

STATE OF NEVADA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

DIVISION OF WATER RESOURCES

JASON KING, P.E.
STATE ENGINEER



EAGLE VALLEY (HYDROGRAPHIC BASIN 8-104)

GROUNDWATER PUMPAGE INVENTORY

WATER YEAR 2011

Field Investigated by: Tony Eng

Report by: Beau Parker &

Jonathan Lesperance

TABLE OF CONTENTS

ABSTRACT.....	1
HYDROGRAPHIC BASIN SUMMARY	2
PURPOSE AND SCOPE.....	3
DESCRIPTION OF THE STUDY AREA	3
HYDROLOGY	3
Streamflows.....	3
Figure 1. Location Map of Eagle Valley Hydrographic Basin 8-104	4
Table 1. USGS Streamflow Measurements.....	5
Springs.....	5
Figure 2. Gaging Station and Monitoring Well Location Map of Eagle Valley Hydrographic Basin 8-104.....	6
Groundwater Levels	7
IMPORTED WATER.....	7
RECHARGE, STORAGE AND RECOVERY PROGRAM.....	8
EFFLUENT.....	8
METHODS TO ESTIMATE PUMPAGE.....	8
PUMPAGE BY MANNER OF USE.....	9
REFERENCES CITED.....	11
APPENDIX A EAGLE VALLEY GROUNDWATER PUMPAGE FOR WATER YEAR 2011 BY MANNER OF USE	12
APPENDIX B EAGLE VALLEY GROUNDWATER PUMPAGE FOR WATER YEAR 2011 BY APPLICATION NUMBER.....	14
Explanation of Column Headings for Groundwater Pumpage by Application Number	15
APPENDIX C EAGLE VALLEY WATER YEAR 2011 IRRIGATION BY GROUNDWATER PERMITS, CERTIFICATES, AND CLAIMS OF VESTED RIGHT	19
Explanation of Column Headings for Groundwater Irrigation.....	20
APPENDIX D EAGLE VALLEY HISTORICAL PUMPAGE.....	23

ABSTRACT

This inventory represents the status and usage of all permitted, certificated and claims of vested right groundwater rights located within Eagle Valley, Hydrographic Basin 8-104, for water year 2011 (October 1, 2010 through September 30, 2011). Also included are tables, graphs and data associated with water imported into the basin, effluent re-use, streamflow discharge and depth to groundwater.

The data presented are valid for the time period of this report, and may vary from previously published data as water rights within the basin are subject to administrative action, such as certification, cancellation, forfeiture, or withdrawal on a daily basis.

For water year 2011 the permitted, certificated and claims of vested right groundwater rights totaled 7,926 acre-feet. Estimated pumpage for the water year was **4,734 acre-feet**. Municipal and quasi-municipal supply is the largest manner of use within the basin. For water year 2011, appropriations for municipal and quasi-municipal supply totaled 7,124 acre-feet and pumpage was 3,771 acre-feet. The next largest manner of use was pumping by exempt domestic wells, at 900 acre-feet. Exempt domestic wells are defined by Nevada Revised Statutes 534.013 and do not require a permit issued by the State Engineer.

Carson City Public Works was issued a permit to operate an artificial recharge and recovery program in 1990. During water year 2011, 425 acre-feet of imported surface water were released to the Vicee Canyon drainage for infiltration to the Eagle Valley groundwater basin under the recharge and recovery program.

HYDROGRAPHIC BASIN SUMMARY

HYDROGRAPHIC BASIN NUMBER..... 104, REGION 8

HYDROGRAPHIC BASIN NAME EAGLE VALLEY

COUNTIES..... CARSON CITY, DOUGLAS,
WASHOE

MAJOR COMMUNITIES..... CARSON CITY

DESIGNATED YES

DENIALS BASED UPON WATER AVAILABILITY COMMERCIAL,
INDUSTRIAL, IRRIGATION,
QUASI-MUNICIPAL,
RECREATION, OTHER

GROUNDWATER LEVEL MEASUREMENTS NDWR, USGS

ESTIMATED PUMPAGE INVENTORY, ACRE-FEET IN 2011 4,734*

STATE ENGINEER'S ORDERS

[424](#) - DESIGNATION FEBRUARY 23, 1972

[874](#) - EXTENDED DESIGNATION..... JULY 29, 1985

[1119](#) - DESIGNATION AND PREFERRED USE DECEMBER 07, 1995

[1140](#) - DROUGHT CONDITIONS PUMPING FLEXIBILITY JANUARY 27, 1998

[1202](#) - DOMESTIC WELL CREDIT MAY 26, 2009

COMMITTED GROUNDWATER RESOURCE: 7,926 ACRE-FEET..... DATE: SEPTEMBER 2011

IRRIGATION390	COMMERCIAL 48	INDUSTRIAL 2
ENVIRONMENTAL.....353	QUASI-MUNICIPAL... 360	MUNICIPAL..... 6,764
OTHER2	STOCK 7	

NOTE: Committed groundwater resource data are accurate for September 2011. Manner of use category totals vary over time, as rights are not necessarily static. Rights may be subject to change applications, certification, withdrawals, forfeiture and cancellations; each of these circumstances could impact the duty, diversion rate and acreage associated with a given right.

*Includes pumpage by exempt domestic wells, as defined by NRS 534.013. The domestic use estimate is based upon a count of the total domestic wells in the basin multiplied by 1 acre-foot per annum. The number of domestic wells in the basin was estimated by a query of the [Nevada Division of Water Resources' Well Log Database](#) and is approximately 900.

PURPOSE AND SCOPE

The purpose of this report is to inventory all of the groundwater resources allocated and described by the Office of the State Engineer, Nevada Division of Water Resources, and to estimate the amount of groundwater pumped within the Eagle Valley Hydrographic Basin 8-104, for the water year beginning October 1, 2010 and ending September 30, 2011 (hereafter referred to as water year 2011). This report estimates the amount of groundwater pumped under the permits and certificates issued by the State Engineer, claims of vested right, and the amount pumped by exempt domestic wells within the basin. Associated information, such as groundwater level measurements, streamflow statistics, recharge data and effluent data are also presented.

DESCRIPTION OF THE STUDY AREA

Eagle Valley is a small basin located in western Nevada. The valley is approximately 10 miles east of Lake Tahoe and 30 miles south of Reno, Nevada, and is within the Carson River Hydrographic Region. Carson City, the Nevada state capital, is the principal community. The majority of the basin is within Carson City County; small portions of it extend into Douglas and Washoe Counties (see Figure 1).

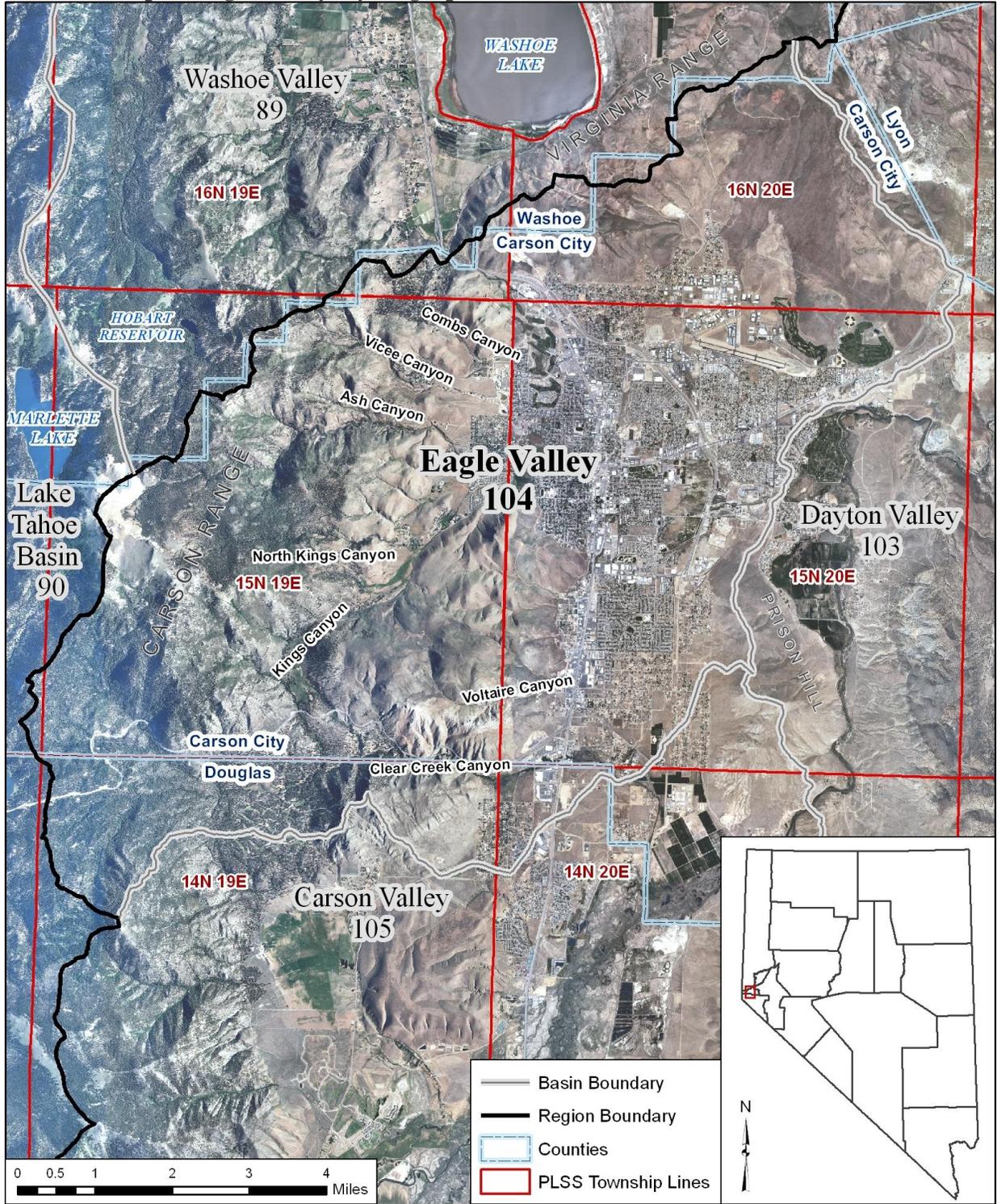
Eagle Valley is bounded on the west by the Carson Range of the Sierra Nevada. This range rises to more than 9,000 feet and is the basin's primary watershed. The Virginia Range forms the north boundary, rising to greater than 7,000 feet (all elevations in this text are above mean sea level). Prison Hill borders the basin to the southeast; a low ridge extending from the Virginia Range south to Prison Hill forms the eastern boundary. The southern boundary is formed by a low alluvial rise and intermittent hills separating Eagle Valley from Carson Valley. The adjacent hydrographic basins are as follows: Lake Tahoe Basin, 6-090, to the west; Washoe Valley, 6-089, to the north; Dayton Valley, 8-103, to the east; and Carson Valley, 8-105, to the south. The exterior boundary of the Eagle Valley Hydrographic Basin is as described by Designation Orders 424 and 874, issued by the Nevada State Engineer February 23, 1972 and July 29, 1985, respectively. The basin covers approximately 71 square miles, about 20 of which cover the valley floor. Valley floor elevations range from 4,800 feet, along the toe of the Carson Range, to 4,600 feet at the valley outlet.

HYDROLOGY

Streamflows

Several perennial streams arise in the Carson Range and flow eastward onto and across the valley floor of Eagle Valley. From north to south those streams are Ash Canyon Creek, Kings Canyon Creek, and Clear Creek. Clear Creek crosses into Carson Valley and is a tributary of the Carson River. The northern and central portions of the valley are drained by Eagle Valley Creek, which flows east into Dayton Valley and is a tributary of the Carson River (see Figure 2). The U.S. Geological Survey (USGS) operates streamflow gaging stations on these streams. Table 1 (page 5) is a summary of the station and streamflow data for water year 2011.

Figure 1
Location Map of Eagle Valley Hydrographic Basin 8-104



The data are from the USGS, Water-Data Report WDR-US-2011. Refer to Figure 2 for gaging station locations.

Several substantial drainages from the Carson Range discharge seasonal runoff to the valley floor. The largest of these, from north to south, are Combs Canyon, Vicee Canyon and Voltaire Canyon. Though streamflow persists throughout the year in the upper reaches of Vicee Canyon, it generally infiltrates into the upper alluvium and only occasionally reaches the valley floor. The channels in both Combs Canyon and Voltaire Canyon are ephemeral drainages.

Table 1
USGS Streamflow Measurements

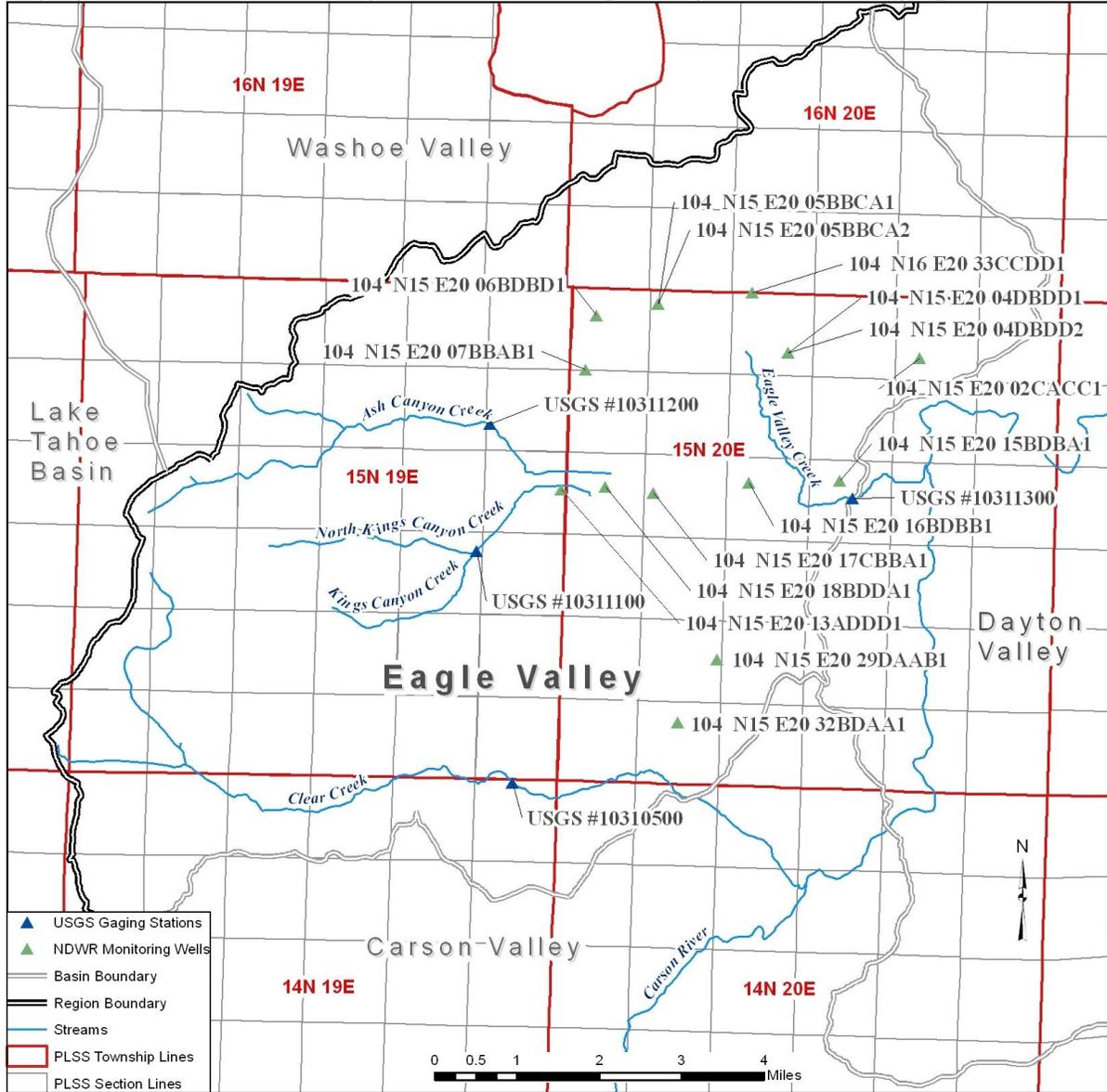
USGS Site Number	USGS Site Name	Location	Elevation (in feet)	Period of Record	Annual Runoff (Calendar Year 2010)	Annual Runoff (Water Year 2011)	Average Water Year Runoff
10311200	Ash Canyon Creek Near Carson City, NV	NW1/4 SW1/4 of Sec. 12, T.15N. R.19E.	5,080	July 1976 - present	2,030 af	4,170 af	2,610 af
10311100	Kings Canyon Creek Near Carson City, NV	NE1/4 NE1/4 of Sec.23, T.15N. R.19E.	5,180	June 1976 - present	458 af	626 af	851 af
10311300	Eagle Valley Creek At Carson City, NV	SE1/4 NW1/4 of Sec.15, T.15N. R.20E.	4,620	January 1985 - present	2,100 af	4,360 af	2,300 af
10310500	Clear Creek Near Carson City, NV	NE1/4 NW1/4 of Sec.1, T.14N. R.19E.	5,000	March 1948 - present	2,530 af	5,160 af	3,870 af

Springs

There are many springs located in the mountains bounding Eagle Valley, particularly in the Carson Range. The discharge from the larger springs, or spring complexes, is collected and utilized for domestic use, irrigation, municipal and quasi-municipal supply, and stockwater purposes. The discharge from most of the smaller springs does not travel a significant distance from the source.

There are also numerous springs on the valley floor, the majority of which are associated with a northeast - southwest trending fault. The largest of these springs are the Carson Hot Springs and the Steinheimer Springs. The Carson Hot Springs are located in NE1/4 SE1/4 of Section 5, T.15N., R.20E. Worts and Malmberg (1966, p. 30) reported the discharge to be approximately 60 gallons per minute with a water temperature of about 120° F. The water is

Figure 2
Gaging Station and Monitoring Well Location Map of Eagle Valley Hydrographic Basin 8-104



used for mineral baths at the hot springs resort, and then allowed to drain to wetland areas south and east of the source. The Steinheimer Springs are located in the NW1/4 SE1/4 of Section 8, T.15N., R.20E. Worts and Malmberg reported the discharge to be approximately 50 gallons per minute and the water temperature at about 60° F. At the time of this report, discharge from the Carson Hot Springs is comparable to the Worts and Malmberg data. Discharge from the Steinheimer Springs appears to be reduced. Sub-urban development in the area of the Steinheimer Springs has obscured the source. A number of residences in the vicinity of the springs have sump pumps. The sumps remove water from beneath the houses to the city storm drain system and a portion of the discharge also flows to a designated wet land area east of the source (Kelly Hale, Carson City Public Works, December 18, 2009, written communication).

Groundwater Levels

Depths to groundwater in Eagle Valley have been measured by the Nevada Division of Water Resources consistently since the mid 1970's. There are 14 active sites and one inactive site in the monitoring well network. The following are the site names and links to the data (refer to Figure 2 for monitoring well locations):

104 N15 E20 02CACCI	104 N15 E20 04DBDD1	104 N15 E20 04DBDD2
104 N15 E20 05BBCA1	104 N15 E20 05BBCA2	104 N15 E20 06BDBD1
104 N15 E20 07BBAB1	104 N15 E20 13ADDD1	104 N15 E20 15BDBA1
104 N15 E20 16BDBB1	104 N15 E20 17CBBA1	104 N15 E20 18BDDA1
104 N15 E20 29DAAB1	104 N15 E20 32BDAA1	104 N16 E20 33CCDD1

Groundwater level data are also collected by the USGS (data may be accessed through the USGS website <http://nevada.usgs.gov/>) and the Carson City Public Works Department.

IMPORTED WATER

Carson City Utilities (Utility) is the primary water purveyor in Eagle Valley. The Utility uses both surface and groundwater resources diverted from within the basin to meet the municipal supply demand. The Utility also imports water from neighboring hydrographic basins for use within its service area. Surface water is imported from the Lake Tahoe Basin and Washoe Valley via the Marlette/Hobart system and from the Carson River in Dayton Valley by two induction wells. Groundwater wells located in Carson, Dayton and Washoe Valleys are also pumped for use within the system. Portions of the Utilities' service area also extend into neighboring basins.

The Marlette/Hobart system was originally constructed in the 19th century to meet the water needs of Virginia City. The system continues to supply water to Virginia City, as well as Carson City. The system diverts water from Marlette Lake, within the Lake Tahoe Basin, and delivers it to Hobart Reservoir, located in Washoe Valley (see Figure 1). From Hobart, water is delivered by pipeline to Carson City. This water is blended with water from Ash Canyon and North Kings Canyon Creeks, treated, and then delivered to the municipal supply system. During water year 2011, Carson City received 557 acre-feet of water from the Marlette/Hobart system.

The Utility operates two induction wells located within the Carson River flood plain in Dayton Valley. The wells are located in Section 14, T.15N., R.20E., just east of the Eagle Valley and Dayton Valley basin boundary. The source of the water delivered by these wells is the Carson River. During water year 2011, 1,995 acre-feet of water were pumped from the induction wells. Between the Marlette/Hobart system and the induction wells, a total of **2,552 acre-feet** of surface water was imported for use within the service area of the Utility.

Groundwater wells in Carson, Dayton and Washoe Valleys are used by the Utility to supplement production from sources within Eagle Valley. During water year 2011, 244 acre-feet were imported from Carson Valley, 1,632 acre-feet from Dayton Valley, and zero acre-feet from Washoe Valley, totaling **1,876 acre-feet** of groundwater imported for use within the service area of the Utility.

In summary, a total of **4,428 acre-feet** of surface water and groundwater were imported for use within the Utility service area during water year 2011.

RECHARGE, STORAGE AND RECOVERY PROGRAM

Carson City Public Works operates a Recharge Storage and Recovery Program in Eagle Valley. This project is associated with Nevada State Engineer's Recharge Permit R-004. The recharge permit was issued September 13, 1990 and allows for the recharge of up to 700 acre-feet per year of surface water imported to the Eagle Valley groundwater basin from the Lake Tahoe and Washoe Valley Hydrographic Basins via the Marlette/Hobart system.

Water to be recharged is delivered to the Vicee Canyon drainage channel by pipeline, approximately two miles upstream of the canyon mouth. This water is added to the natural flow within the canyon. A portion of the water infiltrates the streambed, and the amount which reaches the canyon mouth is impounded and infiltrated in rapid infiltration basins. During water year 2011, about 425 acre-feet of water from the Marlette/Hobart system was released to the Vicee Canyon drainage under Permit R-004. Carson City reports the amount of water released to the Vicee Canyon drainage on a monthly basis.

EFFLUENT

The Carson City Department of Public Works operates a wastewater treatment plant in eastern Eagle Valley, near the basin outlet. The plant is located in the NW1/4 SW1/4 of Section 15, T.15N., R.20E. and treats domestic and industrial wastewater received from sewer connections within the Carson City Utilities service area. There are currently 17,000 residential and commercial sewer hookups (Carson City Department of Public Works, June 2012, personal communication).

During much of the year, treated effluent is pumped from the treatment plant to various locations and used for irrigation. When demand is low, the effluent is pumped to a storage reservoir in Brunswick Canyon, about three miles east of the facility. Use of the effluent for irrigation is authorized by the Nevada State Engineer under secondary permits issued under Permits 25727 and 30450, and by the Nevada Division of Environmental Protection under Permit NEV90008. Within Eagle Valley, the effluent is applied for irrigation of golf courses and sports fields, as well as for landscaping of cemeteries, several street medians and the treatment plant. Effluent is also delivered to users in Carson and Dayton Valleys. For water year 2011, a total of 1,266 acre-feet of effluent were used for irrigation and landscaping purposes within Eagle Valley, 1,383 acre-feet in Carson Valley and 477 acre-feet in Dayton Valley (Ken Arnold, Carson City Public Works, 2012, written communication).

METHODS TO ESTIMATE PUMPAGE

This report estimates the amount of groundwater pumped under the permits and certificates issued by the Nevada State Engineer as well as claims of vested right and exempt domestic wells in the Eagle Valley Hydrographic Basin. The following methods were used to arrive at the estimated use:

- Where totalizing meters are in place, meter readings were taken and compared with previous data (if available).

- Where meters were not in place and the use was irrigation, use was estimated by multiplying the number of hours the well was operated during the past year (determined from an hour meter reading or asking the water user) by the certificated diversion rate.
- Where meters were not in place, use was irrigation, and the number of hours the well was operated was unknown an inspection of the place of use was done to estimate the amount of acreage under cultivation. The number of acres under cultivation was then multiplied by a duty of 4 acre-feet per acre to estimate the use.
- Where meters are not present, previous data were not available and the manner of use was not irrigation, use was estimated by applying the annual duty associated with the certificate (if the water right was perfected), permit or claim, if the use was as described in the certificate, permit or claim. If the use was not as described in the certificate, permit or claim, a value was estimated based upon the circumstances of use for the subject year.
- If no water was used under the certificate, permit or claim, zero use was recorded.
- Carson City Utilities (Utility) is the primary water purveyor in Eagle Valley. The Utility provides the Nevada Division of Water Resources with monthly pumping totals on a quarterly basis as a condition of permits under which the water is appropriated. Douglas County and Sierra Estates General Improvement District also report pumpage within Eagle Valley on a quarterly basis. These reports are used directly as the amount pumped for those entities.
- Exempt domestic wells may be drilled and utilized where water service from a purveyor is not available. These types of wells do not require a permit from the State Engineer if they do not pump more than 2 acre-feet per year as provided by Nevada Revised Statutes (NRS) [534.180](#). [NRS 534.013](#) defines this category of domestic use as follows: *“Domestic use or domestic purposes extends to culinary and household purposes directly related to a single family dwelling, including, without limitation, the watering of a family garden and lawn and the watering of livestock and any other domestic animals or household pets.”* The number of exempt domestic wells in the basin is determined by a query of the Nevada Division of Water Resources' Well Log Database. The amount of water pumped by exempt domestic wells is estimated to be one acre-foot per well. Actual domestic well pumpage is not known. As a reference, Carson City delivered a total of 10,998 acre-feet of surface and groundwater to 16,800 customers (Carson City Department of Public Works, June 2012, personal communication). Average delivery was less than 1 acre foot per customer. Because homes with domestic wells are on larger parcels, on average, than those using municipal service, it is estimated that water use is somewhat greater as well.

PUMPAGE BY MANNER OF USE

Note that all data herein are estimates and are subject to revision. The total estimated groundwater pumpage for water year 2011 was **4,734 acre-feet**. The annual duties of the certificates, permits and claims of vested right within the Eagle Valley Hydrographic Basin totaled **7,926 acre-feet**. The appropriated and actual pumped totals, categorized by manner of use, are as follows:

A. Commercial and Industrial (COM & IND)

During water year 2011, appropriations for commercial and industrial purposes totaled 50 acre-feet in the basin. An estimated 27 acre-feet of groundwater were pumped during water year 2011.

B. Environmental (ENV)

During water year 2011, appropriations for environmental purposes totaled 353 acre-feet in the basin. These appropriations are temporary in nature and are issued for site remediation of contaminated groundwater. The environmental permits are issued under the authority granted by Nevada Revised Statutes (NRS) 533.4375, in conjunction with remediation action ordered by the Nevada Division of Environmental Protection. The groundwater is extracted, treated and either re-injected or discharged to the city storm drain system. An estimated 3 acre-feet of groundwater were pumped during water year 2011.

C. Irrigation (IRR)

During water year 2011, appropriations for irrigation purposes totaled 390 acre-feet in the basin. An estimated 32 acre-feet of groundwater were pumped for irrigation purposes during water year 2011.

D. Municipal and Quasi-Municipal (MUN & QM)

During water year 2011, appropriations for municipal and quasi-municipal totaled 7,124 acre-feet in the basin. An estimated 3,771 acre-feet of groundwater were pumped during water year 2011.

Under extraordinary circumstances, the amount of groundwater Carson City may pump in a given year may be allowed to exceed the total of its groundwater rights. State Engineer's Order 1140 provides that Carson City may pump up to "a maximum of 11,700 acre-feet from Eagle Valley for a one year period, provided the average groundwater pumped from Eagle Valley over a period of five consecutive drought years will not exceed 9,900 acre-feet annually." A drought year for the Carson River Basin is defined as a water year which receives 70 percent, or less, of the average annual precipitation, measured as of April 1st of that year, and reported by the U.S. Department of Agriculture, Natural Resources Conservation Service.

E. Other (OTH)

During water year 2011, appropriations under this manner of use totaled 2 acre-feet in the basin. No groundwater was pumped under this manner of use during water year 2011.

F. Stock (STK)

During water year 2011, appropriations for stockwater totaled 7 acre-feet in the basin, and an estimated 1 acre-foot was pumped.

G. Domestic (DOM)

During water year 2011, appropriations for domestic purposes totaled 0 acre-feet in the basin. However, records of the State Engineer indicate approximately 900 exempt domestic wells existed in the basin during water year 2011. The amount of water pumped for domestic use as described under NRS 534.013 is estimated at 900 acre-feet.

REFERENCES CITED

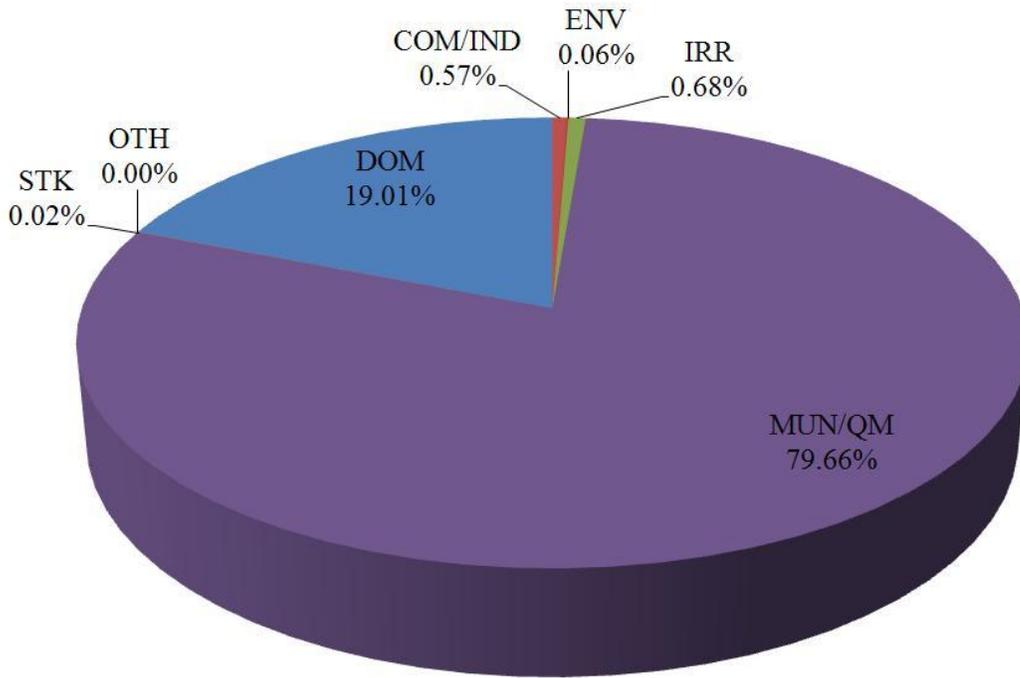
Department of the Interior, U.S. Geological Survey. Water-Data Report WDR-US-2011.
[Online] 25 May 2012, <http://wdr.water.usgs.gov/wy2011/search.jsp>.

Worts , G.F., Jr. and Malmberg, G.T., 1966, Hydrologic appraisal of Eagle Valley, Ormsby County, Nevada: Nevada Department of Conservation and Natural Resources, Water Resources - Reconnaissance Report 39, p 30.

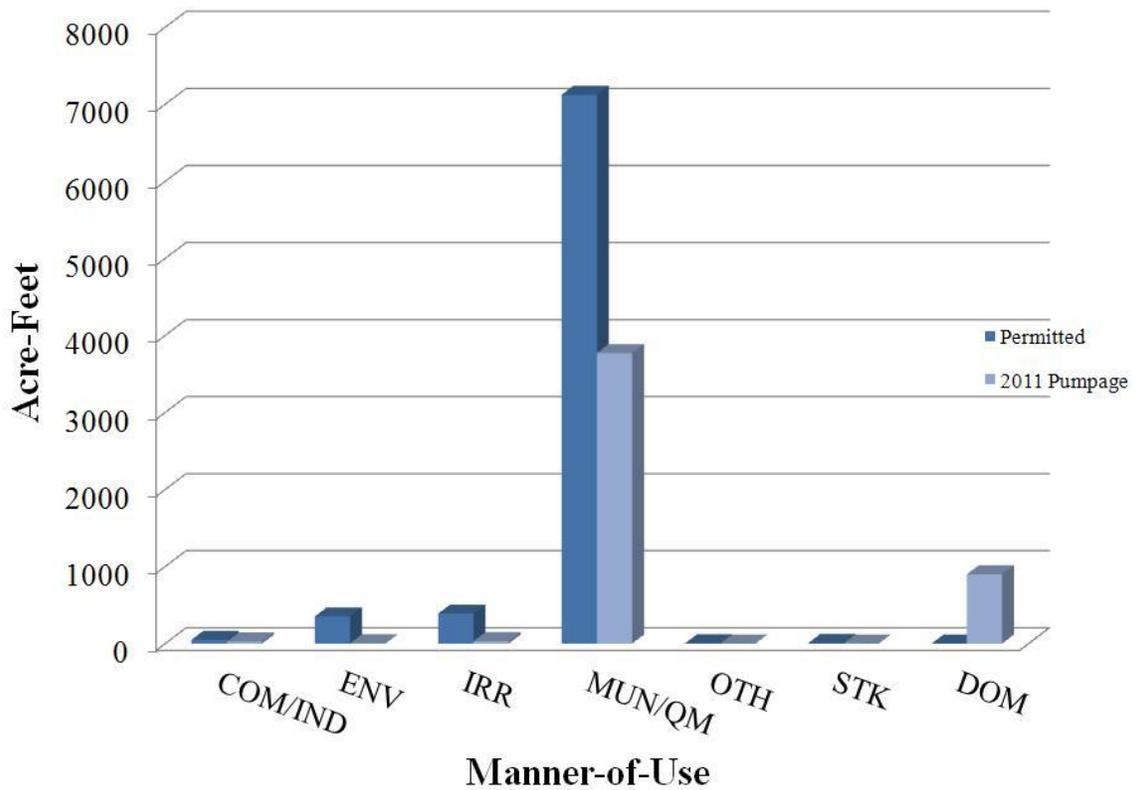
APPENDIX A

**EAGLE VALLEY GROUNDWATER PUMPAGE FOR WATER YEAR 2011
BY MANNER OF USE**

**PERCENTAGE OF GROUNDWATER PUMPAGE WATER YEAR 2011
BY MANNER OF USE**



GROUNDWATER PUMPAGE WATER YEAR 2011 PERMITTED vs. ACTUAL PUMPAGE



APPENDIX B

**EAGLE VALLEY GROUNDWATER PUMPAGE FOR WATER YEAR 2011
BY APPLICATION NUMBER**

**Explanation of Column Headings for Groundwater Pumpage
by Application Number**

APP NO.	The file number of the Application to Appropriate/Change Water or the Vested Claim of Right.
STATUS	Indicates if the application is a Vested Claim of Right (VST), a Permit (PER), or if it has been certificated. If an application has been certificated, the Certificate number will be listed in the column.
MOU	The manner of use of the appropriated water. COM - Commercial MUN - Municipal ENV - Environmental OTH - Other IND - Industrial QM - Quasi-Municipal IRR - Irrigation STK - Stock
OWNER OF RECORD	The owner of the water right as recorded in the files of the state engineer. A water right may have more than one owner of record.
QQ	The quarter quarter of the Section in which the point of diversion is located.
QTR	The quarter of the Section in which the point of diversion is located.
SEC	The Section in which the point of diversion is located.
T	The Township in which the point of diversion is located.
R	The Range in which the point of diversion is located.
PER ACRES IRR	The number of acres that are permitted to be irrigated.
DUTY (AF)	The number of acre-feet of water that the permittee may pump. One acre-foot equals 325,851 gallons.
SUPP ADJ	Where more than one permit is appurtenant to the same place of use, the permits are considered supplemental. Permits may be either completely or partially supplemental. In these cases, a total combined duty for the subject permits is employed.
DUTY USED	The amount of water used during the water year, in acre-feet, as determined by review of records and/or field investigation.
UNIT	AFA stands for acre-feet annually, and AFS stands for acre-feet seasonally. AFS limits water usage to certain months out of the year.
SUPP SRC	The source of the supplemental water. UG - Underground RR - Reservoir Ravine Creek KC - Kings Canyon Creek SP - Spring
SUPP GW APP NO.	The file number(s) of any supplemental ground water appropriations.

APP NO.	STATUS	MOU	OWNER OF RECORD	QQ	QTR	SEC	T	R	PER ACRES	IRR	DUTY (AF)	SUPP ADJ	DUTY USED	UNIT	SUPP SRC	SUPP GW APP NO.
V02449	VST	STK	ANDERSON, D.A.	SW	SE	7	15N	20E			2.79	2.79	0.00	AFA		
V02518	VST	IRR	ALLEN, ROBERT A.	NW	NE	18	15N	20E	1.3		5.20	5.20	1.00	AFA		
V02780	VST	IRR	CARRINGTON, EDME H.	SE	NE	18	15N	20E	0.5		2.00	2.00	1.20	AFA		
V02785	VST	STK	NEWMAN CONSTRUCTION LTD.	SE	SW	7	15N	20E			1.87	1.87	0.00	AFA		
V03704	VST	STK	LOMPA, EVA	NE	SW	16	15N	20E			2.24	2.24	1.00	AFA		
V09127	VST	COM	HONE, DOUGLAS K.	SE	NW	10	15N	20E			0.00	0.00	0.00	AFA		
8961	2492	IRR	CONSOLIDATED CONSTRUCTION CORP.	SE	NE	7	15N	20E	10.84		39.00	39.00	0.40	AFS		
12994	3504	IRR	TURMAN, ELIZABETH W. CROZER	NE	SW	18	15N	20E	54.20		216.80	216.80	0.00	AFA	UG/KC	12995
12995	3505	IRR	TURMAN, ELIZABETH W. CROZER	NW	SE	18	15N	20E	54.20		216.80	0.00	0.00	AFA	UG/KC	12994
15313	5076	COM	MARTIN, MARYBELLE M.	SW	NW	29	15N	20E			4.36	4.36	1.04	AFA		
15880	5499	IRR	JOOST, HERMAN	SE	SW	7	15N	20E	17.89		48.38	48.38	0.00	AFA	RR	
17881	4965	OTH	MILITARY DEPARTMENT NEVADA	SW	SW	20	15N	20E			2.24	2.24	0.00	AFA		
17899	5379	IRR	LIPPINCOTT, CLYDE R.	NE	NW	5	15N	20E	1.00		4.00	4.00	4.00	AFA		
19044	6208	QM	SIERRA ESTATES G.I.D.	NW	SW	6	14N	20E			33.88	78.41	0.00	AFA	UG	20935, 53822
20702	7841	COM	NEWMAN, PATRICIA M.	SW	NW	29	15N	20E			5.37	5.37	5.37	AFA		
20935	6209	QM	SIERRA ESTATES G.I.D.	NW	SW	6	14N	20E			33.88	0.00	0.00	AFA	UG	19044, 53822
21258	6707	COM	FULLER, WILLIAM S.	NW	NW	11	15N	20E			9.57	9.57	1.00	AFA		
23672	6471	MUN	CARSON CITY	NE	SE	12	15N	20E			119.99	6702.90	171.25	AFA	UG	Footnote 1
23673	6472	MUN	CARSON CITY	NE	SE	12	15N	19E			1268.98	0.00	0.00	AFA	UG	Footnote 1
23727	7646	QM	LANDS DIVISION - NEVADA	SE	SE	33	15N	19E			3.99	3.99	0.00	AFA	UG	23728
23728	7647	QM	LANDS DIVISION - NEVADA	SW	SW	34	15N	19E			3.99	0.00	0.00	AFA	UG	23727
24462	7734	QM	FISCHER, ALBERT J.	SE	NW	5	15N	20E			26.79	26.79	0.75	AFA	UG	24463
24463	7735	QM	FISCHER, ALBERT J.	SE	NW	5	15N	20E			26.79	0.00	19.32	AFA	UG	24462
24986	7366	MUN	CARSON CITY	SE	SE	17	15N	20E			806.51	0.00	0.00	AFA	UG	Footnote 1
25667	9866	MUN	CARSON CITY	SE	SE	7	15N	20E			470.22	0.00	185.54	AFA	UG	Footnote 1
25728	9583	QM	NORTH CARSON STREET, LLC	NE	SW	8	15N	20E			72.95	73.44	9.76	AFA	UG	40786
25987	9868	COM	PARKER, BENJAMIN LANCASTER	SW	SE	36	16N	20E			10.37	10.37	7.97	AFA		
26297	8813	QM	WESTERN SUN, LLC	NW	SE	17	15N	20E			4.57	4.57	6.61	AFA		
26453	8865	IND	PEDERSON, BJARNE A.	NW	NW	11	15N	20E			0.40	0.40	1.01	AFA		
26581	9622	MUN	CARSON CITY	NE	SE	6	15N	20E			407.24	0.00	286.23	AFA	UG	Footnote 1
26582	9623	MUN	CARSON CITY	SE	NE	12	15N	19E			1178.15	0.00	206.62	AFA	UG	Footnote 1
26821	8948	COM	POZZI MOTOR COMPANY	NW	SW	29	15N	20E			0.43	0.43	0.19	AFA		
26822	9260	IRR	RIDL, LTD	NW	SW	1	15N	20E	10.00		9.27	9.27	0.79	AFA		
26886	9164	COM	MECHELLE R. HITCHCOCK 2000 FAMILY TRUST AGREEMENT	NW	SW	29	15N	20E			0.86	0.86	0.63	AFA		
26943	9423	QM	GARICOITZ FAMILY TRUST	SE	SE	31	15N	20E			13.37	13.37	0.00	AFA	UG	26944
26944	9429	QM	GARICOITZ FAMILY TRUST	SE	SE	31	15N	20E			13.37	0.00	0.00	AFA	UG	26943
26945	8761	COM	FIXMER, E. J.	SE	SE	31	15N	20E			0.64	0.64	0.60	AFA		
26985	9428	COM	HARRINGTON, J. P.	SE	SW	2	15N	20E			0.18	0.18	0.00	AFA		
27012	8393	COM	WELLS, LEON D.	SW	SE	16	15N	20E			0.37	0.37	0.00	AFA		
27014	9869	COM	BRANSTETTER, CHAS. H.	SW	NW	29	15N	20E			0.64	0.64	0.00	AFA		
27063	8406	COM	WESTERN INSPIRATIONAL BROADCASTERS	NW	SW	1	15N	20E			0.18	0.18	0.41	AFA		
27076	8783	COM	MELLOW, JERRY A.	SW	SE	2	15N	20E			1.01	1.01	0.22	AFA		
27095	9070	COM	EUSE, CHERYL RUPP MANN	SE	SE	6	15N	20E			1.11	1.11	0.42	AFA		
27164	8828	COM	PECORILLA, ANGELO	SE	NE	31	15N	20E			1.10	1.10	0.00	AFA		
27215	10456	QM	ROBERTS, FRED L.	SW	NW	29	15N	20E			2.55	2.55	2.92	AFA		
27314	9871	MUN	CARSON CITY	SE	NW	29	15N	20E			432.84	0.00	217.47	AFA	UG	Footnote 1
27320	9872	MUN	CARSON CITY	NW	NW	32	15N	20E			218.66	0.00	240.90	AFA	UG	Footnote 1 & 4
27373	8830	IND	DENTON, DONALD F.	NW	SW	1	15N	20E			0.12	1.23	0.00	AFA	UG	29434
27476	9748	IRR	WADE, BERT A.	NW	SW	35	15N	19E	1.06		2.12	2.12	2.12	AFA		
27477	9749	IRR	DOUD, RICHARD M.	NW	SW	35	15N	19E	3.32		6.32	6.32	2.00	AFA		
27666	9072	IRR	COWPERTHWAIT, JOSEPHINE G.	NE	SW	7	15N	20E	1.24		4.48	4.48	0.16	AFS		

APP NO.	STATUS	MOU	OWNER OF RECORD	QQ	QTR	SEC	T	R	PER ACRES	IRR	DUTY (AF)	SUPP ADJ	DUTY USED	UNIT	SUPP SRC	SUPP GW APP NO.
27822	9209	COM	RUTLEDGE, RALPH A.	SW	NW	29	15N	20E						AFA		
27857	9195	IRR	COTTONWOOD MOBILE HOME PARK INC.	NW	NW	5	15N	20E	5.50		0.71	0.71	0.00	AFA		
29002	9904	MUN	CARSON CITY	NW	SE	17	15N	20E			11.00	11.00	12.98	AFA		
29434	9695	IND	DENTON, DONALD F.	NW	SW	1	15N	20E			809.78	0.00	195.51	AFA	UG	Footnote 1
29464	9875	QM	LINDSEY, SUSAN	NE	NW	28	15N	20E			1.12	0.00	0.39	AFA	UG	27373
29802	13660	QM	ALLEN, EMMA	SE	NE	31	15N	20E			2.03	2.03	1.00	AFA		
29906	9635	MUN	CARSON CITY	SE	SE	1	15N	19E			1.72	1.72	0.98	AFA		
29960	9876	IND	NAFCO INDUSTRIES INC	NW	SE	36	16N	20E			1219.39	0.00	0.00	AFA	UG	Footnote 1
30167	9877	IND	DESERT ENTERPRISES	SE	SE	2	15N	20E			0.15	0.15	0.15	AFA		
30299	10611	COM	NORTON, GUERIN A., JR.	NW	SE	36	16N	20E			0.15	0.15	0.15	AFA		
30441	9878	MUN	CARSON CITY	SE	SE	1	15N	19E			0.55	0.55	0.58	AFA		
34088	11291	COM	MATTHEUS, H. E.	NW	NE	6	15N	20E			1170.74	0.00	0.00	AFA	UG	Footnote 1
34808	PER	QM	EAGLE VALLEY CHILDREN'S HOME (DBA)	SW	SW	31	16N	20E			0.25	0.25	0.01	AFA		
34842	11227	COM	ACME MOBILE CONCRETE	NW	SW	1	15N	20E			21.48	21.48	1.82	AFA	SP	
35219	10143	COM	INVESTORS ENTERPRISE ASSOCIATION	NW	NW	32	15N	20E			1.29	1.29	0.10	AFA		
35255	11032	COM	PICK N PULL	NW	SE	36	16N	20E			0.06	0.06	0.06	AFA		
35637	9405	COM	DOSSEY, L. J. JR.	SE	SE	2	15N	20E			1.12	1.12	1.38	AFA		
35826	14651	COM	INTRNATNL. CHURCH OF 4 SQUARE CHURCH	NE	SE	6	14N	20E			3.28	3.28	1.00	AFA		
36083	PER	MUN	CARSON CITY	NW	SE	6	14N	20E			0.80	0.80	0.95	AFA		
36084	PER	MUN	CARSON CITY	NE	NE	2	15N	19E			723.95	0.00	0.00	AFA	UG	Footnote 1
39393	14012	COM	SNELLING, HARRIE H.	NW	SW	36	16N	19E			136.84	0.00	0.00	AFA	UG	Footnote 1
40786	13923	QM	NORTH CARSON STREET, LLC	SE	SW	31	15N	20E			1.04	1.23	0.97	AFA	UG	59843
42725	13870	COM	HARRY W AND EILEEN M FERGUSON	NE	SW	8	15N	20E			0.49	0.00	0.00	AFA	UG	25728
47704	PER	MUN	CARSON CITY	NW	SE	36	16N	20E			0.43	0.43	0.11	AFA		
48542	PER	MUN	CARSON CITY	SE	SE	2	15N	20E			177.37	0.00	61.91	AFA	UG	Footnote 1
49953	14842	IRR	GOLD LOCK CORPORATION	NE	NE	17	15N	20E			1176.00	0.00	224.37	AFA	UG	Footnote 1
51278	14288	QM	THE LEPIRE TRUST OF 1977	NW	SE	6	15N	20E	1.91		5.30	5.30	5.30	AFA		
52584	PER	ENV	MALLORY, INC.	SE	SE	31	15N	20E			0.55	0.55	1.64	AFA		
53822	PER	QM	SIERRA ESTATES G.I.D.	SE	NW	20	15N	20E			32.29	32.29	1.49	AFA		
54110	PER	ENV	MALLORY, INC.	NW	SW	6	14N	20E			78.41	0.00	33.28	AFA	UG	19044, 20935
54111	PER	ENV	MALLORY, INC.	SW	NE	20	15N	20E			9.39	9.39	0.00	AFA		
54112	PER	ENV	MALLORY, INC.	SW	NE	20	15N	20E			9.39	9.39	0.00	AFA		
54113	PER	ENV	MALLORY, INC.	SW	NE	20	15N	20E			9.39	9.39	0.00	AFA		
54114	PER	ENV	MALLORY, INC.	SW	NE	20	15N	20E			9.39	9.39	0.00	AFA		
54115	PER	ENV	MALLORY, INC.	SW	NE	20	15N	20E			9.39	9.39	0.00	AFA		
54116	PER	ENV	MALLORY, INC.	SW	NE	20	15N	20E			9.39	9.39	0.00	AFA		
54117	PER	ENV	MALLORY, INC.	NE	NE	20	15N	20E			9.39	9.39	0.00	AFA		
54118	PER	ENV	MALLORY, INC.	NW	NE	20	15N	20E			9.39	9.39	0.00	AFA		
54119	PER	ENV	MALLORY, INC.	NW	NE	20	15N	20E			9.39	9.39	0.00	AFA		
54120	PER	ENV	MALLORY, INC.	NW	NE	20	15N	20E			9.39	9.39	0.00	AFA		
57186E	PER	ENV	TEXACO REFINING & MARKETING INC.	SW	NW	17	15N	20E			16.14	16.14	0.00	AFA		
57187E	PER	ENV	TEXACO REFINING & MARKETING INC.	NW	NW	20	15N	20E			16.14	16.14	0.00	AFA		
57407E	PER	ENV	ARCO PRODUCTS COMPANY	SW	SW	17	15N	20E			65.15	65.15	0.00	AFA		
57541	PER	IRR	CARSON CITY	NE	SW	16	15N	20E	8.14		32.50	32.50	0.00	AFA		
57898E	PER	ENV	PDQ FOOD STORES OF NEVADA INC.	NW	SW	16	15N	20E			16.14	32.28	0.00	AFA	UG	58128E
58128E	PER	ENV	PDQ FOOD STORES OF NEVADA INC.	SW	SW	16	15N	20E			16.14	0.00	0.00	AFA	UG	57898E
58737	14423	IRR	LIPPINCOTT FARMS	NW	NE	32	15N	20E	0.25		1.00	1.00	0.48	AFA		
59226	PER	MUN	CARSON CITY	NW	NE	29	15N	20E			401.08	0.00	198.33	AFA	UG	Footnote 1
59599E	PER	ENV	CARSON CITY HEALTH DEPARTMENT	NW	SE	17	15N	20E			9.70	9.70	0.00	AFA		
59600E	PER	ENV	CARSON CITY HEALTH DEPARTMENT	NW	SE	17	15N	20E			9.70	9.70	0.00	AFA		
59827	PER	MUN	CARSON CITY	NW	NE	29	15N	20E			5.60	0.00	0.00	AFA	UG	Footnote 1
59843	16057	COM	SNELLING, HARRIE H.	SE	SW	31	15N	20E			0.18	0.00	0.00	AFA	UG	39393

APP NO.	STATUS	MOU	OWNER OF RECORD	QQ	QTR	SEC	T	R	PER ACRES IRR	DUTY (AF)	SUPP ADJ	DUTY USED	UNIT	SUPP SRC	SUPP GW APP NO.
60122E	PER	ENV	SOUTHLAND CORPORATION			9	15N	20E		13.03	13.03	0.00	AFA		
60831	PER	MUN	CARSON CITY WATER UTILITY	NE	NW	7	15N	20E		163.62	0.00	0.00	AFA	UG	Footnote 1
60832	PER	MUN	CARSON CITY WATER UTILITY	NE	NW	7	15N	20E		1.95	0.00	0.00	AFA	UG	Footnote 1
60833	PER	MUN	CARSON CITY WATER UTILITY	NE	NW	7	15N	20E		40.30	0.00	0.00	AFA	UG	Footnote 1
60834	PER	MUN	CARSON CITY WATER UTILITY	NE	NW	7	15N	20E		723.90	0.00	0.00	AFA	UG	Footnote 1
61487	PER	MUN	CARSON CITY	NE	SE	12	15N	19E		81.60	0.00	0.00	AFA	UG	Footnote 1
61505	PER	MUN	CARSON CITY	NE	SE	12	15N	19E		344.00	0.00	0.00	AFA	UG	Footnote 1
61506	PER	MUN	CARSON CITY	SE	NE	12	15N	19E		800.00	0.00	0.00	AFA	UG	Footnote 1
61507	PER	MUN	CARSON CITY	SE	SE	1	15N	19E		800.00	0.00	0.00	AFA	UG	Footnote 1
61508	PER	MUN	CARSON CITY	NE	NW	7	15N	20E		800.00	0.00	0.00	AFA	UG	Footnote 1
62402	PER	QM	USFS	NW	SW	6	14N	19E		1.23	1.23	0.00	AFA		
62639E	PER	ENV	CARSON CITY	NW	SE	17	15N	20E		1.00	1.00	0.00	AFA		
63262E	PER	ENV	WELLS FARGO BANK	SW	NW	17	15N	20E		16.14	16.14	0.00	AFA		
63499E	PER	ENV	MALLORY, INC.	SE	NW	20	15N	20E		16.10	16.10	1.49	AFA		
64042	PER	QM	DOUGLAS COUNTY	NW	SE	6	14N	20E		0.73	0.73	0.73	AFA		
66708	PER	MUN	CARSON CITY	NW	NW	18	15N	20E		235.90	0.00	170.29	AFA	UG	Footnote 1
66709	PER	MUN	CARSON CITY	NW	NW	18	15N	20E		50.66	0.00	0.00	AFA	UG	Footnote 1
68758	PER	MUN	CARSON CITY A CONSOLIDATED MUNICIPALITY	SE	SW	17	15N	20E		2.07	0.00	2.07	AFA	UG	Footnote 1 & 3
68759	PER	MUN	NEVADA DEPT OF GENERAL SERV	SE	SW	17	15N	20E		61.00	61.00	0.00	AFA	UG	Footnote 3
69344	PER	MUN	CARSON CITY WATER UTILITY	SE	SW	17	15N	20E		181.00	0.00	181.00	AFA	UG	Footnote 1 & 3
69346	PER	MUN	CARSON CITY	SE	SW	17	15N	20E		5.12	0.00	5.12	AFA	UG	Footnote 1 & 3
70521	PER	MUN	CARSON CITY	SW	SE	31	15N	20E		15.93	0.00	0.00	AFA	UG	Footnote 1
70522	PER	MUN	CARSON CITY	SW	SE	31	15N	20E		94.00	0.00	0.00	AFA	UG	Footnote 1
70662	PER	MUN	CARSON CITY	SE	NE	18	15N	20E		456.00	0.00	36.55	AFA	UG	Footnote 1
71674	PER	QM	DOUGLAS COUNTY	NW	NE	6	14N	20E		12.28	78.74	12.28	AFA	UG	Footnote 2
71675	PER	QM	DOUGLAS COUNTY	NW	NE	6	14N	20E		1.00	0.00	1.00	AFA	UG	Footnote 2
71676	PER	QM	DOUGLAS COUNTY	NW	NE	6	14N	20E		30.69	0.00	16.11	AFA	UG	Footnote 2
71678	PER	MUN	CARSON CITY	NW	SW	7	15N	20E		292.60	0.00	647.16	AFA	UG	Footnote 1
71749	PER	MUN	CARSON CITY	NE	NE	12	15N	19E		292.60	0.00	511.81	AFA	UG	Footnote 1
72189E	PER	ENV	AHMAD, MOHAMMAD	NW	NW	20	15N	20E		21.72	21.72	0.00	AFA		
76627	PER	IRR	SINNOTT, DAWN E., LISA C., MARY J., PETER D. ROBERT C., WILLIAM O.	NW	SW	32	15N	20E	0.75	3.00	3.00	1.98	AFA		
77062	PER	COM	GOLDEN SIERRA INVESTMENTS L.L.C.	SW	SW	28	16N	20E		2.00	2.00	1.54	AFA		
77522	PER	QM	SERGE W. AND PATRICIA A. PUCHERT	NW	SE	29	15N	20E		2.00	2.00	0.21	AFA		
77667	PER	MUN	CARSON CITY A CONSOLIDATED MUNICIPALITY	NW	NW	32	15N	20E		5.37	0.00	0.00	AFA		Footnote 1 & 4
77668	PER	MUN	CARSON CITY A CONSOLIDATED MUNICIPALITY	NW	NW	32	15N	20E		8.59	0.00	0.00	AFA		Footnote 1 & 4
77669	PER	MUN	CARSON CITY	NW	SW	7	15N	20E		34.00	0.00	0.00	AFA		Footnote 1
77993	PER	QM	DOUGLAS COUNTY	NW	NE	6	14N	20E		2.27	0.00	2.27	AFA	UG	Footnote 2
78070	PER	QM	STATE OF NEVADA, DIV. OF STATE LANDS	SW	SE	32	15N	20E		46.68	46.68	29.91	AFA		
78371	PER	MUN	CITY OF CARSON CITY AND VIDLER WATER CO. INC.	NW	NW	32	15N	20E		13.78	0.00	0.00	AFA		Footnote 1 & 4
78830	PER	QM	TIM A HUNT AND JANETTE HUNT	NE	NW	5	15N	20E		2.00	2.00	1.78	AFA		
78948	PER	MUN	DOUGLAS COUNTY	NW	NE	6	14N	20E		32.50	0.00	0.00	AFA		Footnote 2
79653	PER	MUN	CARSON CITY	NW	SW	7	15N	20E		34.00	0.00	0.00	AFA		Footnote 1
79717	PER	MUN	CARSON CITY	NW	SW	7	15N	20E		34.00	0.00	0.00	AFA		Footnote 1
80166	PER	MUN	CARSON CITY	NW	NW	32	15N	20E		11.29	0.00	1.78	AFA		Footnote 1
80677	PER	MUN	CARSON CITY	SE	SW	17	15N	20E		723.97	0.00	85.20	AFA		Footnote 1 & 3

Footnotes

1. Comingled rights in Carson City Municipal System: 23672, 23673, 24986, 25667, 26581, 26582, 27314, 27320, 29002, 29906, 30441, 36083, 36084, 47704, 48542, 59226, 59827, 60831, 60832, 60833, 60834, 61487, 61505, 61506, 61507, 61508, 66708, 66709, 68758, 69344, 69346, 70521, 70522, 70662, 71678, 71749, 77667, 77668, 77669, 78371, 79653, 79717, 80166, 80677 have a total combined duty of 6702.9 AFA
2. Douglas County total combined duty for permits 71674, 71675, 71676, 77993, and 78948 is 78.735 AFA
3. Total combined duty for the well is 973.16 AFA for 68758, 68759, 69344, 69346, and 80677. Each of these permits are included in Carson City's main total combined duty.
4. Total combined duty for the well is 246.4 AFA for 27320, 77667, 77668, and 78371. Each of these permits are included in Carson City's main total combined duty.

APPENDIX C

**EAGLE VALLEY WATER YEAR 2011 IRRIGATION BY GROUNDWATER
PERMITS, CERTIFICATES, AND CLAIMS OF VESTED RIGHT**

Explanation of Column Headings for Groundwater Irrigation

APP NO.	The file number of the Application to Appropriate/Change Water or the Vested Claim of Right
STATUS	Indicates if the application is a Vested Claim of Right (VST), a Permit (PER) or if it has been certificated. If an application has been certificated, the Certificate number will be listed in the column.
OWNER OF RECORD	The owner of the water right as recorded in the files of the state engineer. A water right may have more than one owner of record.
QQ	The quarter quarter of the Section in which the point of diversion is located.
QTR	The quarter of the Section in which the point of diversion is located.
SEC	The Section in which the point of diversion is located.
T	The Township in which the point of diversion is located.
R	The Range in which the point of diversion is located.
PER ACRES	The number of acres, by quarter quarter that are permitted to be irrigated.
PER IRR ACRES	The number of acres irrigated within the place of use of the associated permit, during the water year, as determined by field inspection.
SUPP ACRES	The number of acres by quarter quarter that have more than one appropriation appurtenant.
SUPP SOURCE	Source of the supplemental water, UG (groundwater), KC (Kings Canyon Creek), or RR (Reservoir Ravine Creek).
SUPP GW APP NO.	The file number of the supplemental ground water appropriation.

APP NO.	STATUS	OWNER OF RECORD	QQ	QTR	SEC	T	R	PER ACRES	PER IRR ACRES	SUPP ACRES	SUPP SOURCE	SUPP GW APP NO.
V02518	VST	ALLEN, ROBERT A.	SW	NW	17	15N	20E	0.30	0.00			
			SE	NE	18	15N	20E	1.00	0.50			
					Total:			1.30	0.50	0.00		
V02780	VST	CARRINGTON, EDME H.	SE	NE	18	15N	20E	0.50	0.50			
					Total:			0.50	0.50	0.00		
8961	2492	CONSOLIDATED CONSTRUCTION CORP.	SE	NE	7	15N	20E	10.84	0.10			
					Total:			10.84	0.10	0.00		
12994	3504	TURMAN, ELIZABETH W. CROZER	NE	SW	18	15N	20E	3.65	0.00	3.65	UG/KC	12995
			NW	SE	18	15N	20E	29.45	0.00	29.45	UG/KC	12995
			SW	SE	18	15N	20E	21.10	0.00	21.10	UG/KC	12995
					Total:			54.20	0.00	54.20		
12995	3505	TURMAN, ELIZABETH W. CROZER	NE	SW	18	15N	20E	3.65	0.00	3.65	UG/KC	12994
			NW	SE	18	15N	20E	29.45	0.00	29.45	UG/KC	12994
			SW	SE	18	15N	20E	21.10	0.00	21.10	UG/KC	12994
					Total:			54.20	0.00	54.20		
15880	5499	JOOST, HERMAN	SE	SW	7	15N	20E	17.89	17.89	17.89	RR	
					Total:			17.89	17.89	17.89		
17899	5379	LIPPINCOTT, CLYDE R.	NE	NW	5	15N	20E	1.00	0.30			
					Total:			1.00	0.30	0.00		
26822	9260	RIDL, LTD	NE	SW	1	15N	20E	3.00	0.00			
			NW	SW	1	15N	20E	7.00	2.00			
					Total:			10.00	2.00	0.00		
27476	9748	WADE, BERT A.	NW	SW	35	15N	19E	1.06	0.50			
					Total:			1.06	0.50	0.00		
27477	9749	DOUD, RICHARD M.	SW	SW	35	15N	19E	0.32	0.00			
			NW	SW	35	15N	19E	3.00	0.50			
					Total:			3.32	0.50	0.00		
27666	9072	COWPERTHWAITTE, JOSEPHINE G.	N2	SW	7	15N	20E	1.24	0.50			
					Total:			1.24	0.50	0.00		
27857	9195	COTTONWOOD MOBILE HOME PARK INC.	NW	NW	5	15N	20E	5.50	5.50			
					Total:			5.50	5.50	0.00		
49953	14842	GOLD LOCK CORPORATION	SW	NE	6	15N	20E	0.31	0.00			
			NE	SE	6	15N	20E	0.39	0.25			
			NW	SE	6	15N	20E	1.22	0.25			
					Total:			1.91	0.50	0.00		
57541	PER	CARSON CITY	SW	NE	16	15N	20E		0.00			
			NW	SE	16	15N	20E		0.00			
			NE	SW	16	15N	20E		0.00			
			SE	NW	16	15N	20E		0.00			
					Total:			8.14	0.00	0.00		

APP NO.	STATUS	OWNER OF RECORD	QQ	QTR	SEC	T	R	PER ACRES	PER IRR ACRES	SUPP ACRES	SUPP SOURCE	SUPP GW APP NO.
58737	14423	LIPPINCOTT FARMS	NW	NE	32	15N	20E	0.25	0.00	0.00		
			Total:				0.25	0.00				
76627	PER	SINNOTT, DAWN E., LISA C., MARY J., PETER D. ROBERT C., WILLIAM O.	NW	SW	32	15N	20E	0.75	0.25	0.00		
			Total:				0.75	0.25				

APPENDIX D

EAGLE VALLEY HISTORICAL PUMPAGE

APP NO.	STATUS	MOU	OWNER OF RECORD	DUTY							
				USED 2004	USED 2005	USED 2006	USED 2007	USED 2008	USED 2009	USED 2010	USED 2011
V02449	VST	STK	ANDERSON, D.A.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
V02518	VST	IRR	ALLEN, ROBERT A.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
V02780	VST	IRR	CARRINGTON, EDME H.	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
V02785	VST	STK	NEWMAN CONSTRUCTION LTD.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
V03704	VST	STK	LOMPA, EVA	0.27	1.00	1.00	1.00	1.00	1.00	1.00	1.00
V09127	VST	COM	HONE, DOUGLAS K.	0.31	0.31	0.31	0.31	0.31	0.31	0.00	0.00
8961	2492	IRR	CONSOLIDATED CONSTRUCTION CORP.	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
12994	3504	IRR	TURMAN, ELIZABETH W. CROZER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12995	3505	IRR	TURMAN, ELIZABETH W. CROZER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15313	5076	COM	MARTIN, MARYBELLE M.	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
15880	5499	IRR	JOOST, HERMAN	0.00	0.00	0.00	0.00	0.48	0.40	0.40	0.00
17881	4965	OTH	MILITARY DEPARTMENT NEVADA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17899	5379	IRR	LIPPINCOTT, CLYDE R.	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
19044	6208	QM	SIERRA ESTATES G.I.D.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20702	7841	COM	NEWMAN, PATRICIA M.	5.70	5.70	5.70	5.70	5.70	5.70	5.70	5.37
20935	6209	QM	SIERRA ESTATES G.I.D.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21258	6707	COM	FULLER, WILLIAM S.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
23672	6471	MUN	CARSON CITY	119.99	119.99	119.99	119.99	119.99	119.99	119.99	171.25
23673	6472	MUN	CARSON CITY	1093.28	964.67	947.51	1268.98	1309.20	1257.32	239.44	0.00
23727	7646	QM	LANDS DIVISION - NEVADA	15.68	18.25	8.37	0.01	2.97	0.04	0.04	0.00
23728	7647	QM	LANDS DIVISION - NEVADA			5.84	4.02	0.46	0.00	0.00	0.00
24462	7734	QM	FISCHER, ALBERT J.	1.13	0.16	0.14	0.26	5.05	3.40	2.36	0.75
24463	7735	QM	FISCHER, ALBERT J.	6.77	1.57	4.23	10.46	15.00	21.20	19.76	19.32
24986	7366	MUN	CARSON CITY	153.82	72.73	58.45	0.00	0.00	15.69	33.39	0.00
25667	9866	MUN	CARSON CITY	312.64	137.12	220.63	226.66	289.94	234.73	339.07	185.54
25728	9583	QM	NORTH CARSON STREET, LLC	44.39	33.23	37.30	38.78	38.07	30.09	35.92	9.76
25987	9868	COM	PARKER, BENJAMIN LANCASTER	3.65	2.87	3.24	3.44	2.31	1.72	5.32	7.97
26297	8813	QM	WESTERN SUN, LLC	3.95	4.06	3.49	5.03	6.66	6.66	6.07	6.61
26453	8865	IND	PEDERSON, BJARNE A.	0.38	0.31	0.40	0.40	0.40	1.48	1.31	1.01
26581	9622	MUN	CARSON CITY	114.45	104.18	150.59	127.56	142.52	181.79	192.55	286.23
26582	9623	MUN	CARSON CITY	494.39	536.59	458.48	455.74	472.34	386.69	830.70	206.62
26821	8948	COM	POZZI MOTOR COMPANY	0.28	0.36	0.41	0.38	0.18	0.22	0.22	0.19
26822	9260	IRR	RIDL, LTD	0.12	0.12	0.12	2.72	3.22	9.16	5.57	0.79
26886	9164	COM	MECHELLE R. HITCHCOCK 2000 FAMILY TRUST AGREEMENT	1.74	1.38	1.51	2.18	1.66	1.45	0.92	0.63
26943	9423	QM	GARICOITZ FAMILY TRUST	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26944	9429	QM	GARICOITZ FAMILY TRUST	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26945	8761	COM	FIXMER, E. J.	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
26985	9428	COM	HARRINGTON, J. P.	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.00
27012	8393	COM	WELLS, LEON D.	0.55	0.55	0.34	0.75	0.67	0.25	0.00	0.00
27014	9869	COM	BRANSTETTER, CHAS. H.	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00

APP NO.	STATUS	MOU	OWNER OF RECORD	DUTY USED 2004	DUTY USED 2005	DUTY USED 2006	DUTY USED 2007	DUTY USED 2008	DUTY USED 2009	DUTY USED 2010	DUTY USED 2011
27063	8406	COM	WESTERN INSPIRATIONAL BROADCASTERS	0.30	0.19	0.53	0.28	0.42	0.30	0.34	0.41
27076	8783	COM	MELLOW, JERRY A.	0.39	0.31	0.40	0.40	0.40	0.30	0.30	0.22
27095	9070	COM	EUSE, CHERYL RUPP MANN	1.10	0.32	0.46	0.52	0.45	0.46	0.42	0.42
27164	8828	COM	PECORILLA, ANGELO	1.10	1.10	1.10	0.24	0.24	0.24	0.24	0.00
27215	10456	QM	ROBERTS, FRED L.	0.35	0.35	0.91	1.00	1.00	1.00	2.20	2.92
27314	9871	MUN	CARSON CITY	484.89	382.45	276.50	297.54	263.71	471.46	239.06	217.47
27320	9872	MUN	CARSON CITY	155.83	190.27	205.79	289.44	238.37	303.65	354.69	240.90
27373	8830	IND	DENTON, DONALD F.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27476	9748	IRR	WADE, BERT A.	2.12	2.12	2.12	2.12	2.12	2.12	2.12	2.12
27477	9749	IRR	DOUD, RICHARD M.	3.12	3.12	3.12	2.00	2.00	2.00	2.00	2.00
27666	9072	IRR	COWPERTHWAITTE, JOSEPHINE G.	0.44	0.29	0.31	0.27	0.22	0.22	0.33	0.16
27822	9209	COM	RUTLEDGE, RALPH A.	2.17	2.17	2.17	2.17	2.17	2.17	2.17	0.00
27857	9195	IRR	COTTONWOOD MOBILE HOME PARK INC.	10.70	8.48	10.61	10.05	10.93	11.80	11.43	12.98
29002	9904	MUN	CARSON CITY	384.37	222.71	381.14	385.23	354.33	501.23	430.24	195.51
29434	9695	IND	DENTON, DONALD F.	0.78	0.78	0.80	0.63	0.40	0.38	0.38	0.39
29464	9875	QM	LINDSEY, SUSAN	2.02	2.02	2.02	2.02	2.02	2.02	2.02	1.00
29802	13660	QM	ALLEN, EMMA	1.28	0.06	0.00	1.54	1.54	1.54	1.20	0.98
29906	9635	MUN	CARSON CITY	876.36	517.59	330.31	385.02	561.56	326.48	241.80	0.00
29960	9876	IND	NAFCO INDUSTRIES INC	0.37	0.29	0.27	0.25	0.25	0.27	0.20	0.15
30167	9877	IND	DESERT ENTERPRISES	0.14	0.14	0.14	0.15	0.15	0.15	0.15	0.15
30299	10611	COM	NORTON, GUERIN A., JR.	0.31	0.31	0.10	0.31	0.31	0.30	0.37	0.58
30441	9878	MUN	CARSON CITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34088	11291	COM	MATTHEUS, H. E.	0.74	0.55	0.74	0.90	0.97	0.60	0.45	0.01
34808	PER	QM	EAGLE VALLEY CHILDREN'S HOME (DBA)	6.02	0.09	9.55	9.54	2.23	3.12	5.02	1.82
34842	11227	COM	ACME MOBILE CONCRETE	0.76	0.59	0.48	0.27	0.35	0.28	0.11	0.10
35219	10143	COM	INVESTORS ENTERPRISE ASSOCIATION	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
35255	11032	COM	PICK N PULL	1.65	0.48	1.11	1.23	0.48	0.20	0.24	1.38
35637	9405	COM	DOSSEY, L. J. JR.	1.00	1.00	1.00	1.21	1.21	1.21	1.21	1.00
35826	14651	COM	INTRNATNL. CHURCH OF 4 SQUARE CHURCH	1.65	1.48	1.24	1.74	1.50	1.42	1.45	0.95
36083	PER	MUN	CARSON CITY	0.00	0.00	0.00	15.25	21.22	10.32	18.01	0.00
36084	PER	MUN	CARSON CITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39393	14012	COM	SNELLING, HARRIE H.	1.21	1.09	0.64	0.91	0.93	1.30	1.60	0.97
40786	13923	QM	NORTH CARSON STREET, LLC	0.31	0.25	0.16	0.24	0.21	0.21	0.39	0.00
42725	13870	COM	HARRY W AND EILEEN M FERGUSON	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
47704	PER	MUN	CARSON CITY	75.32	54.75	26.09	73.65	65.63	57.44	70.74	61.91
48542	PER	MUN	CARSON CITY	459.24	454.65	48.53	161.90	114.92	89.12	115.07	224.37
49953	14842	IRR	GOLD LOCK CORPORATION	2.02	2.02	2.02	2.02	2.02	2.02	2.02	5.30
51278	14288	QM	THE LEPIRE TRUST OF 1977	1.18	1.18	1.18	1.18	1.18	0.32	0.88	1.64
52584	PER	ENV	MALLORY, INC.				2.61	2.65	2.54	1.49	1.49
53822	PER	QM	SIERRA ESTATES G.I.D.	55.99	66.70	52.86	56.96	54.23	51.02	45.63	33.28
54110	PER	ENV	MALLORY, INC.				0.00	0.00	0.00	0.00	0.00

APP NO.	STATUS	MOU	OWNER OF RECORD	DUTY USED 2004	DUTY USED 2005	DUTY USED 2006	DUTY USED 2007	DUTY USED 2008	DUTY USED 2009	DUTY USED 2010	DUTY USED 2011
54111	PER	ENV	MALLORY, INC.				0.00	0.00	0.00	0.00	0.00
54112	PER	ENV	MALLORY, INC.				2.61	2.65	0.00	0.00	0.00
54113	PER	ENV	MALLORY, INC.				0.00	0.00	0.00	0.00	0.00
54114	PER	ENV	MALLORY, INC.				0.00	0.00	0.00	0.00	0.00
54115	PER	ENV	MALLORY, INC.				0.00	0.00	0.00	0.00	0.00
54116	PER	ENV	MALLORY, INC.				0.00	0.00	0.00	0.00	0.00
54117	PER	ENV	MALLORY, INC.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
54118	PER	ENV	MALLORY, INC.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
54119	PER	ENV	MALLORY, INC.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
54120	PER	ENV	MALLORY, INC.				0.00	0.00	0.00	0.00	0.00
57186E	PER	ENV	TEXACO REFINING & MARKETING INC.				0.00	0.00	0.00	0.00	0.00
57187E	PER	ENV	TEXACO REFINING & MARKETING INC.				0.00	0.00	0.00	0.00	0.00
57407E	PER	ENV	ARCO PRODUCTS COMPANY	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00
57541	PER	IRR	CARSON CITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
57898E	PER	ENV	PDQ FOOD STORES OF NEVADA INC.				0.00	0.00	0.00	0.00	0.00
58128E	PER	ENV	PDQ FOOD STORES OF NEVADA INC.				0.00	0.00	0.00	0.00	0.00
58737	14423	IRR	LIPPINCOTT FARMS	0.49	0.52	0.45	0.43	0.30	0.52	0.45	0.48
59226	PER	MUN	CARSON CITY	309.57	144.42	229.82	237.28	199.79	280.83	296.33	198.33
59599E	PER	ENV	CARSON CITY HEALTH DEPARTMENT				0.00	0.00	0.00	0.00	0.00
59600E	PER	ENV	CARSON CITY HEALTH DEPARTMENT				0.00	0.00	0.00	0.00	0.00
59827	PER	MUN	CARSON CITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
59843	16057	COM	SNELLING, HARRIE H.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60122E	PER	ENV	SOUTHLAND CORPORATION				0.00	0.00	0.00	0.00	0.00
60831	PER	MUN	CARSON CITY WATER UTILITY	163.62	163.62	163.62	163.62	86.87	75.93	21.35	0.00
60832	PER	MUN	CARSON CITY WATER UTILITY	1.95	1.95	1.95	1.95	0.00	0.00	0.00	0.00
60833	PER	MUN	CARSON CITY WATER UTILITY	40.30	40.30	40.30	40.30	0.00	0.00	0.00	0.00
60834	PER	MUN	CARSON CITY WATER UTILITY	460.38	362.56	351.84	24.57	0.00	0.00	0.00	0.00
61487	PER	MUN	CARSON CITY	0.00	0.00	0.00	34.56	81.60	0.00	0.00	0.00
61505	PER	MUN	CARSON CITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
61506	PER	MUN	CARSON CITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
61507	PER	MUN	CARSON CITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
61508	PER	MUN	CARSON CITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
62402	PER	QM	USFS					1.23	1.23	1.23	0.00
62639E	PER	ENV	CARSON CITY				0.00	0.00	0.00	0.00	0.00
63262E	PER	ENV	WELLS FARGO BANK				0.00	0.00	0.00	0.00	0.00
63499E	PER	ENV	MALLORY, INC.				2.61	2.65	2.54	1.49	1.49
64042	PER	QM	DOUGLAS COUNTY	0.26	0.29	1.35	0.76	0.45	0.50	0.61	0.73
66708	PER	MUN	CARSON CITY	235.90	235.90	89.47	201.12	220.19	207.42	277.75	170.29
66709	PER	MUN	CARSON CITY	43.80	5.29	0.00	0.00	0.00	0.00	0.00	0.00
68758	PER	MUN	CONSOLIDATED MUNICIPALITY OF CARSON	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07
68759	PER	MUN	NEVADA DEPT OF GENERAL SERV						61.00	0.00	0.00

APP NO.	STATUS	MOU	OWNER OF RECORD	DUTY USED 2004	DUTY USED 2005	DUTY USED 2006	DUTY USED 2007	DUTY USED 2008	DUTY USED 2009	DUTY USED 2010	DUTY USED 2011
69344	PER	MUN	CARSON CITY WATER UTILITY	181.00	181.00	63.20	181.00	176.09	74.69	181.00	181.00
69346	PER	MUN	CARSON CITY	65.15	121.55	0.00	15.01	0.00	0.00	82.79	5.12
70521	PER	MUN	CARSON CITY		0.00	0.00	0.00	0.00	0.00	31.84	0.00
70522	PER	MUN	CARSON CITY		0.00	0.00	0.00	0.00	0.00	0.00	0.00
70662	PER	MUN	CARSON CITY	1.32	74.62	59.50	59.18	52.41	53.36	33.86	36.55
71674	PER	QM	DOUGLAS COUNTY					12.28	12.28	0.34	12.28
71675	PER	QM	DOUGLAS COUNTY					1.00	1.00	0.00	1.00
71676	PER	QM	DOUGLAS COUNTY					11.70	0.86	0.00	16.11
71678	PER	MUN	CARSON CITY		0.00	311.46	524.51	641.08	631.26	598.07	647.16
71749	PER	MUN	CARSON CITY		0.00	395.83	487.86	613.55	555.77	513.21	511.81
72189E	PER	ENV	AHMAD, MOHAMMAD				7.21	6.75	0.98	0.00	0.00
76627	PER	IRR	SINNOTT, DAWN E., LISA C., MARY J., PETER D. ROBERT C., WILLIAM O.						0.90	0.86	1.98
77062	PER	COM	GOLDEN SIERRA INVESTMENTS L.L.C.						0.00	0.00	1.54
77522	PER	QM	PUCHERT, SERGE W AND PATRICIA A							0.14	0.21
77667	PER	MUN	CARSON CITY A CONSOLIDATED MUNICIPALITY								0.00
77668	PER	MUN	CARSON CITY A CONSOLIDATED MUNICIPALITY								0.00
77669	PER	MUN	CARSON CITY								0.00
77993	PER	QM	DOUGLAS COUNTY						0.00	0.00	2.27
78070	PER	QM	STATE OF NEVADA, DIV. OF STATE LANDS							26.46	29.91
78371	PER	MUN	CITY OF CARSON CITY AND VIDLER WATER CO. INC.								0.00
78830	PER	QM	HUNT, TIM A AND JANETTE							0.91	1.78
78948	PER	MUN	DOUGLAS COUNTY								0.00
79653	PER	MUN	CARSON CITY								0.00
79717	PER	MUN	CARSON CITY								0.00
80166	PER	MUN	CARSON CITY								1.78
80677	PER	MUN	CARSON CITY								85.20

HISTORICAL GROUNDWATER PUMPAGE BY MANNER OF USE

	COM	DOM	ENV*	IND	IRR	MUN	QM	STK	TOTAL
1994	60	953		3	86	4580	244	0	5926
1995	53	968		3	48	3639	219	3	4933
1996	45	967		2	40	2212	208	3	3477
1997	49	969		2	32	3603	228	3	4886
1998	53	966		2	28	3324	200	2	4575
1999	54	957		2	45	3677	151	2	4888
2000	20	950		2	58	5107	162	2	6301
2001	51	945		2	46	6225	256	2	7527
2002	42	944	1	2	51	6263	187	0	7490
2003	40	945	4	2	47	5287	212	0	6537
2004	42	949	0	2	26	6230	187	0	7436
2005	38	941	0	2	23	5091	167	1	6263
2006	28	929	0	2	25	4933	182	1	6100
2007	28	925	15	1	28	5780	187	1	6965
2008	23	922	15	1	28	6027	196	1	7213
2009	22	919	6	2	36	5898	183	1	7067
2010	24	902	3	2	32	5297	151	1	6412
2011	25	900	3	2	32	3629	142	1	4734

All values are in acre-feet

*Pumpage estimates were not available for Environmental for water years 1994-2001

