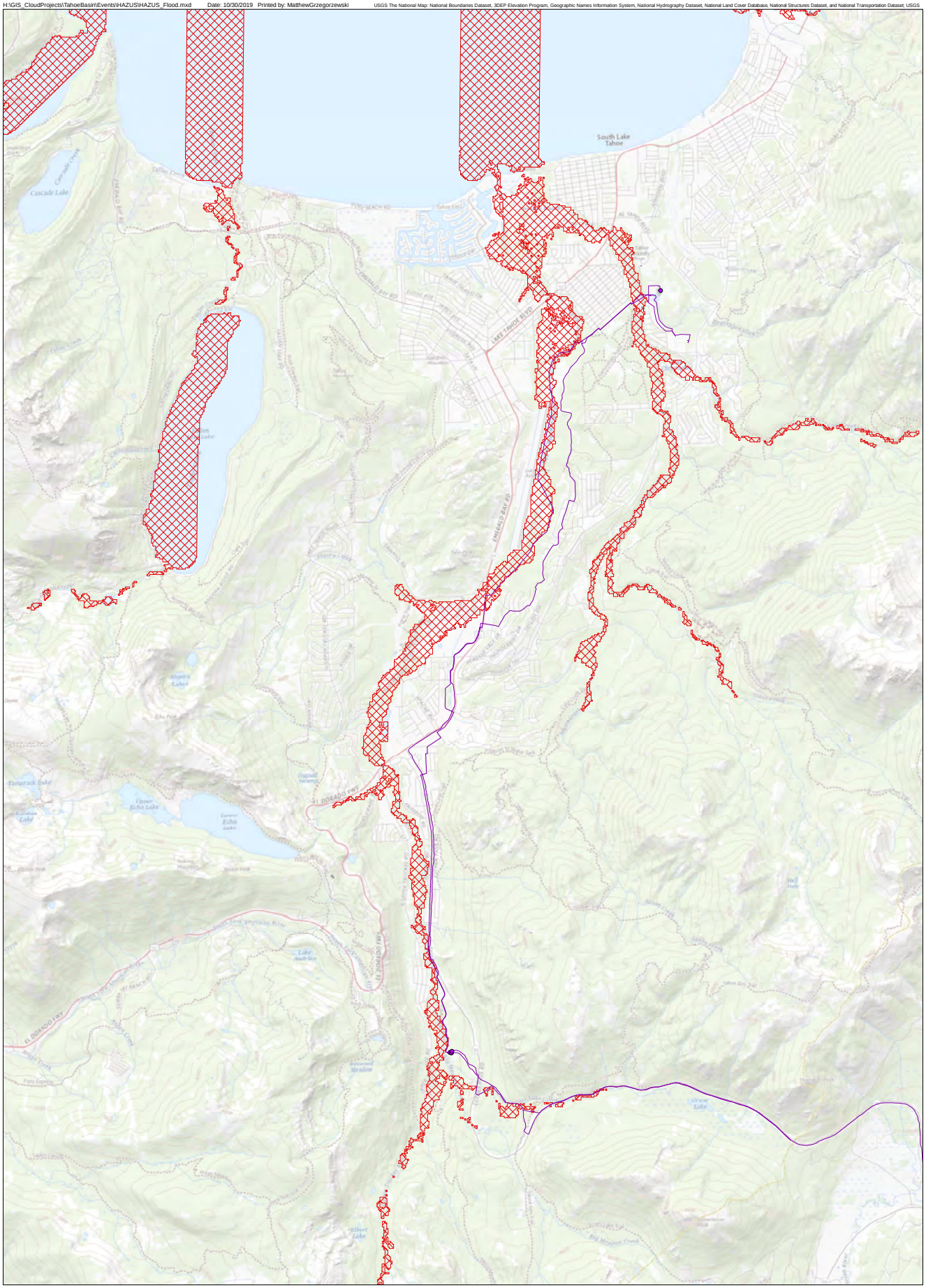
ERB Failure/Inundation Objective #9, Action 9.1 and 9.2
Action 9.1: Prevent or Mitigate Emergency Retention Basin Failure/Inundation
Action 9.2: Install engineering controls as determined in action 9.1
Deleted both actions from plan – these were completed as part of the ERB replacement project in 2011.

Kennedy Jenks

Appendix B

Federal Emergency Management Agency (FEMA) HAZUS Flood Model Map

H:\GIS_CloudProjects\TahoeBasin\Events\HAZUS\HAZUS_Flood.mxd Date: 10/30/2019 Printed by: MatthewGrzegorzewski USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS



Legend

- Export Network Structures
- Export Line
- 100-Year Floodplain

N

0 1,250 2,500
Feet

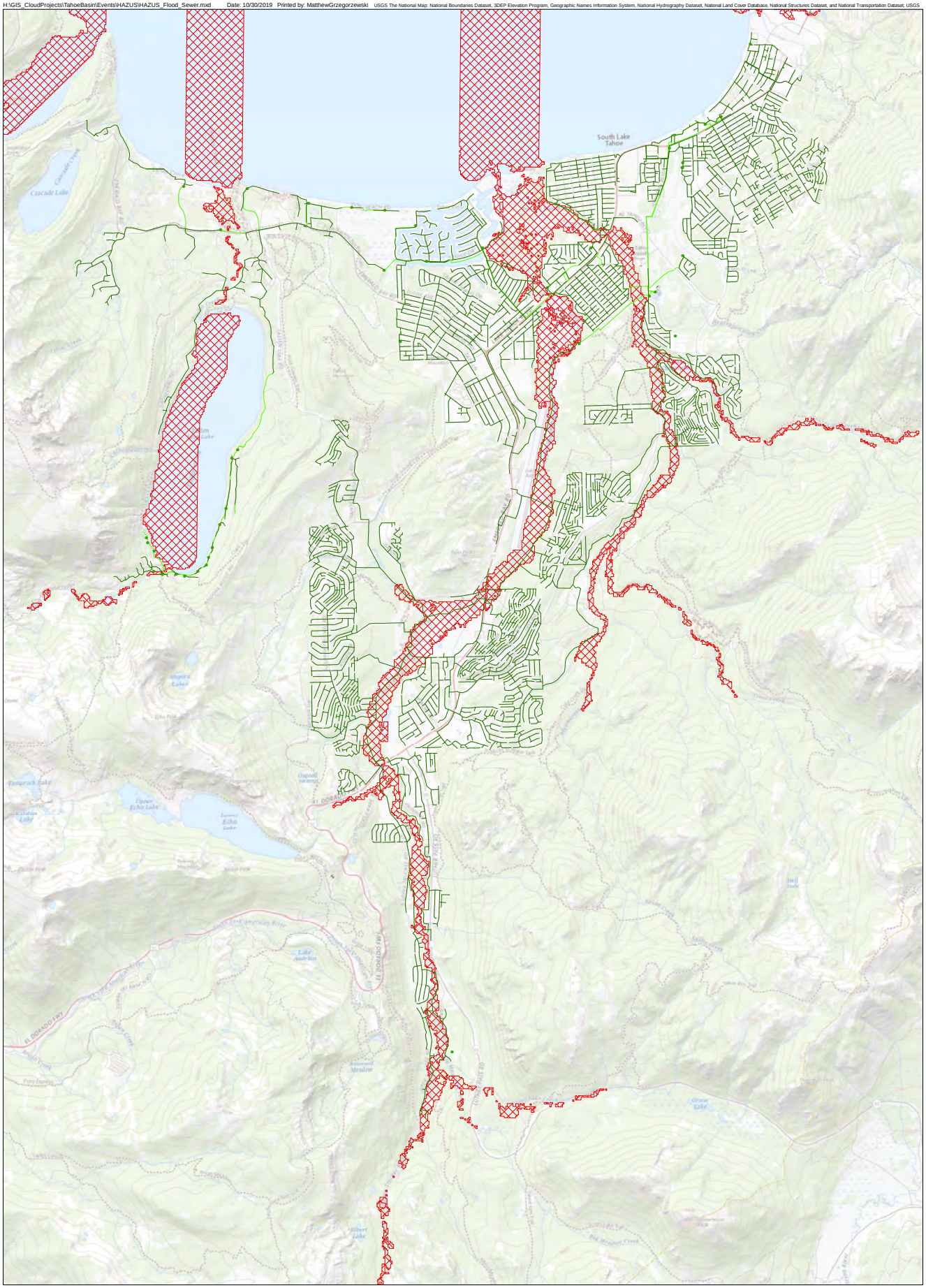
Kennedy/Jenks Consultants
Lake Tahoe Basin, California

South Tahoe Public Utility District
Climate Adaptation Plan
Export Line Infrastructure

1970014.01
October 2019

Figure 1

H:\GIS_CloudProjects\TahoeBasin\Events\HAZUS\HAZUS_Flood_Sewer.mxd Date: 10/30/2019 Printed by: MatthewGrzegorzewski USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS



Legend

- Sewer Network Structure
- Sewer Gravity Main
- Sewer Pressurized Main
- 100-Year Floodplain

N

0 1,250 2,500
Feet

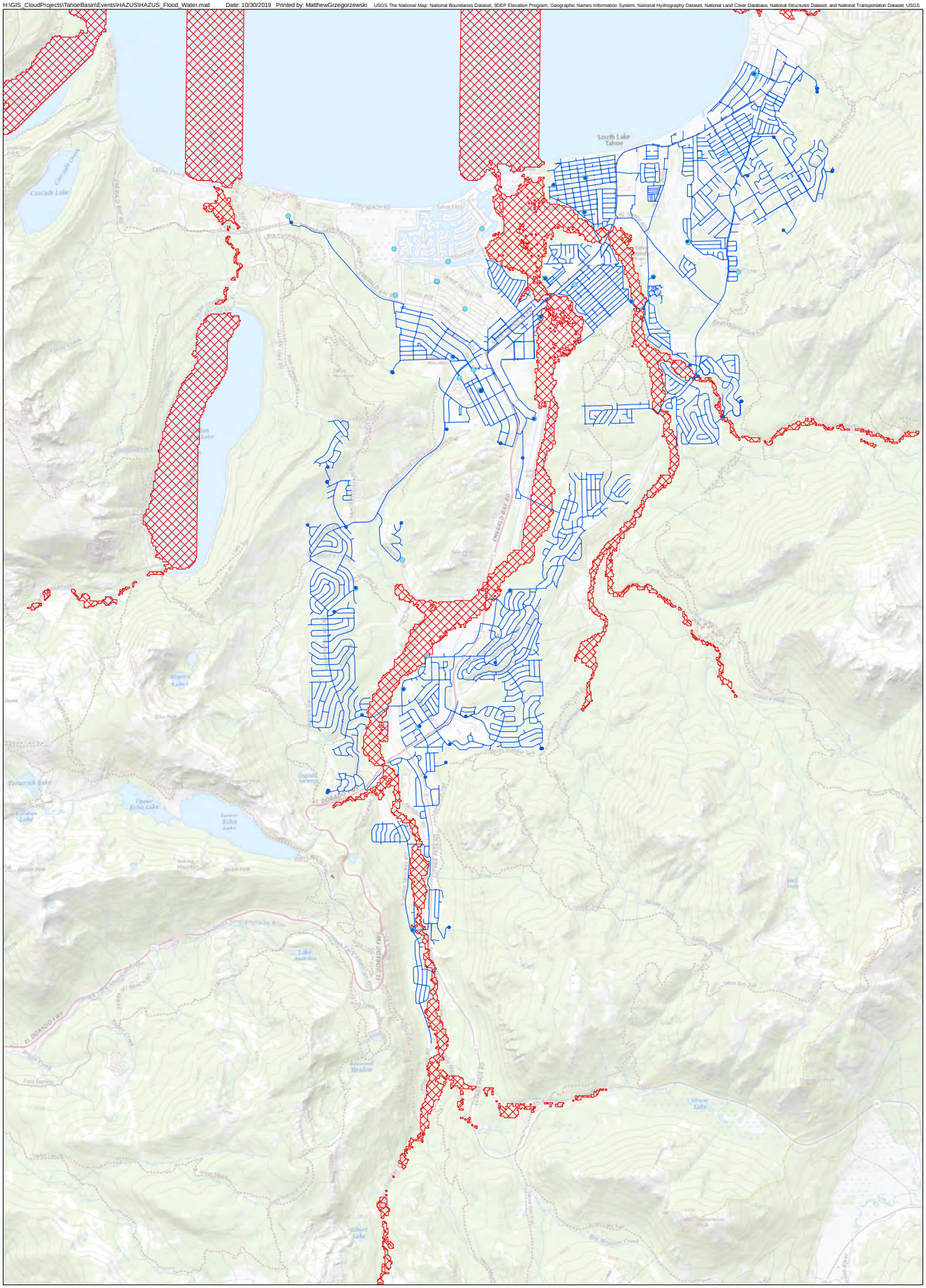
Kennedy/Jenks Consultants
Lake Tahoe Basin, California

South Tahoe Public Utility District
Climate Adaptation Plan
Sewer Infrastructure

1970014.01
October 2019

Figure 2

H:\GIS_CloudProjects\TahoeBasin\Events\HAZUS\HAZUS_Flood_Water.mxd Date: 10/30/2019 Printed by: MatthewGrzegorzewski USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS



Legend

- Water Network Structure
- Water Production Well
- Water Pressurized Main
- 100-Year Floodplain

N

0 1,250 2,500
Feet

Kennedy/Jenks Consultants
Lake Tahoe Basin, California

South Tahoe Public Utility District
Climate Adaptation Plan
Water Infrastructure

1970014.01
October 2019

Figure 3