REVISED **PUBLIC NOTICE**

A REGULAR MEETING OF THE BOARD OF DIRECTORS OF THE CARSON WATER SUBCONSERVANCY DISTRICT WILL BE HELD ON WEDNESDAY, AUGUST 19, 2015, AT 6:30 P.M. IN *ROOM #3137* OF THE NEVADA STATE LEGISLATIVE BUILDING, 401 S. CARSON ST., CARSON CITY, NV. A QUORUM OF THE DOUGLAS COUNTY BOARD OF COMMISSIONERS MAY BE PRESENT AT THIS MEETING. THOSE COMMISSIONERS WILL BE DELIBERATING AND TAKING ACTION ONLY IN THEIR ROLE AS DIRECTORS OF THE CARSON WATER SUBCONSERVANCY DISTRICT. THE MEETING WILL BE PRECEDED AT 2:15 P.M. BY A TOUR OF THE EAST SLOPE COLLECTION SYSTEM OF THE MARLETTE WATER SYSTEM AND DINNER AT 5:00 P.M. AT RED'S OLD 395 GRILL, 1055 S. CARSON ST., CARSON CITY, NV. A QUORUM OF THE CWSD DIRECTORS MAY BE PRESENT AT THE EVENTS PRECEDING THE BOARD MEETING BUT NO ACTION WILL BE TAKEN.

Toni Leffler

TONI LEFFLER, SECRETARY

ITEMS ON THE AGENDA MAY BE TAKEN OUT OF ORDER. THE PUBLIC BODY MAY COMBINE TWO OR MORE AGENDA ITEMS FOR CONSIDERATION. THE PUBLIC BODY MAY REMOVE AN ITEM FROM THE AGENDA OR DELAY DISCUSSION RELATING TO AN ITEM ON THE AGENDA AT ANY TIME.

AGENDA

1. Call to Order
2. Convene CWSD/Alpine County Joint Powers Board
3. Roll Call
4. Pledge of Allegiance
5. Approval of Agenda
6. Approval of Minutes of the Board Meeting on July 15, 2015.
7. Public Comment

CONSENT AGENDA

ALL MATTERS LISTED UNDER THE CONSENT AGENDA ARE CONSIDERED ROUTINE AND MAY BE ACTED UPON BY THE BOARD OF DIRECTORS WITH ONE ACTION AND WITHOUT AN EXTENSIVE HEARING. ANY MEMBER OF THE BOARD OR ANY CITIZEN MAY REQUEST THAT AN ITEM BE TAKEN FROM THE CONSENT AGENDA, DISCUSSED AND ACTED UPON SEPARATELY DURING THIS MEETING.

8. Approval of Treasurer's Report for July 2015.
9. Payment of Bills for July 2015.
10. Discussion for possible action regarding CWSD entering into an agreement with HDR Engineering to develop inundation maps for the Carson City area that will be housed on the NOAA website and develop inundation maps for portions of Alpine, Douglas, and Lyon Counties that will be housed on the CWSD and each of the county's websites.
11. Discussion for possible action regarding CWSD entering into an agreement with Orion Engineering to upload the flood data for the inundation maps onto the NOAA website.
12. Discussion for possible action regarding applying for NDEP 319 grants.

END OF CONSENT AGENDA

13. Discussion for possible action regarding a presentation on the Flood Relief Alternatives for the Carson River Downstream from Lahontan Reservoir.
14. Discussion for possible action regarding a presentation by the USGS and NDEP on the Algae Study on the East Fork of the Carson River.
15. Discussion for possible action regarding a review of prior work done by CWSD in the 1980s and 1990s on upstream storage in the Carson River Watershed.
16. Staff Reports - General Manager
    - Legal
    - Correspondence

AUGUST 19, 2015
CWSD BOARD MEETING AGENDA

17. Directors Reports
18. Public Comment
19. Adjournment

Supporting information is available through Toni Leffler, 777 E. William St., #110A, Carson City, NV 89701, 775-887-7450, toni@cwsd.org and on the CWSD website at www.cwsd.org. This notice has been posted at 9:00 a.m. on **AUGUST 12 , 2015,** at the following locations
:

-Dayton Utilities Complex
34 Lakes Blvd
Dayton, NV

-Lyon County Administrative Building
27 S. Main St.
Yerington, NV

-Carson City Hall
201 N. Carson St.
Carson City, NV

-Alpine County Administrative Building
99 Water St.
Markleeville, CA

-Minden Inn Office Complex
1594 Esmeralda Avenue
Minden, NV

-Churchill County Administrative Complex
155 N Taylor St.
Fallon, NV

-Carson Water Subconservancy District Office
777 E. William St., #110A
Carson City, NV

AGENDA ITEM #6
MINUTES OF LAST
BOARD MEETING

CARSON WATER SUBCONSERVANCY DISTRICT
BOARD OF DIRECTORS MEETING
July 15, 2015, 6:30 P.M.
Minutes

Directors present:
Karen Abowd, Vice Chairman
Brad Bonkowski
Ray Fierro, Treasurer
Don Jardine
Doug Johnson
Greg Lynn, Chairman
Barry Penzel
Mary Rawson
Ernie Schank
Fred Stodieck

Directors not present:
Carl Erquiaga
Don Frensdorff
Austin Osborne, Storey County
Chuck Roberts

Staff present:
George Benesch, Legal Counsel
Brenda Hunt, Watershed Program Manager
Edwin James, General Manager
Debbie Neddenriep, Water Resource Specialist
Courtney Walker, Watershed Program Specialist

Also present:
John Barr, AWG
Douglas Carey, Lahontan Water Quality Control Board (LWQCB)
Lynda Deschambault, Environmental Protection Agency (EPA)
Sarah Green, AWG
Rit Palmer, Carson City Public Works
Yolanda Sanchez, Environmental Protection Agency (EPA)
Hannah Schembri, LWQCB
Sophia Sertic, Environmental Protection Agency (EPA)
Judy Wickwire, AWG

Chairman Lynn called the meeting to order at 6:50 p.m. at Turtle Rock Park, 17300 Hwy. 89, Markleeville, CA. The CWSD/Alpine County Joint Powers Board was convened. Roll call was taken and a quorum was determined to be present. The Pledge of Allegiance was lead by Director Johnson.

Item #5 - Approval of Agenda. *Director Schank made the motion to approve the agenda. The motion was seconded by Director Bonkowski and unanimously approved by the Board.*

Item #7 - Approval of the Board Meeting Minutes from June 17, 2015. *Director Abowd made the motion to approve the Minutes of the Board Meeting on June 17, 2015. The motion was seconded by Director Rawson and unanimously approved by the Board.*

Item #7 - Public Comment None

CONSENT AGENDA

Item #8 - Approval of Treasurer's Report for June 2015.

Item #9 - Payment of Bills for June 2015.

Item #10 - Discussion for possible action regarding the General Manager attending the Floodplain Management Association Conference on September 8-11, 2015.

Item #11 - Discussion for possible action regarding approval of a five-year Lease Agreement with Carson City for the use of Mud Lake water.

Item #12 - Discussion for possible action regarding approval of a Lease Agreement with Carson City for the use of Lost Lakes water.

Item #13 - Discussion and possible action regarding comments on the BLM Draft Programmatic Environmental Assessment/Integrated Weed Management Plan.

Director Schank made the motion to approve the consent agenda items #8-13. The motion was seconded by Director Johnson and unanimously approved by the Board. There was no public comment.

END OF CONSENT AGENDA

Item #14 - Discussion and possible action regarding a presentation by EPA on the Leviathan Superfund Site**.** Mr. James thanked Mr. Carey, Ms. Schembri, Ms. Deschambault, Ms. Sanchez, and Dr. Serta for the great tour of Leviathan Mine. Ms. Deschambault responded by expressing her appreciation that the attendees were considerate and careful guests. She offered to send CWSD a copy of her PowerPoint presentation, as well as the video Dr. Sophia Serta provided. Ms. Hunt asked Ms. Dechambault to describe the time frame of the EPA Superfund process at Leviathan Mine for the board members who were unable to attend the tour. Ms. Dechambault explained the steps involved and that the next step to be completed was to finish the Remedial Investigation and Feasibility Study (RI/FS) by 12/2017. From that point, it would be several more years until a record of decision would be determined.

Director Johnson asked Ms. Dechambault if it is true that the solution has been found and there's nothing more to be done except continue with the present program. Ms. Dechambault responded there are more solutions to be found and there is still work which can be done, but there are treatments available which may be more effective. She also noted that they are cleaning and testing the water and that it meets water standards before it is discharged. These comments being concluded, the matter was closed.

No action was required on this item; receive and file.

Item #15 - Discussion for possible action regarding a presentation on Alpine Watershed Group (AWG) projects. Sarah Green introduced herself and explained that the mission of the Alpine Watershed Group (AWG) is "to preserve and enhance the natural system functions of Alpine County's watersheds for future generations." She mentioned that while Alpine County is the headwaters of five watersheds and AWG serves the entire county, it's primarily work is in the Carson River watershed. She went on to describe how AWG's main programs focus on three elements: 1) water monitoring; 2) watershed restoration; and 3) outreach and education. These elements serve to meet AWG's goals to preserve and enhance Alpine County watersheds; to increase community awareness and participation in stewardship; and to build organizational capacity and plan for sustainability. Ms. Green elaborated on AWG's water monitoring program. The program was started in 2004 with 28 volunteers for 19 monitoring sites; the monitoring is still going strong after 11 years and now monitors 32 sites. The testing includes ambient temperature, bacteria, bioassessment, and stream flow. The program depends fully on its volunteer involvement. Ms. Green next explained AWG restoration work components of invasive weed removal, willow planting, stream bank stabilization, and trash cleanup being done in the Markleeville Creek floodplain, Hope Valley Meadow, East Fork Carson River Riparian Area, Ace Hereford Ranch, and the roadsides throughout Alpine County.

Ms. Green further described the status of several projects:

- Markleeville Creek restoration: AWG is currently pursuing funding to pay for the $2 million price tag to implement the design changes to the sight. She explained the price tag for this project has increased because of extensive work to move sewer lines and manholes.
- Hope Valley Meadows Restoration: Done in partnership with Sierra Alliance, AWG monitors and measures discharge.
- East Fork Carson River Riparian Restoration: This work addresses popular camping sites in the river corridor and is funded through the State Parks Green Sticker Grant. It also complies with USFS East Fork Carson River strategy. It's goal is not to shut down access to river, but to protect the riparian corridor and enhance signage. AWG is currently looking to protect six specific sites.
- River and Ranches Program at Ace Hereford Ranch: This is a program funded through the Lahontan Water Quality Control Board (LWQCB) and Sierra Business Counsel to bring schoolchildren to the ranch and describe how it relates to the river.
- Fuels Reduction Work: AWG has secured funding to decrease fire fuels on roadsides.

The Outreach and Education portion of AWG currently depends on its AmeriCorps volunteer. Nicole Lutkemuller has been an awesome volunteer, but her time is up at the end of September. Therefore AWG is looking for another volunteer, and Ms. Green asked for the board to spread the word about their need for more applicants and gave the board members flyers announcing the job opening. She said having AmeriCorps volunteers has a been a helpful and positive experience and she plans to utilizing this great resource again next year. AWG attends community events to provide outreach materials to citizens, visitors, and students in Alpine County. This year, the entire Diamond Valley School visited the Ace Hereford Ranch where

various stations were set up to teach them about the watershed, river health, and ranching. She mentioned a new event, the Alpine Aspen Festival. The 2014 Alpine Festival, it's inaugural event, was conducted in 3" of fresh snow, but still had 365 participants, 24 activities, 48 volunteers with 500,000 reached about the event through radio, newspaper, websites, and such. She thanked CWSD for helping to fund this event. This year they also have funding from LWQCB, Alpine County Chamber of Commerce, and Sierra Business Alliance. This year's event is scheduled for October 10 -11, 2015, and board members were given flyers and asked to help spread the word. She also mentioned they are looking for sponsors. Director Bonkowski asked what the cost of sponsorship, and Ms. Green responded there are several levels of sponsorship. She will email CWSD staff a sponsorship letter to forward to the board.

Ms. Green ended her presentation by thanking CWSD for supporting AWG through their funding and staff assistance over the past 10 years.

Director Lynn commented with the prediction of an upcoming record El Nino may mean the festival gets more snow than last year.

Director Johnson commented about off-highway vehicle (OHV) use and expressed his hope that the East Fork Carson River restoration would not be comprised of merely blocking access to the river. Ms. Green responded that the US Forest Service (USFS) and AWG are addressing the sensitivity of preserving campsites.

Ms. Wickwire asked Ms. Green to clarify how much money AWG got for the East Fork Carson River, and Ms. Green responded it was over $116,000 to implement this project. Ms. Green said they have been successful getting funding, which has been helpful.

Director Lynn thanked Ms. Green for her presentation.

No action was required on this item; receive and file.

Item #16 - Discussion for possible action regarding the Watershed-Literacy Survey results. Ms. Hunt provided the Executive Summary of the Watershed Literacy Survey report to each board member. She described Responsive Management, the contractor who conducted the research, and went on to explain the methodology used for conducting the survey. The survey garnered 846 responses which correlates to the watershed's population with =/- 3 % points with a 95% confidence level. If board members want to see the entire report, she can provide it to board members. Ms. Hunt described some of the questions and the responses received. The survey provides a baseline by which to measure progress regarding education and outreach. The survey will be repeated in five years to measure progress. The next steps regarding the survey are to continue to analyze and cross tabulate the results.

Director Penzel noted that ethnographic research should include American Indians. Ms. Hunt commented that she agrees, but the timeline of the project did not provide sufficient time to effectively conduct tribal ethnographic research. Director Bonkowski asked if data was analyzed from a psychological point of view.

Director Schank commented that the focus of directed action as a result of this survey should be the core issue of keeping the river healthy regardless of whether we are in a drought or a flood. Director Abowd agreed that the core message needs to be take care of the river.

No action was required on this item; receive and file.

Item #17 - Discussion for possible action regarding the General Manager's annual review.
Director Schank asked Mr. James about the reduced evaluation ratings listed in the board package. Director Lynn explained how he appreciated that the board who comes in is taught by Mr. James and that he gave Mr. James an 18 rating for his outstanding work. Director Johnson expressed he appreciates that this board can get things done and how conflicts are addressed and dealt with in a positive manner.

Director Schank made the motion that the General Manager receive an outstanding review and the $500 longevity award. The motion was seconded by Director Abowd and unanimously passed by the Board.

Item #18 - Discussion for possible action regarding the water supply projections for this summer.
Mr. James explained that water was bumped up in the East Fork Carson River by recent storms but that the increase was not seen in the West Fork Carson River. He also noted the Carson gage also saw an increase in flow, but he was not sure if this was the result of rain or because Carson Valley agricultural producers were in the midst of haying and therefore not taking water. Higher flows at the Carson gage helps Carson City because pumping at the induction wells is reduced once the river goes below 8 cfs. He noted that Marlette Lake is being pumped; however, because the lake did not fill, there is not as much water available for Carson City and Storey County. Mr. James finished up his litany of bad news by explaining how the storage in Lahontan Reservoir is at historic lows.

Director Penzel asked about the forecast for the upcoming winter. Mr. James mentioned that the National Weather Service said it's expecting a strong El Nino; however, our area is on the cusp, so it can be a wet El Nino or dry El Nino for us.

No action was required on this item; receive and file.

Item #19 - Staff Reports
General Manager - Mr. James reported he had been meeting with water purveyors and their water supply is in pretty good shape in spite of the drought.

Ms. Hunt mentioned that the author of the book Deadbeat Dams will be speaking to the CRC in October 2015.

Legal –Mr. Benesch had nothing specific to report.

Correspondence – As included in the Board package and handed out.

Item #20 - Directors' Reports
Director Johnson mentioned that 167 homes in Douglas County were affected by flooding.

The rest of the directors had nothing specific to report but joined in thanking the staff for arranging the tour of the Leviathan Mine Super Fund Site and dinner at Wolf Creek Restaurant preceding the meeting.

Item #21 - Public Comment. None

There being no further business to come before the Board, Director Bonkowski made the motion to adjourn, seconded by Director Abowd and unanimously approved by the Board. The meeting was adjourned at 8:30 p.m.

Respectfully submitted,

Debbie Neddenriep
Clerk

AGENDA ITEM #8
TREASURER'S REPORT

CARSON WATER SUBCONSERVANCY DISTRICT - GENERAL FUND
Balance Sheet
As of July 31, 2015

	Jul 31, 15
ASSETS	
Current Assets	
Checking/Savings	
1010-00 · Cash in Checking - B of A	49,389.54
1011-00 · Petty Cash	101.27
1014-00 · Local Gov't Inv. Pool-Regular	46,443.73
1018-00 · Greater NV Credit Union-Savings	25.00
1021-00 · US Bank CD	248,459.84
1028-00 · First Independent Bank of Nevad	246,688.87
1029-00 · Bank of America-Savings	47,071.72
Total Checking/Savings	638,179.97
Other Current Assets	
1055-00 · Payroll Deposit - Carson City	500.00
Total Other Current Assets	500.00
Total Current Assets	638,679.97
TOTAL ASSETS	**638,679.97**
LIABILITIES & EQUITY	
Liabilities	
Current Liabilities	
Other Current Liabilities	
3307-00 · CC Payroll Due	31,951.66
3360-00 · Accrued Vacation	22,879.97
3362-00 · Accrued sick leave	42,382.01
Total Other Current Liabilities	97,213.64
Total Current Liabilities	97,213.64
Total Liabilities	97,213.64
Equity	
4000-00 · Fund Balance	645,844.05
Net Income	-104,377.72
Total Equity	541,466.33
TOTAL LIABILITIES & EQUITY	**638,679.97**

CARSON WATER SUBCONSERVANCY DISTRICT - GENERAL FUND
Profit & Loss YTD Comparison
July 2015

	Jul 15	Jul 15
Ordinary Income/Expense		
Income		
5009-00 · Churchill County Ad Valorem	4,874.89	4,874.89
5010-00 · Lyon County Ad Valorem	23,171.92	23,171.92
5011-00 · Douglas County Ad Valorem	1,118.35	1,118.35
5012-00 · Carson City Ad Valorem	1,347.30	1,347.30
5025-00 · Int. Inc.-US Bank CD	30.63	30.63
5031-00 · Interest Income-LGIP Reg.	41.39	41.39
5044-00 · Int-1st Independent Bk of NV CD	111.47	111.47
5045-00 · Interest Income-B of A Savings	1.60	1.60
5050-00 · Watershed Coordinator		
5050-08 · NDEP Watershed Coord 2012-15	4,768.72	4,768.72
Total 5050-00 · Watershed Coordinator	4,768.72	4,768.72
5060-00 · Misc. Income	750.00	750.00
5077-00 · CR Conservation Tours		
5077-03 · NDEP Conserv Tour Grant 2012-14	544.37	544.37
Total 5077-00 · CR Conservation Tours	544.37	544.37
5086-00 · FEMA MAS #3 (Do.Co.)	9,302.61	9,302.61
5087-00 · FEMA MAS #4 (Flood Maps)	4,991.58	4,991.58
5092-00 · FEMA - MAS #5	59,651.57	59,651.57
Total Income	110,706.40	110,706.40
Expense		
7015-00 · Salaries & Wages	39,658.77	39,658.77
7020-00 · Employee Benefits	11,991.76	11,991.76
7021-00 · Workers Comp Ins.	277.00	277.00
7101-00 · Director's Fees		
7101-01 · Director Benefits	24.91	24.91
7101-00 · Director's Fees - Other	1,717.05	1,717.05
Total 7101-00 · Director's Fees	1,741.96	1,741.96
7102-00 · Insurance	6,917.44	6,917.44
7103-00 · Office Supplies	379.31	379.31
7104-00 · Postage	37.07	37.07
7105-00 · Rent	2,169.34	2,169.34
7106-00 · Telephone/Internet	275.71	275.71
7107-00 · Travel-transport/meals/lodging		
7107-01 · Car Allowance	849.63	849.63
7107-00 · Travel-transport/meals/lodging - Other	361.47	361.47
Total 7107-00 · Travel-transport/meals/lodging	1,211.10	1,211.10
7108-00 · Dues & Publications	95.00	95.00
7110-00 · Seminars & Education	445.00	445.00
7112-00 · Bank Charges	-49.38	-49.38
7114-00 · Outside Professional Services	190.00	190.00
7116-00 · Legal	3,411.33	3,411.33
7117-00 · Lost Lakes Expenses	180.00	180.00
7120-00 · Integrated Watershed Programs		
7120-30 · Watershed Coord.Exp. 2015-18	168.90	168.90
Total 7120-00 · Integrated Watershed Programs	168.90	168.90
7125-00 · Environmental Ed.Coord.Exp.		
7125-01 · Env.Ed.Coord.Exp.2012-14	9.75	9.75
7125-02 · Env.Ed.Coord.Exp. 2015-17	4,865.98	4,865.98
Total 7125-00 · Environmental Ed.Coord.Exp.	4,875.73	4,875.73
7210-00 · CR Conservation Tours Exp.		
7210-03 · NPS Conser.Tours 2012-15	2.07	2.07
7210-00 · CR Conservation Tours Exp. - Other	280.65	280.65
Total 7210-00 · CR Conservation Tours Exp.	282.72	282.72
7214-00 · Rec. Trails Signage-Motorized	1,000.00	1,000.00
7332-00 · Carson River Work Days	8,132.92	8,132.92
7337-00 · Carson River Restoration		

CARSON WATER SUBCONSERVANCY DISTRICT - GENERAL FUND
Profit & Loss YTD Comparison
July 2015

	Jul 15	Jul 15
7337-03 · Dayton Valley Conserv	15,259.06	15,259.06
Total 7337-00 · Carson River Restoration	15,259.06	15,259.06
7404-00 · Noxious Weeds Control-CR Wtrshd		
7404-02 · Noxious Weed Control-Douglas Co		
7404-03 · Noxious Weed Control-CarsonCity	15,000.00	15,000.00
7404-04 · Noxious Weed Control-Lyon Co.	10,267.08	10,267.08
Total 7404-00 · Noxious Weeds Control-CR Wtrshd	25,267.08	25,267.08
7406-00 · 208 Water Quality Mgmt. Plan		
7406-02 · 208 Plan-LID Practices- 2013-14	1.19	1.19
7406-00 · 208 Water Quality Mgmt. Plan - Other	0.24	0.24
Total 7406-00 · 208 Water Quality Mgmt. Plan	1.43	1.43
7419-00 · FEMA MAS #3	9,217.51	9,217.51
7420-00 · FEMA MAS #4 (Flood Map)	4.55	4.55
7422-00 · BOR Basin Plan of Study	0.08	0.08
7424-00 · NDEP-Watershed Literacy Gr.Exp.		
7424-02 · Watershed Survey-Responsive Mgt	10,000.00	10,000.00
7424-00 · NDEP-Watershed Literacy Gr.Exp. - Other	3,300.48	3,300.48
Total 7424-00 · NDEP-Watershed Literacy Gr.Exp.	13,300.48	13,300.48
7426-00 · FEMA MAS #5-Charter/Map/Model		
7426-01 · Alpine View Est.-Kimley Horn	6,502.00	6,502.00
7426-02 · Smelter Creek-RO Anderson	14,000.00	14,000.00
7426-03 · Eagle Valley-Michael Baker	13,625.25	13,625.25
7426-00 · FEMA MAS #5-Charter/Map/Model - Other	5.52	5.52
Total 7426-00 · FEMA MAS #5-Charter/Map/Model	34,132.77	34,132.77
7600-00 · Alpine County Projects		
7600-05 · Alpine Watershed Programs	5,000.00	5,000.00
Total 7600-00 · Alpine County Projects	5,000.00	5,000.00
7610-00 · Douglas County Projects		
7610-17 · Do.Co.-EF Channel Restoration	29,509.48	29,509.48
Total 7610-00 · Douglas County Projects	29,509.48	29,509.48
Total Expense	215,084.12	215,084.12
Net Ordinary Income	-104,377.72	-104,377.72
Net Income	**-104,377.72**	**-104,377.72**

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July 2015

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7116-00 · Legal	3,411.33	3,411.33
7117-00 · Lost Lakes Expenses	180.00	180.00
7120-00 · Integrated Watershed Programs		
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7125-01 · Env.Ed.Coord.Exp.2012-14	9.75	9.75
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7404-03 · Noxious Weed Control-CarsonCity	15,000.00	15,000.00
7404-04 · Noxious Weed Control-Lyon Co.	10,267.08	10,267.08
Total 7404-00 · Noxious Weeds Control-CR Wtrshd	25,267.08	25,267.08
7406-00 · 208 Water Quality Mgmt. Plan		
7406-02 · 208 Plan-LID Practices- 2013-14	1.19	1.19
7406-00 · 208 Water Quality Mgmt. Plan - Other	0.24	0.24
Total 7406-00 · 208 Water Quality Mgmt. Plan	1.43	1.43
7419-00 · FEMA MAS #3	9,217.51	9,217.51
7420-00 · FEMA MAS #4 (Flood Map)	4.55	4.55
7422-00 · BOR Basin Plan of Study	0.08	0.08
7424-00 · NDEP-Watershed Literacy Gr.Exp.		
7424-02 · Watershed Survey-Responsive Mgt	10,000.00	10,000.00
7424-00 · NDEP-Watershed Literacy Gr.Exp. - Other	3,300.48	3,300.48
Total 7424-00 · NDEP-Watershed Literacy Gr.Exp.	13,300.48	13,300.48
7426-00 · FEMA MAS #5-Charter/Map/Model		
7426-01 · Alpine View Est.-Kimley Horn	6,502.00	6,502.00
7426-02 · Smelter Creek-RO Anderson	14,000.00	14,000.00
7426-03 · Eagle Valley-Michael Baker	13,625.25	13,625.25
7426-00 · FEMA MAS #5-Charter/Map/Model - Other	5.52	5.52
Total 7426-00 · FEMA MAS #5-Charter/Map/Model	34,132.77	34,132.77
7600-00 · Alpine County Projects		
7600-05 · Alpine Watershed Programs	5,000.00	5,000.00
Total 7600-00 · Alpine County Projects	5,000.00	5,000.00
7610-00 · Douglas County Projects		
7610-17 · Do.Co.-EF Channel Restoration	29,509.48	29,509.48
Total 7610-00 · Douglas County Projects	29,509.48	29,509.48
Total Expense	215,084.12	215,084.12
Net Ordinary Income	-104,377.72	-104,377.72
Net Income	**-104,377.72**	**-104,377.72**

CARSON WATER SUBCONSERVANCY DISTRICT - GENERAL FUND
Profit & Loss Budget vs. Actual
July 2015

	Jul 15	Budget	$ Over Budget	% of Budget
Ordinary Income/Expense				
Income				
5008-00 · Alpine Co. Joint Powers contrib		9,000.00	-9,000.00	
5009-00 · Churchill County Ad Valorem	4,874.89	187,550.00	-182,675.11	2.6%
5010-00 · Lyon County Ad Valorem	23,171.92	147,555.00	-124,383.08	15.7%
5011-00 · Douglas County Ad Valorem	1,118.35	477,500.00	-476,381.65	0.2%
5012-00 · Carson City Ad Valorem	1,347.30	377,150.00	-375,802.70	0.4%
5022-00 · Water Lease - Mud Lake		45,000.00	-45,000.00	
5025-00 · Int. Inc.-US Bank CD	30.63	850.00	-819.37	3.6%
5031-00 · Interest Income-LGIP Reg.	41.39	80.00	-38.61	51.7%
5044-00 · Int-1st Independent Bk of NV CD	111.47	850.00	-738.53	13.1%
5045-00 · Interest Income-B of A Savings	1.60	80.00	-78.40	2.0%
5050-00 · Watershed Coordinator				
5050-08 · NDEP Watershed Coord 2012-15	4,768.72			
5050-10 · NDEP Watershed Coord. 2015-18		64,000.00	-64,000.00	
Total 5050-00 · Watershed Coordinator	4,768.72	64,000.00	-59,231.28	7.5%
5058-00 · 208 Water Quality Plan				
5058-03 · NDEP 208 LID Grant- 2013-15		4,700.00	-4,700.00	
Total 5058-00 · 208 Water Quality Plan		4,700.00	-4,700.00	
5060-00 · Misc. Income				
5060-02 · Watershed Tour		5,900.00	-5,900.00	
5060-00 · Misc. Income - Other	750.00			
Total 5060-00 · Misc. Income	750.00	5,900.00	-5,150.00	12.7%
5063-00 · Environmental Education Program				
5063-04 · NDEP-Env.Ed.Coord.2015-17		50,000.00	-50,000.00	
Total 5063-00 · Environmental Education Program		50,000.00	-50,000.00	
5077-00 · CR Conservation Tours				
5077-03 · NDEP Conserv Tour Grant 2012-14	544.37			
5077-00 · CR Conservation Tours - Other		2,200.00	-2,200.00	
Total 5077-00 · CR Conservation Tours	544.37	2,200.00	-1,655.63	24.7%
5082-00 · Alpine Co.-CASGEM Grant		750.00	-750.00	
5086-00 · FEMA MAS #3 (Do.Co.)	9,302.61	59,000.00	-49,697.39	15.8%
5087-00 · FEMA MAS #4 (Flood Maps)	4,991.58	250,000.00	-245,008.42	2.0%
5090-00 · NDEP-Watershed Literacy Grant		5,800.00	-5,800.00	
5091-00 · Rec.Trails Signage-Motorized		3,100.00	-3,100.00	
5092-00 · FEMA - MAS #5	59,651.57	150,000.00	-90,348.43	39.8%
Total Income	110,706.40	1,841,065.00	-1,730,358.60	6.0%
Expense				
7015-00 · Salaries & Wages	39,658.77	334,400.00	-294,741.23	11.9%
7020-00 · Employee Benefits	11,991.76	136,700.00	-124,708.24	8.8%
7021-00 · Workers Comp Ins.	277.00	1,200.00	-923.00	23.1%
7101-00 · Director's Fees				
7101-01 · Director Benefits	24.91			
7101-00 · Director's Fees - Other	1,717.05	14,000.00	-12,282.95	12.3%
Total 7101-00 · Director's Fees	1,741.96	14,000.00	-12,258.04	12.4%
7102-00 · Insurance	6,917.44	10,000.00	-3,082.56	69.2%
7103-00 · Office Supplies	379.31	4,000.00	-3,620.69	9.5%
7104-00 · Postage	37.07	1,250.00	-1,212.93	3.0%
7105-00 · Rent	2,169.34	26,033.00	-23,863.66	8.3%
7106-00 · Telephone/Internet	275.71	5,000.00	-4,724.29	5.5%
7107-00 · Travel-transport/meals/lodging				
7107-01 · Car Allowance	849.63			
7107-00 · Travel-transport/meals/lodging - Other	361.47	17,000.00	-16,638.53	2.1%
Total 7107-00 · Travel-transport/meals/lodging	1,211.10	17,000.00	-15,788.90	7.1%
7108-00 · Dues & Publications	95.00	1,000.00	-905.00	9.5%
7109-00 · Miscellaneous Expense		3,000.00	-3,000.00	
7110-00 · Seminars & Education	445.00	3,000.00	-2,555.00	14.8%
7111-00 · Office Equipment		16,000.00	-16,000.00	

CARSON WATER SUBCONSERVANCY DISTRICT - GENERAL FUND
Profit & Loss Budget vs. Actual
July 2015

	Jul 15	Budget	$ Over Budget	% of Budget
7112-00 · Bank Charges	-49.38	200.00	-249.38	-24.7%
7114-00 · Outside Professional Services	190.00	20,000.00	-19,810.00	1.0%
7115-00 · Accounting		16,500.00	-16,500.00	
7116-00 · Legal	3,411.33	40,700.00	-37,288.67	8.4%
7117-00 · Lost Lakes Expenses	180.00	7,000.00	-6,820.00	2.6%
7118-00 · Mud Lake O & M		1,000.00	-1,000.00	
7120-00 · Integrated Watershed Programs				
7120-07 · Watershed Tour		5,500.00	-5,500.00	
7120-08 · Invasive Species Programs		5,000.00	-5,000.00	
7120-30 · Watershed Coord.Exp. 2015-18	168.90	4,400.00	-4,231.10	3.8%
Total 7120-00 · Integrated Watershed Programs	168.90	14,900.00	-14,731.10	1.1%
7122-00 · Water Conservation/BMP Program		5,000.00	-5,000.00	
7125-00 · Environmental Ed.Coord.Exp.				
7125-01 · Env.Ed.Coord.Exp.2012-14	9.75			
7125-02 · Env.Ed.Coord.Exp. 2015-17	4,865.98	44,000.00	-39,134.02	11.1%
Total 7125-00 · Environmental Ed.Coord.Exp.	4,875.73	44,000.00	-39,124.27	11.1%
7210-00 · CR Conservation Tours Exp.				
7210-03 · NPS Conser.Tours 2012-15	2.07	1,800.00	-1,797.93	0.1%
7210-00 · CR Conservation Tours Exp. - Other	280.65			
Total 7210-00 · CR Conservation Tours Exp.	282.72	1,800.00	-1,517.28	15.7%
7214-00 · Rec. Trails Signage-Motorized	1,000.00	900.00	100.00	111.1%
7215-00 · Sierra NV Journeys-Family Night		3,380.00	-3,380.00	
7332-00 · Carson River Work Days				
7332-01 · CR Work Days 2015-16		26,000.00	-26,000.00	
7332-00 · Carson River Work Days - Other	8,132.92			
Total 7332-00 · Carson River Work Days	8,132.92	26,000.00	-17,867.08	31.3%
7337-00 · Carson River Restoration				
7337-01 · Upper Carson River Grant.		60,000.00	-60,000.00	
7337-03 · Dayton Valley Conserv				
7337-31 · DVCD-Restoration Proj.2015-16		124,000.00	-124,000.00	
7337-32 · DVCD-Storey Co. Weed Abatement		5,000.00	-5,000.00	
7337-03 · Dayton Valley Conserv - Other	15,259.06			
Total 7337-03 · Dayton Valley Conserv	15,259.06	129,000.00	-113,740.94	11.8%
7337-04 · Lahontan Conserv.Dist		20,000.00	-20,000.00	
Total 7337-00 · Carson River Restoration	15,259.06	209,000.00	-193,740.94	7.3%
7404-00 · Noxious Weeds Control-CR Wtrshd				
7404-01 · Noxious Weed Control-Alpine Co.		15,000.00	-15,000.00	
7404-02 · Noxious Weed Control-Douglas Co		15,000.00	-15,000.00	
7404-03 · Noxious Weed Control-CarsonCity	15,000.00	15,000.00		100.0%
7404-04 · Noxious Weed Control-Lyon Co.	10,267.08	15,000.00	-4,732.92	68.4%
7404-05 · Noxious Weed Control-Churchill		15,000.00	-15,000.00	
Total 7404-00 · Noxious Weeds Control-CR Wtrshd	25,267.08	75,000.00	-49,732.92	33.7%
7406-00 · 208 Water Quality Mgmt. Plan				
7406-02 · 208 Plan-LID Practices- 2013-14	1.19			
7406-00 · 208 Water Quality Mgmt. Plan - Other	0.24			
Total 7406-00 · 208 Water Quality Mgmt. Plan	1.43			
7419-00 · FEMA MAS #3	9,217.51	58,000.00	-48,782.49	15.9%
7420-00 · FEMA MAS #4 (Flood Map)	4.55	240,000.00	-239,995.45	0.0%
7422-00 · BOR Basin Plan of Study	0.08			
7424-00 · NDEP-Watershed Literacy Gr.Exp.				
7424-02 · Watershed Survey-Responsive Mgt	10,000.00			
7424-00 · NDEP-Watershed Literacy Gr.Exp. - Other	3,300.48	4,800.00	-1,499.52	68.8%
Total 7424-00 · NDEP-Watershed Literacy Gr.Exp.	13,300.48	4,800.00	8,500.48	277.1%
7426-00 · FEMA MAS #5-Charter/Map/Model				
7426-01 · Alpine View Est.-Kimley Horn	6,502.00			
7426-02 · Smelter Creek-RO Anderson	14,000.00			
7426-03 · Eagle Valley-Michael Baker	13,625.25			

CARSON WATER SUBCONSERVANCY DISTRICT - GENERAL FUND
Profit & Loss Budget vs. Actual
July 2015

	Jul 15	Budget	$ Over Budget	% of Budget
7426-00 · FEMA MAS #5-Charter/Map/Model - Other	5.52	132,000.00	-131,994.48	0.0%
Total 7426-00 · FEMA MAS #5-Charter/Map/Model	34,132.77	132,000.00	-97,867.23	25.9%
7500-00 · USGS Stream Gage Contract				
7500-01 · Stream Gages 2015-17		70,232.00	-70,232.00	
Total 7500-00 · USGS Stream Gage Contract		70,232.00	-70,232.00	
7508-00 · USGS Do.Co.WQ & GW Monitoring				
7508-01 · Do/LyCo WQ/GW Mon. 2015-17		15,500.00	-15,500.00	
Total 7508-00 · USGS Do.Co.WQ & GW Monitoring		15,500.00	-15,500.00	
7524-00 · USGS-GW Lvl & WQ in Ch.Co.				
7524-01 · USGS-GW Lvl & WQ-ChCo 2014-17		10,200.00	-10,200.00	
Total 7524-00 · USGS-GW Lvl & WQ in Ch.Co.		10,200.00	-10,200.00	
7525-00 · USGS-CV Arsenic Study-Ph.1		20,000.00	-20,000.00	
7600-00 · Alpine County Projects				
7600-05 · Alpine Watershed Programs	5,000.00	23,000.00	-18,000.00	21.7%
7600-09 · Al.Co.-CASGEM		25.00	-25.00	
Total 7600-00 · Alpine County Projects	5,000.00	23,025.00	-18,025.00	21.7%
7610-00 · Douglas County Projects				
7610-10 · Do.Co.Reg.Pipeline Debt Service		125,000.00	-125,000.00	
7610-17 · Do.Co.-EF Channel Restoration	29,509.48			
7610-18 · DoCo-Sierra Country Estates		24,500.00	-24,500.00	
Total 7610-00 · Douglas County Projects	29,509.48	149,500.00	-119,990.52	19.7%
7620-00 · Carson City Projects				
7620-11 · CC Reg.Pipeline Debt Service		125,000.00	-125,000.00	
Total 7620-00 · Carson City Projects		125,000.00	-125,000.00	
7630-00 · Lyon County Projects				
7630-10 · LyCo Middle CR Imagery Project		27,644.00	-27,644.00	
Total 7630-00 · Lyon County Projects		27,644.00	-27,644.00	
7640-00 · Churchill County Projects				
7640-09 · Lahontan Vly.Wtr.Lvl.Measure.		19,000.00	-19,000.00	
7640-14 · W/R Dedication Tracking DB		8,420.00	-8,420.00	
7640-15 · LCD-Sand Bar Removal in ChCo		20,000.00	-20,000.00	
Total 7640-00 · Churchill County Projects		47,420.00	-47,420.00	
Total Expense	215,084.12	1,961,284.00	-1,746,199.88	11.0%
Net Ordinary Income	-104,377.72	-120,219.00	15,841.28	86.8%
Other Income/Expense				
Other Income				
8005-00 · Beginning Equity		671,421.00	-671,421.00	
Total Other Income		671,421.00	-671,421.00	
Other Expense				
8002-00 · Transfer Out-Acq/Const Fund		20,000.00	-20,000.00	
8008-00 · Preliminary Planning		435,000.00	-435,000.00	
Total Other Expense		455,000.00	-455,000.00	
Net Other Income		216,421.00	-216,421.00	
Net Income	**-104,377.72**	**96,202.00**	**-200,579.72**	**-108.5%**

CARSON WTR SUBCONSERVANCY DIST - ACQUISITION/CONSTRUCTION
Balance Sheet
As of July 31, 2015

	Jul 31, 15
ASSETS	
Current Assets	
Checking/Savings	
1013-01 · Local Gov't Inv.Pool-Reserve	412,480.89
1015-01 · Heritage Bk 12-mo. CD	249,970.67
Total Checking/Savings	662,451.56
Total Current Assets	662,451.56
TOTAL ASSETS	**662,451.56**
LIABILITIES & EQUITY	
Equity	
4000-01 · Fund Balance - Capital Project	662,289.91
Net Income	161.65
Total Equity	662,451.56
TOTAL LIABILITIES & EQUITY	**662,451.56**

CARSON WTR SUBCONSERVANCY DIST - ACQUISITION/CONSTRUCTION
Profit & Loss YTD Comparison
July 2015

	Jul 15	Jul 15
Ordinary Income/Expense		
Income		
5032-01 · Interest Income - LGIP Res.	69.23	69.23
5038-00 · Int. Inc.-Heritage Bk CD	92.42	92.42
Total Income	161.65	161.65
Net Ordinary Income	161.65	161.65
Net Income	**161.65**	**161.65**

CARSON WTR SUBCONSERVANCY DIST - ACQUISITION/CONSTRUCTION
Profit & Loss Budget vs. Actual
July 2015

	Jul 15	Budget	$ Over Budget	% of Budget
Ordinary Income/Expense				
Income				
5032-01 · Interest Income - LGIP Res.	69.23	400.00	-330.77	17.3%
5038-00 · Int. Inc.-Heritage Bk CD	92.42	1,000.00	-907.58	9.2%
Total Income	161.65	1,400.00	-1,238.35	11.5%
Expense				
7325-01 · Acquisition Wtr Rts/Structures		650,000.00	-650,000.00	
Total Expense		650,000.00	-650,000.00	
Net Ordinary Income	161.65	-648,600.00	648,761.65	-0.0%
Other Income/Expense				
Other Income				
8000-01 · Beginning Equity		662,168.00	-662,168.00	
8001-01 · Transfer In-General Fund		20,000.00	-20,000.00	
Total Other Income		682,168.00	-682,168.00	
Net Other Income		682,168.00	-682,168.00	
Net Income	**161.65**	**33,568.00**	**-33,406.35**	**0.5%**

Floodplain Management Fund
Balance Sheet
As of July 31, 2015

	Jul 31, 15
ASSETS	
Current Assets	
Checking/Savings	
1013-03 · LGIP - Floodplain	182,134.73
1014-03 · Mutual of Omaha Bk CD	247,282.97
Total Checking/Savings	429,417.70
Total Current Assets	429,417.70
TOTAL ASSETS	**429,417.70**
LIABILITIES & EQUITY	
Equity	
32000 · Retained Earnings	429,336.33
Net Income	81.37
Total Equity	429,417.70
TOTAL LIABILITIES & EQUITY	**429,417.70**

Floodplain Management Fund
Profit & Loss YTD Comparison
July 2015

	Jul 15	Jul 15
Ordinary Income/Expense		
Income		
5032-03 · Int. Inc.-LGIP-Floodplain	30.57	30.57
5033-03 · Int.Inc.-Mutual of Omaha CD	50.80	50.80
Total Income	81.37	81.37
Net Ordinary Income	81.37	81.37
Net Income	**81.37**	**81.37**

Floodplain Management Fund
Profit & Loss Budget vs. Actual
July 2015

	Jul 15	Budget	$ Over Budget	% of Budget
Ordinary Income/Expense				
Income				
5032-03 · Int. Inc.-LGIP-Floodplain	30.57	180.00	-149.43	17.0%
5033-03 · Int.Inc.-Mutual of Omaha CD	50.80	700.00	-649.20	7.3%
Total Income	81.37	880.00	-798.63	9.2%
Expense				
7203-03 · Reg. Flood Preliminary Planning	0.00	360,000.00	-360,000.00	0.0%
7206-03 · Flood Project Along SR88-Minden	0.00	40,000.00	-40,000.00	0.0%
Total Expense	0.00	400,000.00	-400,000.00	0.0%
Net Ordinary Income	81.37	-399,120.00	399,201.37	-0.0%
Other Income/Expense				
Other Income				
8000-03 · Beginning Equity	0.00	429,206.00	-429,206.00	0.0%
Total Other Income	0.00	429,206.00	-429,206.00	0.0%
Net Other Income	0.00	429,206.00	-429,206.00	0.0%
Net Income	**81.37**	**30,086.00**	**-30,004.63**	**0.3%**

AGENDA ITEM #9
PAYMENT OF BILLS

CARSON WATER SUBCONSERVANCY DISTRICT - GENERAL FUND
Transaction Detail by Account
July 2015

Type	Date	Num	Name	Memo	Amount	Balance
1010-00 · Cash in Checking - B of A						
Check	7/1/2015	8033	Warren Reed Insurance, Inc.	FY 2015-16 liab.ins., acct. #CARSO29, inv.#254195	-6,867.44	-6,867.44
Check	7/1/2015	8034	Euronev, Ltd.	July rent 777 E. William St., #102, #103, #110 & #110A	-2,169.34	-9,036.78
Check	7/1/2015	8035	Carson City	Reimb. for June-payrolls #12 & #13(replaces ck.#8013)	-36,748.74	-45,785.52
Deposit	7/3/2015			Deposit	39,524.32	-6,261.20
Check	7/8/2015	8036	Carson City	Reimb. for June-payrolls #14	-18,146.69	-24,407.89
Check	7/8/2015	8037	Sky Fiber Internet	Acct. #1416, Inv. #152128, 7/22-8/21/15 internet	-105.00	-24,512.89
Check	7/8/2015	8038	Alpine Watershed Group	Final pmt. for Watershed Program Grant, inv. #2014-15-3	-5,000.00	-29,512.89
Check	7/8/2015	8039	Law Office of George N. Benesch	June legal services, inv. #1409	-3,411.33	-32,924.22
Check	7/8/2015	8040	Michael Baker Jr., Inc.	Proj. #145209, Eagle Vly.A & B Drainages Study	-13,625.25	-46,549.47
Check	7/10/2015	8041	DynoGraphics	Inv. #96855, Carson River Watershed Map	-3,248.98	-49,798.45
Deposit	7/13/2015			Deposit	6,743.24	-43,055.21
Deposit	7/13/2015			Deposit	4,768.72	-38,286.49
Check	7/14/2015	8042	HDR Engineering, Inc.	Inv.#224336-B, Carson River FEMA MAS #3	-7,940.33	-46,226.82
Check	7/14/2015	8043	Kimley-Horn & Associates, Inc.	Inv. #018976000-0615, Alpine Est. Flood Study	-6,502.00	-52,728.82
Check	7/14/2015	8044	AT&T	Acct. #775-7450 924 6, 7/1-31/15 phones & UM	-170.71	-52,899.53
Check	7/14/2015	8045	O'Keefe Insurance Co.	Notary bond for Toni Leffler	-50.00	-52,949.53
Transfer	7/15/2015			Funds Transfer to cover checks	100,000.00	47,050.47
Deposit	7/20/2015			Deposit	23,171.92	70,222.39
Check	7/21/2015	8046	Nevada State Engineer	App.to Change Point of Diversion, Claims #812 & 813, Lost Lakes	-180.00	70,042.39
Check	7/21/2015	8047	HDR Engineering, Inc.	Inv.#219283-B, Carson River FEMA MAS #3	-1,274.52	68,767.87
Check	7/21/2015	8048	Office Depot Business Credit	July acct. #6011 5656 1002 0915	-67.56	68,700.31
Check	7/21/2015	8049	Carson City	Reimb. for June portion of payroll #15	-5,688.40	63,011.91
Check	7/21/2015	8050	Edwin James	Reimb. for 7/15/15 Board dinner	-176.35	62,835.56
Check	7/21/2015	8051	Douglas County Weed Dept.	VOID: FY2015-16 noxious weed abatement program(pd.in error)		62,835.56
Check	7/21/2015	8052	Carson City Weed Coalition	FY 2014-15 noxious weed abatement program	-15,000.00	47,835.56
Check	7/21/2015	8053	Dayton Valley Conservation District	FY 2014-15 noxious weed abatement program	-10,267.08	37,568.48
Check	7/21/2015	8054	Dayton Valley Conservation District	FY 2014-15 river project expense reimb.	-15,259.06	22,309.42
Check	7/21/2015	8055	Responsive Management	Inv. #3291, Watershed Literacy Survey	-10,000.00	12,309.42
Check	7/22/2015	8056	River Wranglers	Inv EE 2015-3, June EE Coord.& Asst.work & mileage	-4,846.13	7,463.29
Check	7/22/2015	8057	River Wranglers	Inv #2014-15-5, June Conserve CR Work Days	-8,132.92	-669.63
Deposit	7/22/2015			Deposit	4,991.58	4,321.95
Check	7/23/2015	8058	River Wranglers	Bal. of Inv. EE 2015-3, Env. Ed. Grant	-9.75	4,312.20
Check	7/23/2015	8059	Ernest Schank	July travel reimb.	-128.28	4,183.92
Check	7/23/2015	8060	Fred Stodieck	July travel reimb.	-21.84	4,162.08
Check	7/23/2015	8061	Horizon Construction, Inc.	Inv. #273, 2015 CWSD sign installation	-1,000.00	3,162.08
Check	7/23/2015	8062	Nevada Retail Network SIG	2014 audit bal., Inv.#95977, Pol. #NRN10861-344083	-277.00	2,885.08
Deposit	7/23/2015			Deposit	9,302.61	12,187.69
Check	7/24/2015	8063	River Wranglers	Conservation Tours 4-1 to 6/30	-280.65	11,907.04
Check	7/28/2015	8064	Brenda Hunt	Additional May 2015 mileage reimb.	-40.54	11,866.50
Check	7/28/2015	8065	R. O. Anderson	Proj.#0713-006-15, Inv. #36217, Smelter Cr.	-14,000.00	-2,133.50
Check	7/28/2015	8066	Konica Minolta Business Solutions USA Inc	6/23-7/22/15 copies, Inv. #235171585, payor ID #1110530	-492.89	-2,626.39
Check	7/28/2015	8067	Bank of America	July-acct. #4024 4910 0004 2478	-560.62	-3,187.01
Check	7/29/2015	8068	Douglas County Community Development	E.Fork Channel Restoration/Irrigation Impr.	-29,509.48	-32,696.49
Check	7/29/2015	8069	DeBug Computer, Inc.	7/14/15 computer services, Inv. #43487	-190.00	-32,886.49
Check	7/29/2015	8070	Courtney Walker	Additional May 2015 mileage reimb.	-1.15	-32,887.64
Deposit	7/30/2015			Deposit	544.37	-32,343.27
Deposit	7/31/2015			Deposit	1,347.30	-30,995.97
Deposit	7/31/2015			Deposit	20,127.25	-10,868.72

CARSON WATER SUBCONSERVANCY DISTRICT - GENERAL FUND
Transaction Detail by Account
July 2015

Type	Date	Num	Name	Memo	Amount	Balance
Check	7/31/2015	8071	cash	July 2015 petty cash reimb.	-12.70	-10,881.42
Total 1010-00 · Cash in Checking - B of A					-10,881.42	-10,881.42
1011-00 · Petty Cash						
Gener...	7/31/2015			July petty cash reimb.	-35.80	-35.80
Check	7/31/2015	8071	cash	July 2015 petty cash reimb.	12.70	-23.10
Total 1011-00 · Petty Cash					-23.10	-23.10
1014-00 · Local Gov't Inv. Pool-Regular						
Deposit	7/1/2015			Interest	41.39	41.39
Transfer	7/15/2015			Funds Transfer to cover checks	-100,000.00	-99,958.61
Total 1014-00 · Local Gov't Inv. Pool-Regular					-99,958.61	-99,958.61
1021-00 · US Bank CD						
Deposit	7/3/2015			Interest	30.63	30.63
Total 1021-00 · US Bank CD					30.63	30.63
1028-00 · First Independent Bank of Nevad						
Deposit	7/14/2015			Interest	111.47	111.47
Total 1028-00 · First Independent Bank of Nevad					111.47	111.47
1029-00 · Bank of America-Savings						
Deposit	7/31/2015			Interest	1.60	1.60
Total 1029-00 · Bank of America-Savings					1.60	1.60
3307-00 · CC Payroll Due						
Check	7/1/2015	8035	Carson City	Reimb. for June-payrolls #12 & #13	36,748.74	36,748.74
Gener...	7/2/2015			7/2 BH,EJ,TL,DN,CW; June-KA,BB,CE,RF,DJa,GL,WP,ES,FS	-18,281.19	18,467.55
Check	7/8/2015	8036	Carson City	Reimb. for June-payrolls #14	18,146.69	36,614.24
Gener...	7/17/2015			7/17 BH,EJ,TL,DN,CW	-18,961.33	17,652.91
Check	7/21/2015	8049	Carson City	Reimb. for June portion of payroll #15	5,688.40	23,341.31
Gener...	7/31/2015			7/31 BH,EJ,TL,DN,CW; July-KA,BB,RF,DJa,DJo,GL,WP,MR,ES,FS	-16,999.60	6,341.71
Total 3307-00 · CC Payroll Due					6,341.71	6,341.71
5009-00 · Churchill County Ad Valorem						
Deposit	7/13/2015	112828	Churchill County	Apr.-June	-4,874.89	-4,874.89
Total 5009-00 · Churchill County Ad Valorem					-4,874.89	-4,874.89
5010-00 · Lyon County Ad Valorem						
Deposit	7/20/2015	101906	Lyon County	Apr.-June	-23,171.92	-23,171.92
Total 5010-00 · Lyon County Ad Valorem					-23,171.92	-23,171.92
5011-00 · Douglas County Ad Valorem						
Deposit	7/13/2015	636655	Douglas County	June	-1,118.35	-1,118.35
Total 5011-00 · Douglas County Ad Valorem					-1,118.35	-1,118.35
5012-00 · Carson City Ad Valorem						
Deposit	7/31/2015	351347	Carson City	June	-1,347.30	-1,347.30

CARSON WATER SUBCONSERVANCY DISTRICT - GENERAL FUND
Transaction Detail by Account
July 2015

Type	Date	Num	Name	Memo	Amount	Balance
Total 5012-00 · Carson City Ad Valorem					-1,347.30	-1,347.30
5025-00 · Int. Inc.-US Bank CD						
Deposit	7/3/2015			Interest	-30.63	-30.63
Total 5025-00 · Int. Inc.-US Bank CD					-30.63	-30.63
5031-00 · Interest Income-LGIP Reg.						
Deposit	7/1/2015			Interest	-41.39	-41.39
Total 5031-00 · Interest Income-LGIP Reg.					-41.39	-41.39
5044-00 · Int-1st Independent Bk of NV CD						
Deposit	7/14/2015			Interest	-111.47	-111.47
Total 5044-00 · Int-1st Independent Bk of NV CD					-111.47	-111.47
5045-00 · Interest Income-B of A Savings						
Deposit	7/31/2015			Interest	-1.60	-1.60
Total 5045-00 · Interest Income-B of A Savings					-1.60	-1.60
5050-00 · Watershed Coordinator						
5050-08 · NDEP Watershed Coord 2012-15						
Deposit	7/13/2015	9649...	NV Div. of Environmental Protection	Inv. #11 JAN, final	-4,768.72	-4,768.72
Total 5050-08 · NDEP Watershed Coord 2012-15					-4,768.72	-4,768.72
Total 5050-00 · Watershed Coordinator					-4,768.72	-4,768.72
5060-00 · Misc. Income						
Deposit	7/13/2015	4382	Pooling Resources Inc.	POOL/PACT HR Compliance Phase II Assessment Grant	-750.00	-750.00
Total 5060-00 · Misc. Income					-750.00	-750.00
5077-00 · CR Conservation Tours						
5077-03 · NDEP Conserv Tour Grant 2012-14						
Deposit	7/30/2015	9660...	NV Div. of Environmental Protection	Apr.-June 2015, Inv. #12-12-026	-544.37	-544.37
Total 5077-03 · NDEP Conserv Tour Grant 2012-14					-544.37	-544.37
Total 5077-00 · CR Conservation Tours					-544.37	-544.37
5086-00 · FEMA MAS #3 (Do.Co.)						
Deposit	7/23/2015		FEMA	Draw #25	-9,302.61	-9,302.61
Total 5086-00 · FEMA MAS #3 (Do.Co.)					-9,302.61	-9,302.61
5087-00 · FEMA MAS #4 (Flood Maps)						
Deposit	7/22/2015		FEMA	Draw #9	-4,991.58	-4,991.58
Total 5087-00 · FEMA MAS #4 (Flood Maps)					-4,991.58	-4,991.58
5092-00 · FEMA - MAS #5						
Deposit	7/3/2015		FEMA	Draw #6	-39,524.32	-39,524.32
Deposit	7/31/2015		FEMA	Draw #7	-20,127.25	-59,651.57

CARSON WATER SUBCONSERVANCY DISTRICT - GENERAL FUND
Transaction Detail by Account
July 2015

Type	Date	Num	Name	Memo	Amount	Balance
Total 5092-00 · FEMA - MAS #5					-59,651.57	-59,651.57
7015-00 · Salaries & Wages						
Gener...	7/2/2015			7/2 B.Hunt	2,169.91	2,169.91
Gener...	7/2/2015			7/2 E.James	4,767.25	6,937.16
Gener...	7/2/2015			7/2 T.Leffler	2,257.76	9,194.92
Gener...	7/2/2015			7/2 D.Neddenriep	1,288.12	10,483.04
Gener...	7/2/2015			7/2 D.Neddenriep	931.27	11,414.31
Gener...	7/2/2015			7/2 C.Walker	1,841.91	13,256.22
Gener...	7/17/2015			7/17 B.Hunt	2,605.18	15,861.40
Gener...	7/17/2015			7/17 E.James	4,803.71	20,665.11
Gener...	7/17/2015			7/17 T.Leffler	2,767.88	23,432.99
Gener...	7/17/2015			7/17 D.Neddenriep	1,319.23	24,752.22
Gener...	7/17/2015			7/17 C.Walker	2,042.78	26,795.00
Gener...	7/31/2015			7/31 B.Hunt	2,492.99	29,287.99
Gener...	7/31/2015			7/31 E.James	4,839.80	34,127.79
Gener...	7/31/2015			7/31 T.Leffler	2,277.98	36,405.77
Gener...	7/31/2015			7/31 D.Neddenriep	1,353.79	37,759.56
Gener...	7/31/2015			7/31 C.Walker	1,899.21	39,658.77
Total 7015-00 · Salaries & Wages					39,658.77	39,658.77
7020-00 · Employee Benefits						
Gener...	7/2/2015			7/2 B.Hunt	677.94	677.94
Gener...	7/2/2015			7/2 E.James	2,019.67	2,697.61
Gener...	7/2/2015			7/2 T.Leffler	970.20	3,667.81
Gener...	7/2/2015			7/2 C.Walker	247.96	3,915.77
Gener...	7/17/2015			7/17 B.Hunt	747.43	4,663.20
Gener...	7/17/2015			7/17 E.James	2,044.41	6,707.61
Gener...	7/17/2015			7/17 T.Leffler	1,117.93	7,825.54
Gener...	7/17/2015			7/17 D.Neddenriep	952.48	8,778.02
Gener...	7/17/2015			7/17 C.Walker	277.09	9,055.11
Gener...	7/31/2015			7/31 B.Hunt	361.82	9,416.93
Gener...	7/31/2015			7/31 E.James	1,315.94	10,732.87
Gener...	7/31/2015			7/31 T.Leffler	618.27	11,351.14
Gener...	7/31/2015			7/31 D.Neddenriep	363.38	11,714.52
Gener...	7/31/2015			7/31 C.Walker	277.24	11,991.76
Total 7020-00 · Employee Benefits					11,991.76	11,991.76
7021-00 · Workers Comp Ins.						
Check	7/23/2015	8062	Nevada Retail Network SIG	2014 audit assessment balance	277.00	277.00
Total 7021-00 · Workers Comp Ins.					277.00	277.00
7101-00 · Director's Fees						
7101-01 · Director Benefits						
Gener...	7/2/2015			June- K.Abowd	1.36	1.36
Gener...	7/2/2015			June- B.Bonkowski	1.36	2.72
Gener...	7/2/2015			June- C.Erquiaga	1.36	4.08
Gener...	7/2/2015			June- R.Fierro	1.36	5.44
Gener...	7/2/2015			June- D.Jardine	1.16	6.60

CARSON WATER SUBCONSERVANCY DISTRICT - GENERAL FUND
Transaction Detail by Account
July 2015

Type	Date	Num	Name	Memo	Amount	Balance
Gener...	7/2/2015			June- G.Lynn	1.16	7.76
Gener...	7/2/2015			June- W.Penzel	1.36	9.12
Gener...	7/2/2015			June- E.Schank	1.36	10.48
Gener...	7/2/2015			June- F.Stodieck	1.36	11.84
Gener...	7/31/2015			July- K.Abowd	1.16	13.00
Gener...	7/31/2015			July- B.Bonkowski	1.37	14.37
Gener...	7/31/2015			July- R.Fierro	1.37	15.74
Gener...	7/31/2015			July- D.Jardine	1.16	16.90
Gener...	7/31/2015			July- D.Johnson	1.37	18.27
Gener...	7/31/2015			July- G.Lynn	1.16	19.43
Gener...	7/31/2015			July- W.Penzel	1.37	20.80
Gener...	7/31/2015			July- M.Rawson	1.37	22.17
Gener...	7/31/2015			July- E.Schank	1.37	23.54
Gener...	7/31/2015			July- F.Stodieck	1.37	24.91
Total 7101-01 · Director Benefits					24.91	24.91
7101-00 · Director's Fees - Other						
Gener...	7/2/2015			June- K.Abowd	93.45	93.45
Gener...	7/2/2015			June- B.Bonkowski	93.45	186.90
Gener...	7/2/2015			June- C.Erquiaga	93.45	280.35
Gener...	7/2/2015			June- R.Fierro	93.45	373.80
Gener...	7/2/2015			June- D.Jardine	80.00	453.80
Gener...	7/2/2015			June- G.Lynn	80.00	533.80
Gener...	7/2/2015			June- W.Penzel	93.45	627.25
Gener...	7/2/2015			June- E.Schank	93.45	720.70
Gener...	7/2/2015			June- F.Stodieck	93.45	814.15
Gener...	7/31/2015			July- K.Abowd	80.00	894.15
Gener...	7/31/2015			July- B.Bonkowski	94.70	988.85
Gener...	7/31/2015			July- R.Fierro	94.70	1,083.55
Gener...	7/31/2015			July- D.Jardine	80.00	1,163.55
Gener...	7/31/2015			July- D.Johnson	94.70	1,258.25
Gener...	7/31/2015			July- G.Lynn	80.00	1,338.25
Gener...	7/31/2015			July- W.Penzel	94.70	1,432.95
Gener...	7/31/2015			July- M.Rawson	94.70	1,527.65
Gener...	7/31/2015			July- E.Schank	94.70	1,622.35
Gener...	7/31/2015			July- F.Stodieck	94.70	1,717.05
Total 7101-00 · Director's Fees - Other					1,717.05	1,717.05
Total 7101-00 · Director's Fees					1,741.96	1,741.96
7102-00 · Insurance						
Check	7/1/2015	8033	Warren Reed Insurance, Inc.	FY 2015-16 liability ins.	6,867.44	6,867.44
Check	7/14/2015	8045	O'Keefe Insurance Co.	Notary bond for T.Leffler-3 yrs.	50.00	6,917.44
Total 7102-00 · Insurance					6,917.44	6,917.44
7103-00 · Office Supplies						
Check	7/28/2015	8066	Konica Minolta Business Solutions USA Inc	6/23-7/22/15 copies	492.89	492.89
Check	7/28/2015	8067	Bank of America	Carson Highlands-storage unit	35.00	527.89
Gener...	7/31/2015			July copies	-147.31	380.58

CARSON WATER SUBCONSERVANCY DISTRICT - GENERAL FUND
Transaction Detail by Account
July 2015

Type	Date	Num	Name	Memo	Amount	Balance
Gener...	7/31/2015			July petty cash reimb.	-1.27	379.31
Total 7103-00 · Office Supplies					379.31	379.31
7104-00 · Postage						
Gener...	7/31/2015			July petty cash reimb.	37.07	37.07
Total 7104-00 · Postage					37.07	37.07
7105-00 · Rent						
Check	7/1/2015	8034	Euronev, Ltd.	July rent 777 E. Wm. St., #102, #103, #110 & #110A	2,169.34	2,169.34
Total 7105-00 · Rent					2,169.34	2,169.34
7106-00 · Telephone/Internet						
Check	7/8/2015	8037	Sky Fiber Internet	7/22-8/21/15 internet services	105.00	105.00
Check	7/14/2015	8044	AT&T	7/1-31/15 phones & UM	170.71	275.71
Total 7106-00 · Telephone/Internet					275.71	275.71
7107-00 · Travel-transport/meals/lodging						
7107-01 · Car Allowance						
Gener...	7/2/2015			7/2 E.James	283.21	283.21
Gener...	7/17/2015			7/17 E.James	283.21	566.42
Gener...	7/31/2015			7/31 E.James	283.21	849.63
Total 7107-01 · Car Allowance					849.63	849.63
7107-00 · Travel-transport/meals/lodging - Other						
Check	7/21/2015	8050	Edwin James	Reimb. for 7/15/15 Bd. dinner	176.35	176.35
Check	7/23/2015	8059	Ernest Schank	7/15 Bd. mtg.travel-223.07 mi. (Mklvl.)	128.28	304.63
Check	7/23/2015	8060	Fred Stodieck	7/15 Bd. mtg.travel-37.98 mi. (Mklvl.)	21.84	326.47
Check	7/28/2015	8067	Bank of America	NNDA-EJ breakfast mtg.	35.00	361.47
Total 7107-00 · Travel-transport/meals/lodging - Other					361.47	361.47
Total 7107-00 · Travel-transport/meals/lodging					1,211.10	1,211.10
7108-00 · Dues & Publications						
Check	7/28/2015	8067	Bank of America	Floodpl.Mgmt.Assn.-EJ membership	65.00	65.00
Check	7/28/2015	8067	Bank of America	Reno Gazette-May subscr.	30.00	95.00
Total 7108-00 · Dues & Publications					95.00	95.00
7110-00 · Seminars & Education						
Check	7/28/2015	8067	Bank of America	Floodpl.Mgmt.Assn.-EJ conf.	445.00	445.00
Total 7110-00 · Seminars & Education					445.00	445.00
7112-00 · Bank Charges						
Check	7/28/2015	8067	Bank of America	B of A-June late fee (reversed)	-39.00	-39.00
Check	7/28/2015	8067	Bank of America	B of A-June finance change (reversed)	-11.38	-50.38
Check	7/28/2015	8067	Bank of America	B of A-finance change (to be reversed)	1.00	-49.38
Total 7112-00 · Bank Charges					-49.38	-49.38
7114-00 · Outside Professional Services						

CARSON WATER SUBCONSERVANCY DISTRICT - GENERAL FUND
Transaction Detail by Account
July 2015

Type	Date	Num	Name	Memo	Amount	Balance
Check	7/29/2015	8069	DeBug Computer, Inc.	7/14/15 computer services	190.00	190.00
Total 7114-00 · Outside Professional Services					190.00	190.00
7116-00 · Legal						
Check	7/8/2015	8039	Law Office of George N. Benesch	June legal services	3,411.33	3,411.33
Total 7116-00 · Legal					3,411.33	3,411.33
7117-00 · Lost Lakes Expenses						
Check	7/21/2015	8046	Nevada State Engineer	App.to Change Point of Diversion, Claims #812 & 813, Lost Lakes	180.00	180.00
Total 7117-00 · Lost Lakes Expenses					180.00	180.00
7120-00 · Integrated Watershed Programs						
7120-30 · Watershed Coord.Exp. 2015-18						
Check	7/21/2015	8048	Office Depot Business Credit	July office supplies	67.56	67.56
Check	7/28/2015	8064	Brenda Hunt	Additional May 2015 mileage reimb.	40.54	108.10
Check	7/29/2015	8070	Courtney Walker	Add'l. May 2015 mileage reimb.	1.15	109.25
Gener...	7/31/2015			July copies	59.65	168.90
Total 7120-30 · Watershed Coord.Exp. 2015-18					168.90	168.90
Total 7120-00 · Integrated Watershed Programs					168.90	168.90
7125-00 · Environmental Ed.Coord.Exp.						
7125-01 · Env.Ed.Coord.Exp.2012-14						
Check	7/23/2015	8058	River Wranglers	Bal. of June inv.-mileage reimb. corrected	9.75	9.75
Total 7125-01 · Env.Ed.Coord.Exp.2012-14					9.75	9.75
7125-02 · Env.Ed.Coord.Exp. 2015-17						
Check	7/22/2015	8056	River Wranglers	June EE Coord.	4,846.13	4,846.13
Gener...	7/31/2015			July copies	19.85	4,865.98
Total 7125-02 · Env.Ed.Coord.Exp. 2015-17					4,865.98	4,865.98
Total 7125-00 · Environmental Ed.Coord.Exp.					4,875.73	4,875.73
7210-00 · CR Conservation Tours Exp.						
7210-03 · NPS Conser.Tours 2012-15						
Gener...	7/31/2015			July copies	2.07	2.07
Total 7210-03 · NPS Conser.Tours 2012-15					2.07	2.07
7210-00 · CR Conservation Tours Exp. - Other						
Check	7/24/2015	8063	River Wranglers	Conservation Tour 4-1 to 6-30	280.65	280.65
Total 7210-00 · CR Conservation Tours Exp. - Other					280.65	280.65
Total 7210-00 · CR Conservation Tours Exp.					282.72	282.72
7214-00 · Rec. Trails Signage-Motorized						
Check	7/23/2015	8061	Horizon Construction, Inc.	2015 CC trail weed sign installation	1,000.00	1,000.00
Total 7214-00 · Rec. Trails Signage-Motorized					1,000.00	1,000.00

CARSON WATER SUBCONSERVANCY DISTRICT - GENERAL FUND
Transaction Detail by Account
July 2015

Type	Date	Num	Name	Memo	Amount	Balance
7332-00 · Carson River Work Days						
Check	7/22/2015	8057	River Wranglers	June Conserve CR Work Days	8,132.92	8,132.92
Total 7332-00 · Carson River Work Days					8,132.92	8,132.92
7337-00 · Carson River Restoration						
7337-03 · Dayton Valley Conserv						
Check	7/21/2015	8054	Dayton Valley Conservation District	FY 2014-15 river project expense reimb.	15,259.06	15,259.06
Total 7337-03 · Dayton Valley Conserv					15,259.06	15,259.06
Total 7337-00 · Carson River Restoration					15,259.06	15,259.06
7404-00 · Noxious Weeds Control-CR Wtrshd						
7404-02 · Noxious Weed Control-Douglas Co						
Check	7/21/2015	8051	Douglas County Weed Dept.	FY2015-16 noxious weed abatement program		
Total 7404-02 · Noxious Weed Control-Douglas Co						
7404-03 · Noxious Weed Control-CarsonCity						
Check	7/21/2015	8052	Carson City Weed Coalition	FY 2014-15 noxious weed abatement program	15,000.00	15,000.00
Total 7404-03 · Noxious Weed Control-CarsonCity					15,000.00	15,000.00
7404-04 · Noxious Weed Control-Lyon Co.						
Check	7/21/2015	8053	Dayton Valley Conservation District	FY 2014-15 noxious weed abatement program	10,267.08	10,267.08
Total 7404-04 · Noxious Weed Control-Lyon Co.					10,267.08	10,267.08
Total 7404-00 · Noxious Weeds Control-CR Wtrshd					25,267.08	25,267.08
7406-00 · 208 Water Quality Mgmt. Plan						
7406-02 · 208 Plan-LID Practices- 2013-14						
Gener...	7/31/2015			July copies	1.19	1.19
Total 7406-02 · 208 Plan-LID Practices- 2013-14					1.19	1.19
7406-00 · 208 Water Quality Mgmt. Plan - Other						
Gener...	7/31/2015			July copies	0.24	0.24
Total 7406-00 · 208 Water Quality Mgmt. Plan - Other					0.24	0.24
Total 7406-00 · 208 Water Quality Mgmt. Plan					1.43	1.43
7419-00 · FEMA MAS #3						
Check	7/14/2015	8042	HDR Engineering, Inc.	5/31-6/30/15 FEMA MAS #3	7,940.33	7,940.33
Check	7/21/2015	8047	HDR Engineering, Inc.	5/3-30/15 FEMA MAS #3	1,274.52	9,214.85
Gener...	7/31/2015			July copies	2.66	9,217.51
Total 7419-00 · FEMA MAS #3					9,217.51	9,217.51
7420-00 · FEMA MAS #4 (Flood Map)						
Gener...	7/31/2015			July copies	4.55	4.55
Total 7420-00 · FEMA MAS #4 (Flood Map)					4.55	4.55
7422-00 · BOR Basin Plan of Study						

CARSON WATER SUBCONSERVANCY DISTRICT - GENERAL FUND
Transaction Detail by Account
July 2015

Type	Date	Num	Name	Memo	Amount	Balance
Gener...	7/31/2015			July copies	0.08	0.08
Total 7422-00 · BOR Basin Plan of Study					0.08	0.08
7424-00 · NDEP-Watershed Literacy Gr.Exp.						
7424-02 · Watershed Survey-Responsive Mgt						
Check	7/21/2015	8055	Responsive Management	Task 5: Prepare final report	10,000.00	10,000.00
Total 7424-02 · Watershed Survey-Responsive Mgt					10,000.00	10,000.00
7424-00 · NDEP-Watershed Literacy Gr.Exp. - Other						
Check	7/10/2015	8041	DynoGraphics	10,000 CR Watershed Maps	3,248.98	3,248.98
Gener...	7/31/2015			July copies	51.50	3,300.48
Total 7424-00 · NDEP-Watershed Literacy Gr.Exp. - Other					3,300.48	3,300.48
Total 7424-00 · NDEP-Watershed Literacy Gr.Exp.					13,300.48	13,300.48
7426-00 · FEMA MAS #5-Charter/Map/Model						
7426-01 · Alpine View Est.-Kimley Horn						
Check	7/14/2015	8043	Kimley-Horn & Associates, Inc.	Alpine Est. study thru 6/30/15	6,502.00	6,502.00
Total 7426-01 · Alpine View Est.-Kimley Horn					6,502.00	6,502.00
7426-02 · Smelter Creek-RO Anderson						
Check	7/28/2015	8065	R. O. Anderson	Smelter Cr.-thru 6/21/15	14,000.00	14,000.00
Total 7426-02 · Smelter Creek-RO Anderson					14,000.00	14,000.00
7426-03 · Eagle Valley-Michael Baker						
Check	7/8/2015	8040	Michael Baker Jr., Inc.	Services through 6/30/15	13,625.25	13,625.25
Total 7426-03 · Eagle Valley-Michael Baker					13,625.25	13,625.25
7426-00 · FEMA MAS #5-Charter/Map/Model - Other						
Gener...	7/31/2015			July copies	5.52	5.52
Total 7426-00 · FEMA MAS #5-Charter/Map/Model - Other					5.52	5.52
Total 7426-00 · FEMA MAS #5-Charter/Map/Model					34,132.77	34,132.77
7600-00 · Alpine County Projects						
7600-05 · Alpine Watershed Programs						
Check	7/8/2015	8038	Alpine Watershed Group	Final pmt. for FY 2014-15 Watershed Program Grant	5,000.00	5,000.00
Total 7600-05 · Alpine Watershed Programs					5,000.00	5,000.00
Total 7600-00 · Alpine County Projects					5,000.00	5,000.00
7610-00 · Douglas County Projects						
7610-17 · Do.Co.-EF Channel Restoration						
Check	7/29/2015	8068	Douglas County Community Development	Preliminary Evaluation	29,509.48	29,509.48
Total 7610-17 · Do.Co.-EF Channel Restoration					29,509.48	29,509.48
Total 7610-00 · Douglas County Projects					29,509.48	29,509.48

CWSD PETTY CASH TRANSACTION RECORD
June 2015

Date	G/L No.	Description	Debits	Credits	Balance
		6/30/15 cash balance			$124.37
7/7/15	7104-00	USPS	($38.08)		$86.29
	Postage	Board packages			
7/9/15	7104-00	USPS	($0.28)		$86.01
	Postage	postage due on mail received			
7/14/15	7103-00	from D.Neddenriep		$0.04	$86.05
	Office Supplies	copies			
7/20/15	7103-00	from L.Conlin		$0.63	$86.68
	Office Supplies	copies			
7/23/15	7103-00	from T.Leffler		$0.60	$87.28
	Office Supplies	copies			
7/23/15	7104-00	from T.Leffler		$0.02	$87.30
	Postage	stamps			
7/31/15	1011-00	Balance in Petty Cash		$12.70	$100.00
	Petty Cash				

Date: 7/31/15 Prepared by: Toni Leffler

Approved by: Edwin James

pd. 7/31/15
ck. #8071

Law Office of
GEORGE N. BENESCH
190 W. Huffaker Lane, Suite 408
Reno, NV 89511

Telephone
[775) 827-3100

Fax
(775) 827-3020

Tax I.D. #88-0329442

Invoice submitted to:

Carson Water Subconservancy District
777 E. William, Suite 110A
Carson City, NV 89701

July 01, 2015

In Reference To: General
Invoice # 14709

		Hours	Amount
	For professional services rendered	0.00	$3,333.33
	Additional Charges :		
	June 2015		
6/17/2015	Mileage charge for trip to Fallon.		78.00
	SUBTOTAL:		[78.00]
	Total additional charges		$78.00
	Total amount of this bill		$3,411.33

For Legal Services Rendered

	Previous balance	$3,369.33
	Accounts receivable transactions	
6/10/2015	Payment - thank you. Check No. 7984	($3,369.33)
	Total payments and adjustments	($3,369.33)
	Balance due	$3,411.33

7116-00 Legal

ok to pay Carson
7-8-15

pd. 7/8/15
ck. #803

AGENDA ITEM #10

CARSON WATER SUBCONSERVANCY DISTRICT

TO: BOARD OF DIRECTORS

FROM: EDWIN D. JAMES

DATE: AUGUST 19, 2015

SUBJECT: Agenda Item #10 - Discussion for possible action regarding CWSD entering into an agreement with HDR Engineering to develop inundation maps for the Carson City area that will be housed on the NOAA website and develop inundation maps for portions of Alpine, Douglas, and Lyon Counties that will be housed on the CWSD and each of the county's websites.

DISCUSSION: As part of FEMA MAS #5, CWSD received funding to develop and upload inundation flood maps onto the NOAA and counties websites for various reaches along the Carson River. By the end of September 2015, HDR Engineering will have completed the new floodplain model for the Carson River from Alpine County to upstream of Lahontan Reservoir. The information generated from this model can be used to develop the inundation maps. Because NOAA only wants inundation maps that can be linked directly to a USGS stream gage, the only section of the Carson River that they will allow to be uploaded onto the NOAA website is the reach in the Carson City area. However, since HDR Engineering has the information that will show the water depth at different flow rates along the Carson River in Alpine County, Douglas County, and Lyon County, HDR Engineering will also develop inundation maps for these reaches. This information can then be uploaded on the CWSD, the State, and the local county websites.

The estimated cost to complete this project is $29,000. These funds will come out of the FEMA MAS #5 grant. Attached is the scope of work and quote from HDR Engineering.

STAFF RECOMMENDATION: Authorize staff to sign an agreement with HDR Engineering to develop inundation maps for the Carson City area that will be housed on the NOAA website and develop inundation maps for portions of Alpine, Douglas, and Lyon Counties that will be housed on the CWSD, State, and county websites.

Carson River: Flood Forecast Mapping

Exhibit A

Scope of Services

Carson Water Subconservancy District

August, 2015

CARSON WATER SUBCONSERVANCY DISTRICT

Contents

Tables

Figures

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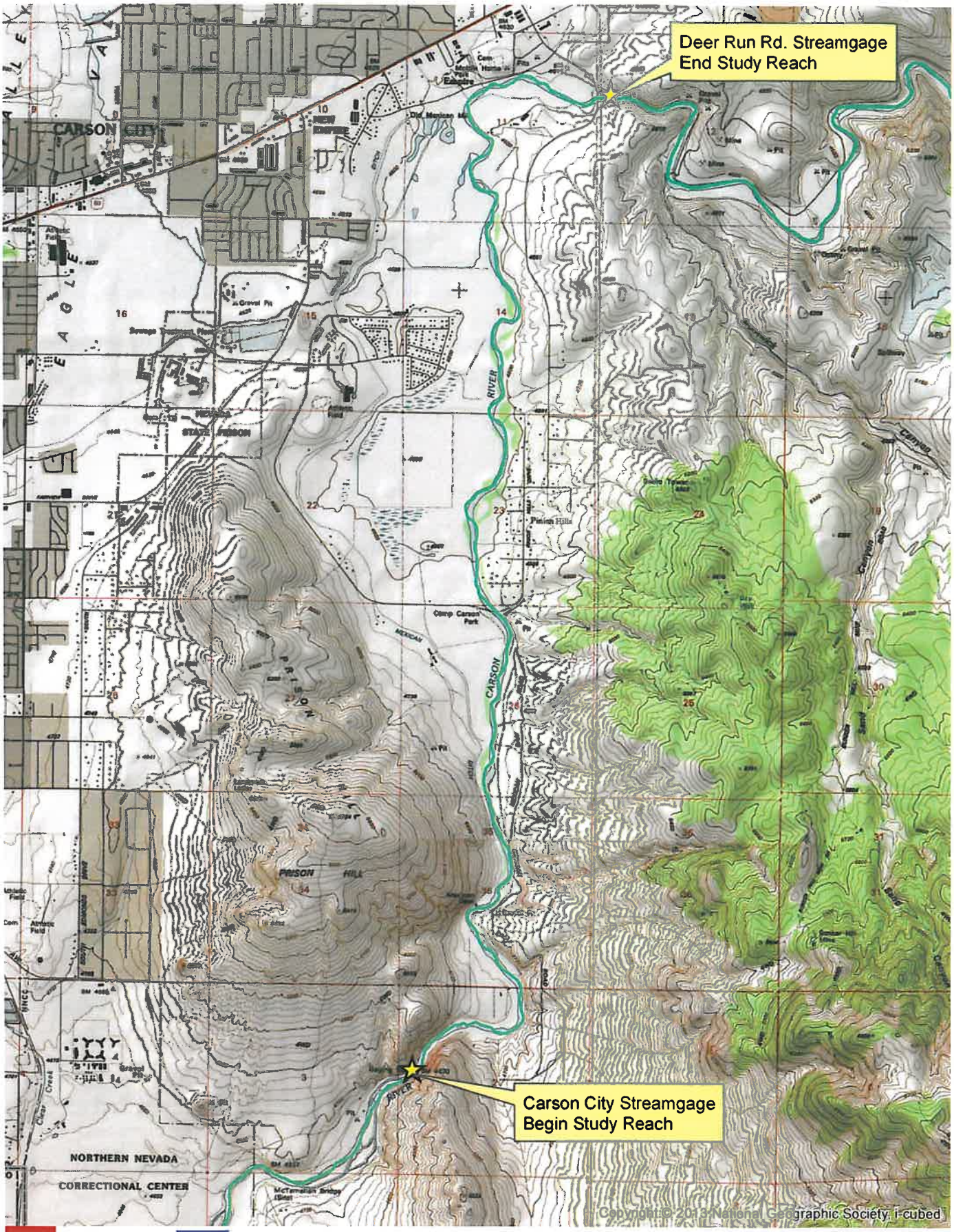
Project Understanding

The National Weather Service (NWS) River Forecast Center develops and maintains web based river stage and flood hazard warnings for a number of streamgage locations throughout the US. The intent is to inform the public of the potential for flooding at various river stages, and to provide those river stages in real-time where available. One of the streamgage locations included in this effort is the Carson River at Carson City, NV USGS number 10311000. At present the web based information does not include flood hazard mapping for the various stages. The extents of the data are written narratives of flood hazards at various stages from 8- to 19-ft. It is the desire of the NWS staff to further develop their web content for this streamgage to include depth grid flood mapping at ½-ft intervals to 14-ft and then every 1-ft to 19-ft. Stage levels will be mapped based on the model rating curve at the Carson City streamgage. These maps will help the public and emergency responders view flood extents at predicted hazard levels. The Study Reach for the NWS portion of the project will be from the Carson City USGS streamgage to the Deer Run USGS streamgage, approximately 7 miles downstream (Figure 1).

In addition to the depth grids to be published on the NWS website, the Carson Water Subconservancy District (CWSD) desires to map flood depth grids for the 10-, 4-, 2-, 1-, 0.5-, 0.33-, 0.25-, and 0.2-percent-annual-chance events in both Douglas and Lyon counties outside the study area for the NWS (Figure 2).

The flood mapping for Carson City and Lyon County will be based on the recently completed HEC-RAS modeling for the Carson River Physical Map Revision (PMR) submitted to FEMA for Mapping Activity Statements (MAS) 1 and 2. This model has been validated to the 1997 event and extends from the Carson City boundary downstream to approximately 9 miles above the Fort Churchill USGS Streamgage.

The flood mapping for the Douglas County area will be based on the MAS 3 modeling to be finalized in September 2015.

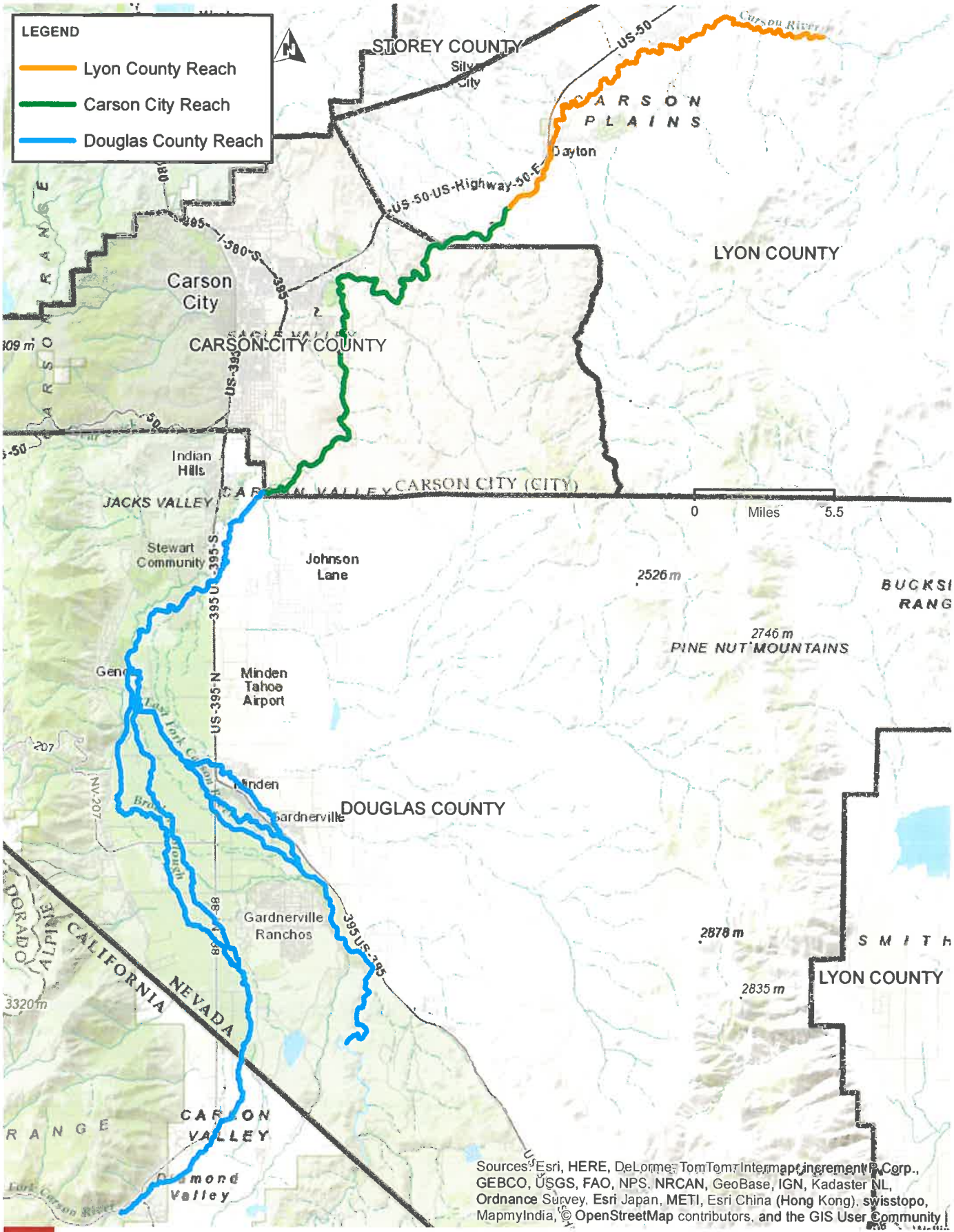


CARSON RIVER, NV

NWS FLOOD HAZARD MAPPING

FIGURE 1

SCOPE OF SERVICES



CARSON RIVER FLOOD HAZARD MAPPING

CWSD STUDY AREAS

FIGURE 2

1 Project Management

HDR personnel will provide project management activities in support of the Carson River NWS Flood Forecast Mapping project. HDR project management activities include project initiation, invoices, project tracking, internal resources review, client coordination, and project coordination. These activities will be conducted to consistently monitor project progress, anticipate project needs, and implement action plans to maintain scope, fee, and schedule to the extent possible.

1.1 Project Initiation

Upon approval of the agreement, HDR personnel will conduct management activities related to the initiation of the project. These will include contract initiation, preliminary project review, and electronic project setup.

1.2 Invoicing and Progress Tracking

Schedule and budget progress will be reported through submission of monthly invoices. Monthly invoices will include summary of tasks worked on in that period, cost to date, and funds remaining for the project to assist the CWSD project manager track progress and project spending.

1.3 Client Coordination

Progress, issue tracking, and action item review will be accomplished through periodic project team phone meetings initiated by HDR. A review of the anticipated project schedule, project status, actions to be taken, and budget will be discussed at each meeting. Possible departures from the anticipated schedule and remaining budget will be identified and a corrective course of action will be discussed, if necessary. Each coordination meeting is anticipated to take no more than one-half hour. For budgeting purposes, it is anticipated that these meetings will be held on a monthly basis.

Proposed changes in or departures from this scope of services identified or initiated by HDR will be provided to CWSD in writing. Proposed changes in or departures from this scope of services identified or initiated by CWSD will be reviewed by HDR and any resulting changes to the schedule/budget will submitted to the CWSD in writing.

1.4 General Project Coordination

HDR's Project Manager will work with CWSD and NWS personnel to facilitate regular team communication and transfer of information with the project team. Internal project meetings will be held as necessary via conference call or in-office meetings.

Assumptions:

- Project management tasks are estimated based upon anticipated project duration of 6 months.
- Client meetings will last no more than ½ hour.

- CWSD personnel will be responsible for meeting notes.

Deliverables:

- Status reports to accompany monthly invoices.

2 Public Involvement

It is anticipated that the mapping will require input from NWS staff, CWSD staff, and potentially a small group of stakeholders. Meetings will include one general kickoff meeting, one progress meeting, and a final results meeting. CWSD staff will organize, manage, and document project meetings. HDR staff will support CWSD staff with technical information such as maps, figures, and presentations to facilitate meetings.

Assumptions:

- Public involvement meetings will last no longer than three (3) hours each.
- CWSD personnel will be responsible for developing stakeholder groups and stakeholder coordination.
- CWSD personnel will be responsible for meeting agendas and minutes.
- HDR personnel's roles will be limited to technical support and attendance for meetings.
- CWSD and NWS personnel will conduct any necessary public notification.

Deliverables:

- Supporting technical information including maps, figures, and presentations.

3 Floodplain Mapping

HDR staff will use the MAS 1, MAS 2, and MAS 3 HEC-RAS models from the Carson River PMR to develop depth and water surface elevation grids for both Study Areas.

3.1 Hydrology and Modeling

Given the desire of the CWSD to map various flood frequency events ranging form the 10- to 0.2-percent-annual-chance, it will be necessary to scale the current 1-percent-annual-chance hydrographs in the model for these events. HDR staff will use current flood frequency curves to determine the peak flow rate for the desired mapping events and then scale the 1-perecent event so the peak matches study events. These events will be run through the models individually and the resulting flood maps will be exported to GIS.

3.2 NWS Reach Mapping

For the NWS reach mapping will be based on flood stages at the USGS Streamgage at Carson City (10311000). Depth and elevation rasters will be based on HEC-RAS model river stages from 8- to 32-ft at the Carson City streamgage location as described in

Project Understanding. Flood mapping will be produced at ½-ft intervals from 8- to 14-ft. and then every 1-ft to 32-ft.In addition to floodplain rasters, HDR staff will create a terrain Digital Elevation Model (DEM) for this reach based on the data developed in MAS 2.

3.3 CWSD Area Mapping

Flood Hazard Mapping for the CWSD areas outside the NWS reach will be based on flood frequency flows rather than river stages. Statistical analyses conducted during the PMR work will be used to extract flow rates for the 10-, 4-, 2-, 1-, 0.5-, 0.33-, 0.25-, and 0.2-percent-annual-chance events for appropriate USGS streamgages within the study areas. The following Streamgage statistics will be used for mapping:

- West Fork Carson River – USGS Streamgage 10310000, West Fork Carson River Near Woodfords
- East Fork Carson River – USGS Streamgage 10309000, East Fork Carson River Near Gardnerville
- Carson City - USGS Streamgage 10311000, Carson River Near Carson City
- Main Stem Lyon County - USGS Streamgage 10311700, Carson River at Dayton

For all areas, depth and water surface elevation (WSE) results will also be added to a series of paper based maps. Paper maps will be produced at the above stage intervals and will also display base data such as aerial imagery, roads, and contours.

Assumptions:

- Digital floodplain boundaries and water surface elevation contours will be developed in ESRI GRID format.
- Preliminary floodplain boundaries will be reviewed at a minimum by the CWSD and NWS. Comments will be integrated as appropriate using sound engineering practices within two (2) weeks of receipt of comments.
- Floodplain boundaries will be edited using best engineering judgment and topographic data developed for the Carson River PMR
- All data will be in North American Datum of 1983 (NAD 83), State Plane Feet, Nevada West (FIPS 2703) horizontal datum and North American Vertical Datum of 1988 (NAVD 88) vertical datum.
- NWS will integrate GIS data into web based formats.
- Depth and WSE grids will be based on the HEC-RAS rating curve stages for appropriate cross sections closest to USGS streamgage locations.
- A total of 47 floodplain boundaries will be created based on the criteria above.
- All gridded data will be delivered at a 1-ft X 1-ft grid cell resolution.
- Gridded data will be in ESRI GRID format.

Deliverables:

- Disks (1 for NWS and 1 for CWSD) containing GIS data, and PDF maps
- One set of 24-in x 36-in Paper maps based on the above data
- Metadata files that comply with Federal Geographic Data Committee (FGDC) standards.

4 Project Reporting

HDR staff will produce a summary Technical Memo outlining the HEC-RAS modeling and GRID based mapping process for this effort.

Assumptions:

- The Tech Memo will be produced in Microsoft Word and then converted to Adobe PDF. A draft Memo will be submitted and reviewed by the CWSD and NWS staff before completion. CWSD will provide one set of consolidated comments on the Draft Report integrating comments.

Deliverables:

- One digital and 1 paper copy of the Memo to CWSD and 1 digital and 1 paper copy to NWS.

5 Quality Assurance Quality Control (QA/QC)

HDR will perform internal QA/QC activities related to project initiation and management in accordance with HDR's internal policies and procedures. HDR will also perform QA/QC on products delivered to the CWSD and NWS using the aforementioned internal policies.

6 Schedule

HDR personnel will work with CWSD and NWS staff upon Notice to Proceed (NTP) to develop a project schedule. Project schedule will be finalized within three (3) weeks of Notice to Proceed. Initially, HDR assumes that all work will be completed within 6 month of the NTP.

7 Budget

Major budget items are summarized below in

Table 1. It is anticipated that this will be billed as a lump sum contract.

Table 1: Anticipated project budget

1	Project Management	$4,412
2	Public Involvement	$1,514
3	Floodplain Mapping	$17,039
4	Project Reporting	$2,843
5	QA/QC	$2,942
	Total	$28,750

AGENDA ITEM #11

CARSON WATER SUBCONSERVANCY DISTRICT

TO: BOARD OF DIRECTORS

FROM: EDWIN D. JAMES

DATE: AUGUST 19, 2015

SUBJECT: Agenda Item #11 - Discussion for possible action regarding CWSD entering into an agreement with Orion Engineering to upload the flood data for the inundation maps onto the NOAA website.

DISCUSSION: As part of FEMA MAS #5, CWSD received funding to upload inundation flood maps onto the NOAA website for the reach along the Carson River in the Carson City area. Orion Network Solution is the firm that NOAA has selected to upload inundation maps onto their website. The estimated cost to complete this project is $4,000. These funds will come out of the FEMA MAS #5 grant. Attached is the scope of work and quote from Orion.

STAFF RECOMMENDATION: Authorize staff to sign an agreement with Orion Network Solution to upload the inundation maps onto the NOAA website.

Flood Inundation Mapping:

Development, Review Period Hosting, Updates and Statement of Work

---

Orion Network Solutions, Inc.
6795 Edmond St. Ste. 300
Las Vegas, NV 89118
www.OrionNetworkSolutions.com
(702) 800-0588

Within this document, **Orion Network Solutions, Inc** is henceforth referred to as "**Orion**" and the **Carson Water Subconservancy District** is henceforth referred to as the "**Client**".

1. Purpose

Provide Flood Inundation Mapping (FIM) library development and web hosting of developed FIM library for the review period.

2. General Description

Flooding causes more deaths and damage than any other weather-related phenomena, and three-quarters of all federal disaster declarations are due, at least in part, to flooding. Total national annual flood damage for the 20-year period ending in 2002 has averaged $5 billion. Important elements in the Nation's program to mitigate flood damages include flood warnings and river forecasts.

The National Weather Service (NWS) is enhancing the communication of flood risk and impacts by expanding the Advanced Hydrologic Prediction Service (AHPS) to support FIM services. Developed in partnership with the Client and NWS, the web-based FIMs will provide information on the spatial extent and depth of floodwaters in the vicinity of NWS river forecast locations. Combined with river observations and NWS river forecasts, FIM services will provide our decision-makers additional information needed to better mitigate the impacts of flooding and build more resilient communities.

The work to be performed in this task is to provide Flood Inundation Mapping (FIM) library development and web hosting of developed FIM library for the review period.

3. Knowledge Required

Orion possesses knowledge of the following:

1. HTML and PHP programming languages.
2. JavaScript, jQuery and AJAX programming languages.
3. XML and RSS format specifications.
4. Diagnosis and troubleshooting of web-based mapping software.
5. Geographical Information System (GIS); specifically, the ability to work with shapefiles, grid processing and orthographic imagery.
6. NWS Weather Forecast Offices (WFO) and River Forecast Center (RFC)

hydrometeorological and hydrologic operations.

7. Department of Commerce (DOC), National Oceanic and Atmospheric Administration (NOAA), and NWS Security Policies.
8. DOC, NOAA, and NWS Internet Policies.
9. Section 508 of the Disabilities Act - Internet Policies.

4. Nature of Work

4.1. Client Responsibilities

Furnish Orion (via NWS – following NWS QC processing) the following:

1. ESRI shapefiles of the study extent, FEMA floodway, 100-yr, 500-yr flood boundaries and up to ten (10) additional custom layers.
2. ESRI shapefiles of inundation areas for the flood stage or flow elevations running from action stage/flow through the record flood may range from 0.1 ft to 1.0 ft or an equivalent flow range in cfs. These shapefiles must be edited to remove unconnected ponding areas.
3. ESRI raster grids of water depth exactly corresponding to the inundation areas edited to remove unconnected ponding areas.
4. Federal Geographical Data Committee (FGDC) compliant metadata records.
5. The value to use for gauge zero datum in NAVD88.

Refer to "**Attachment A**" for complete list of requirements including specific items and data formats.

4.2. Orion Responsibilities

Orion shall assemble the information to develop a series of flood inundation maps for future implementation via the NWS AHPS web portal. A set of inundation maps in association with an AHPS forecast location will constitute one FIM library. For the development of the library, Orion shall accomplish the following task items:

4.2.1. Assure the format of the ESRI shapefile polygon(s) and ESRI raster(s) comply with the following NWS Directives:

1. Standard Web Page Layout 60-101
   http://www.weather.gov/directives/060/060.htm

2. National Hydrologic Products Specification 10-930
http://www.weather.gov/directives/010/010.htm

And as described in the Inundation Mapping References:

3. Federal Flood Inundation Map Library Guidelines
http://water.weather.gov/ahps/NOAA_AHPS_Guidelines_Final_2011_v3.pdf
4. Inundation Mapping Guide
http://water.weather.gov/ahps2/inundation/inundation_mapping_user_guide.pdf

4.2.2. Develop FIM images for the following Google and/or ESRI Map based AHPS interface:

1. "Inundation Levels" view.
2. "Flood Categories" view.
3. "Current/Forecast" view.

4.2.3. For each "Inundation Levels" and "Current/Forecast" page view, Orion shall create a water depth mouseover dataset by:

1. Analyzing ESRI shapefile, ESRI raster and ASCII depth grids to determine appropriate water depth value and pixel color.
2. Assembling the ESRI raster data for each inundation level.
3. Merging the ESRI raster cells into an intelligible pixel for mouseover readability of location and water depth.
4. Superimposing the inundation study boundaries.

4.2.4. For each Custom layer supplied by Client, Orion will develop a custom overlay for display on Google and/or ESRI Map based AHPS interface.

4.2.5. Verify and perform checks to existing DFIRMs.

4.2.6. Create KMZ content formatted for the National Aeronautics and Space Administration (NASA) World Wind and Google Earth applications.

4.2.7. Based on the needs of Client and upon request, Orion will reprocess a FIM library a second time should Client discover data discrepancies or library

issues and provide updated data. Reprocessing request must occur prior to the implementation of the FIM library on the National Weather Service Internet Dissemination System (NIDS) web-farm(s) or it will constitute a change order for the purpose of this statement of work.

4.2.8. Host the FIM library on the Orion development system for up to six (6) months after the development deliverable have been met; which will provide a review period for the Client, NWS and other location stakeholders.

5. Product Delivery Schedule

Upon delivery of the FIM library datasets to Orion as described in "**Attachment A**" by Client or NWS, Orion will:

5.1. Provide a progress report during the development phase 21 days after receiving the FIM library for processing.
5.2. Develop all FIM web datasets and views within 45 days.
5.3. Populate Orion development site with the processed FIM datasets and views within 45 days.

6. Acceptance

The Client shall not be obligated to issue new tasks to Orion, nor shall Orion be obligated to accept any new task beyond the scope of this document, as stated herein. Each developmental task item shall require Orion to demonstrate the tasks have met specific operational criteria defined in written or electronically transmitted task statements. A task item shall be considered completed and accepted when it is demonstrated to Client and NWS.

Task items that are determined to be unacceptable shall be assessed to determine whether they are caused by Orion deficiencies or conditions beyond the responsibility of Orion. These condition may be but are not limited to:

1. Hardware and/or software failures.
2. Communication errors.
3. Outdated or unacceptable FIM information and/or file types.
4. Failure of Client or NWS to provide accurate information.

If it is determined that Orion is responsible, Orion shall correct the deficiency.

7. Warranty

Orion warrants the work performed will meet or exceed the acceptance criteria for a 90-day period post FIM library publishing to NIDS web farm(s). If Orion fails to comply with the terms of this agreement, Orion shall be considered in default.

8. Sole Source Justification

Orion Network Solutions, Inc. is being sought for this contract because of its unique combination of knowledge and expertise to perform the task required.

Orion Network Solutions, Inc.
6795 Edmond St. Ste. 300
Las Vegas, NV 89118
Phone: (702) 800-0588
www.orionnetworksolutions.com
DUNS: 136581027

Orion Network Solutions, Inc. has previously supported NWS web page implementation and is the sole vendor, which would have a thorough and detailed understanding of the AHPS web farm software and databases. The amount of time and resources for which another vendor would require to simply become familiar with the existing software, web servers, configuration files and gain the necessary system and database access would be cost prohibitive; thus the level of proficiency of such a vendor would be inadequate.

9. References

9.1. Advanced Hydrologic Prediction Service (AHPS): http://water.weather.gov
9.2. Flood Inundation Map (FIM) Locations: http://water.weather.gov/ahps/inundation.php
9.3. NWS Web Directive: http://www.weather.gov/os/water/policy.shtml#60
9.4. Guide to Section 508: http://www.section508.gov/
9.5. DOC, NOAA, NWS Security Policies: https://www.csp.noaa.gov/policies/

Attachment A

AHPS Static Flood Inundation Mapping: Deliverable Checklist for Google/ESRI Versions

Item	Complete	Description
1		**Study Extent & Model Extent** Format: ESRI shapefile polygon and line (WGS84 Web Mercator (Auxiliary Sphere) EPSG: 3857). Items: (1) Polygon file to describe the extent of the study area as it will be viewed on AHPS. (2) Line file defining the extent of the hydraulic model for inundation mapping in the channel. Notes: 1. The inundation extent lines should cross the centerline of the channel and align with the extent of the highest inundation mapping level. 2. The study extent polygon should create a rectangular boundary of the area that is to be displayed on AHPS in on a North\South and East\West axis.
2		**FEMA Studies** Format: ESRI shapefile polygons (WGS84 Web Mercator (Auxiliary Sphere) EPSG: 3857). Items: floodway, 100-yr, 500-yr boundaries – clipped to match the "study extent". Notes: FEMA study information is not required for locations where FEMA studies do not exist or are not planned as part of the inundation mapping project.
3		**Custom Layers** Format: ESRI shapefile polygons or lines (WGS84 Web Mercator (Auxiliary Sphere) EPSG: 3857).

		Items: Up to ten (10) custom layers. Notes: Custom layers must be provided with desired coloring, plain text label and short description. Example: A polyline shapefile that displays the flood control structures would be named *flood_control_structures.shp* and have corresponding metadata.
4		**Inundation Polygons** Format: ESRI shapefile polygons (WGS84 Web Mercator (Auxiliary Sphere) EPSG: 3857). Items: Inundation polygons for the flood stage elevations running from action stage through the record flood. (Note: elevations based on NAVD88 and flow based on cfs) Notes: 1. Inundation polygons must be created at equal intervals. Intervals may be sized according to site characteristics and may range from 0.1 ft to 1.0 ft or an equivalent flow range in cfs. 2. Inundation polygons should use the following naming convention for stage locations *elev_{feet}_{tenth}.shp* or *flow_{cfs}.shp* for flow locations. (Note: locations cannot present both stage and flow data) a. Example for stage: An inundation layer at 78.3 feet NAVD88 the file would be named: *elev_78_3.shp* b. Example for flow: An inundation layer at 34,000 cfs the file would be named: *flow_34000.shp* 3. Inundation polygons must pass the QC standards provided by the NWS (see *Partner QA Checklist*). 4. The presence of and hydraulic effect of bridges should be reflected in the inundation polygons at each depth interval. If the low chord of the bridge is not inundated, then the polygons should be clipped adjacent to the upstream and downstream side of the bridge to show that the bridge decking is dry. If all or part of a bridge decking is inundated, then all or part of the bridge decking should be shown as covered by the inundation polygon.
5		**Inundation Water Depth Rasters** Format: ESRI raster grids (WGS84 Web Mercator (Auxiliary

		Sphere) EPSG: 3857). Items: Grids created for all inundation mapping elevations that describe the depth of the inundation at each elevation. All raster values should be positive, non-zero values. Notes: 1. Raster files must be created at equal intervals that correspond with the inundation polygons equal intervals. 2. Inundation rasters should use the following naming convention for stage locations elev_*feet_tenth* or flow_*cfs* for flow locations. (Note: locations cannot present both stage and flow data) a. Example for stage: An inundation layer at 78.3 feet NAVD88 would be named: *elev_78_3* b. Example for flow: An inundation layer at 34,000 cfs would be named: *flow_34000* 3. Raster files should be created at a scale equal to the scale of the underlying terrain data. (4) Raster files must pass the QC standards provided by the NWS (see *Partner QA Checklist*). 4. The presence of and hydraulic effect of bridges should be reflected in the inundation depth grids at each depth interval. If the low chord of the bridge is not inundated, then the depth grids should be clipped adjacent to the upstream and downstream side of the bridge to show that the bridge decking is dry. If all or part of a bridge decking is inundated, then all or part of the bridge decking should be shown as covered by the depth grids and the depth of water over the bridge should be calculated for the inundated sections of the bridge.
6		**Metadata** Format: ESRI XML metadata file. Items: Federal Geographical Data Committee (FGDC) compliant metadata records. One metadata record should be created for each of the following groups of data: study area, FEMA information, inundation area shapefiles, inundation depth grids and custom layers. Notes: See example metadata files for minimum requirements.
7		**Gauge Zero Datum**

		Format: NAVD88 in feet. Items: Gauge zero datum is the zero surface to which the shapefile and raster elevations were based off of.

Quote # 15080301

Orion Network Solutions, Inc.
6795 Edmond St. Ste. 300
Las Vegas, NV 89118
(702) 800-0588
accounting@orionnetworksolutions.com

Quote

Bill To: Carson Water Subconservancy District
Attn: Ed James
777 E. William Street, Suite 110A
Carson City, NV 89701
775.887.7450

Quote Date:	8/3/2015
Contract #:	N/A
PO #:	N/A
Payment Terms:	Net 90

Qty	Description	Unit Price	Total
1.00	Inundation Mapping Development & Implementation Carson River near Carson City, NV (STWN2) USGS ID: 10311000	$4,000.00	$4,000.00
			$0.00
			$0.00
			$0.00
			$0.00
			$0.00
		Subtotal	$4,000.00
		Tax	$0.00
		Total	$4,000.00

Notes

- Quote is valid 90 days from date issued.
- Inundation location will be invoiced for once site is implemented on the National Weather Service web-farm(s).

Thank you for your business!

AGENDA ITEM #12

CARSON WATER SUBCONSERVANCY DISTRICT

TO: BOARD OF DIRECTORS

FROM: EDWIN D. JAMES

DATE: AUGUST 19, 2015

SUBJECT: Agenda Item #12 - Discussion for possible action regarding applying for NDEP 319 grants.

DISCUSSION: Nevada Division of Environmental Protection – Water Quality Planning Bureau released the request for Non-Point Source Pollution/Clean Water Act Section 319(h) grant proposals on July 21, 2015. Grant applications are due on September 14, 2015, and the match requirement is 50%. CWSD is interested in applying during this round to further implement our Watershed-Literacy Program. Staff submitted a pre-proposal on August 10, 2015, outlining the projects (see attached). Implementation of this portion of the program will cost approximately $50,000 in total. A 50% match is required for 319(h) funding; therefore, CWSD seeks $25,000 from NDEP's 319(h) program, and the $25, 000 match would be met by staff salaries, consultants using CWSD's outside professional services budget (Explore Your Watershed Interactive Map update), volunteers' time, and NDOT (proposed in-kind and/or cash for the watershed boundary signage project).

The current grant funding for our existing Watershed-Literacy Implementation grant is 80% complete and expires June 2016. This new application would be a two and a half year grant and would be incorporated into staff's work program accordingly.

STAFF RECOMMENDATION: Authorize staff to pursue Clean Water Act Section 319(h) grant funding for the Watershed-Literacy Implementation Program as outlined.

Nevada Division of Environmental Protection
Bureau of Water Quality Planning
Nonpoint Source Program

319(h) Pre-Application

Project Title: Watershed-Literacy Implementation Program

Primary Contact Person: Brenda Hunt & Courtney Walker

Lead Agency Organization: Carson Water Subconservancy District

Contact Person's Email Address: brenda@cwsd.org, Courtney@cwsd.org	
Contact Person's Mailing Address: 777 E. William Street, Suite 110A	
City	Carson City
State	NV
Zip	89701
Contact Person's Phone:	
Land Line	775-887-9005
Mobile	
Fax	775-887-7457

Applicant is one of the following:

- ☒ State, local, tribal Government
- ☐ Interstate, Intrastate public agency
- ☐ Public nonprofit organization
- ☐ Private nonprofit organization
- ☐ Educational Institution

Project Type Nonpoint Source Pollution Education / Outreach

Project Location (General Physical Location): The Carson River Watershed

DEPARTMENT OF CONSERVATION & NATURAL RESOURCES

Nevada 8-Digit Hydrologic Unit Code(s) & Catalog Name(s)[1]:

HUC List 1of 3
16050201 Upper Carson
HUC List 3 of 3
Additional HUCs 16050203 and 16050203
☐ HUC(s) Unknown

1. If more than one HUC applicable, input under "Additional HUCs." HUCs information may be found at http://water.usgs.gov/GIS/huc.html.

Project Summary (150 word limit):
The proposed project contains outreach and education tasks to assist in the implementation of the Carson River Watershed-Literacy Action Plan (WLAP).

Watershed-Literacy Gap Analysis/Strategic Approach:
Based on the Watershed-Literacy survey results, and the goal and objectives (Obj. 4) of the WLAP, CWSD plans to hire consultant to conduct a gap analysis to determine messages per topic, audiences being reached, topics being omitted, priorities and where to focus efforts for future programing, and to determine a consistent program evaluation process. As a part of this process, CWSD will host an Education and Outreach Forum to present survey results and obtain feedback.

Hire a consultant to assist CWSD to update the Explore Your Watershed Online Interactive Map to be consistent with our recently updated physical watershed map, and provide staff content control.

Partnering with NDOT, install Carson River Watershed Boundary Signage on State and Federal highways that cross through the watershed.

Fiscal Summary:

319(h) funds requested	$25,000
Total amount of non-federal match[2] funds	$25,000
Total Project Cost	$50,000

2. Cash + Inkind: Must be at least 50% of Total Project Cost

Anticipated Project Start Date: 1/1/2016
Anticipated Project Completion Date: 6/1/2018

Name of applicable Watershed Plan and/or TMDL: Carson River Watershed Adaptive Stewardship Plan

Note: A "No" response may result in an Initial Determination of Ineligibility.

Is the State's Standard Contract Language acceptable to applicant?
☒ Yes ☐ No ☐N/A

Is the applicant able to pay for costs up front, and be subsequently reimbursed by the State (No grant advances are provided)?
☒ Yes ☐ No ☐N/A

Does the project budget include at least 50 percent[3] non-federal match?
3. Local match must be at least 50% of total project cost. 319(h) funds cannot exceed 50% of total project cost.

☒ Yes ☐ No ☐N/A

Does the project include plans for monitoring and maintenance?
☒ Yes ☐ No ☐N/A

Will timelines for required permits be included in the Project's Schedule?
☒ Yes ☐ No ☐N/A

Is the project identified or otherwise covered under an approved Watershed Based Plan or TMDL?
☒ Yes ☐ No ☐N/A

N/A Explanations:

For Agency Use Only:

Related Proposal No. 319-2015-1
Received by:-- Reviewed by:--

Date Received: Click here to enter a date.

Initial Determination of Eligibility:
☐ Eligible
☐ Ineligible

Additional information required to make determination:
☐Yes
☐No

Request for Additional Information, Date: Click here to enter a date.
Notice of Determination, Date: Click here to enter a date.

AGENDA ITEM #13

CARSON WATER SUBCONSERVANCY DISTRICT

TO: BOARD OF DIRECTORS

FROM: EDWIN D. JAMES

DATE: AUGUST 19, 2015

SUBJECT: Agenda Item #13 - Discussion for possible action regarding a presentation on the Flood Relief Alternatives for the Carson River Downstream from Lahontan Reservoir.

DISCUSSION: As part of FEMA MAS #5, CWSD received funding to evaluate flood relief for the unincorporated Churchill County and City of Fallon areas along the Carson River downstream from Lahontan Reservoir. R.O. Anderson Engineering was selected to conduct this study since they had done some preliminary work on this subject. The goal of the study was to evaluate ways to reduce flooding in these areas in periods when Lahontan Reservoir is full and a high runoff event occurs.

Based on earlier work done by R.O. Anderson, it had already been evaluated that the most practical way to reduce flooding to the areas was to divert the flood water overland toward the Sheckler Reservoir area. R.O. Anderson evaluated several different alternatives to shunt the flood waters to this area. Attached is the summary of the study and findings. Rob Anderson with R.O. Anderson will give a brief overview of the study and findings.

STAFF RECOMMENDATION: Receive and file.

R|O|Anderson

Report

Flood Relief Alternatives
for
Carson River
Downstream from Lahontan Reservoir
Churchill County, Nevada

Feasibility Engineering Study - Final

June 8, 2015

MAILING ADDRESS
P.O. Box 2229
Minden, NV 89423

www.ROAnderson.com

OFFICES
- Minden, Nevada
- Reno, Nevada
- South Lake Tahoe, California

R O Anderson

Flood Relief Alternatives for Carson River Downstream from Lahontan Reservoir Churchill County, Nevada

Feasibility Engineering Study (Final Report)

June 8, 2015

Prepared For:

CARSON WATER SUBCONSERVANCY DISTRICT

777 East William Street

Carson City, Nevada 89701

Phone: (775) 887-7450

Physical
1603 Esmeralda Avenue
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OFFICES
- Minden, Nevada
- South Lake Tahoe, California
- Lubbock, Texas

Flood Relief Alternatives for Carson River Downstream from Lahontan Reservoir Churchill County, Nevada

Feasibility Engineering Study (Final Report)

June 8, 2015

Prepared By:

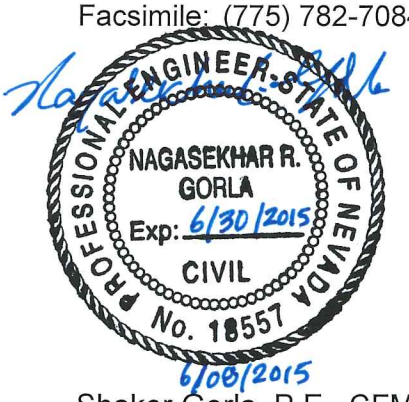
R.O. ANDERSON ENGINEERING, INC.

1603 Esmeralda Avenue

Minden, Nevada 89423

Phone: (775) 782-2322

Facsimile: (775) 782-7084



Shaker Gorla, P.E., CFM

Reviewed By:
Robert O. Anderson, P.E., CFM, WRS

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1 Executive Summary

The City of Fallon and unincorporated Churchill County are located downstream from Lahontan Reservoir. During periods when Lahontan Reservoir is near capacity and a significant hydrologic event occurs simultaneously in the Carson River watershed, flooding occurs downstream from Lahontan Dam as a result of flood water releases necessary to protect the structure. R.O. Anderson Engineering, Inc. (ROA) was retained by the Carson Water Subconservancy District (CWSD) to investigate the technical and economic feasibility of mitigating flood risk for flood prone residential and agricultural areas by diverting sufficient flood flows from the Carson River downstream of Lahontan Reservoir and overland toward Sheckler Reservoir through uninhabited Churchill County lands, BLM lands, and potentially U.S. Navy properties.

The following tasks were included in the scope of services:

- Collect available topographic data for the study area.
- Use the collected topographic data to identify at least two potential routes for diverting flood flows during flood events on the Carson River below Lahontan Reservoir.
- Develop feasibility-level designs for conveying flood flows along the identified routes.
- Provide an engineer's estimate of probable construction cost for each of the identified alternatives.
- Prepare a draft report with supporting exhibits for CWSD's, and other public agencies' (stakeholders) review and comment.
- Participate in and present the results of this study at the Carson River Coalition River Corridor Working Group Meeting and one general public meeting.
- Address comments and feedback received from stakeholders and the public and finalize the report.

This feasibility study was initiated with a field reconnaissance survey followed by data collection efforts which resulted in the production of a series of base maps. The base maps show the general topography of the project area overlaid on ortho-rectified satellite images. Using these base maps, four potential routes were identified to divert and convey floodwater from the Carson River toward Sheckler Reservoir. In addition to these alternative routes, an additional "Do-Nothing" alternative was also considered to demonstrate the advantages of

diverting floodwaters away from downstream infrastructure, homes and properties. These alternatives were further examined and ranked based on the feasibility, constructability, and cost effectiveness. The result of this effort is the identification of a Preferred Alternative that meets the goals and objectives of stakeholders.

Section 2 of this report includes a brief discussion of the Carson River's journey from its headwaters to final destination, as well as a background and goals of this project. Section 3 of the report includes a brief discussion of the identified alternative routes to divert floodwater to Sheckler Reservoir. Section 4 of the report includes a detailed discussion of the alternatives considered, a comparison of the alternatives, along with the presentation of the engineer's estimate of probable construction costs. Section 5 of the report contains the findings and conclusions of this study.

2 Background

The 184-mile Carson River drains the approximately 3,966 square mile watershed. In its upper watershed region, the river includes two major forks: 74-mile long East Fork reach and 40-mile long West Fork reach (*Figure 1 - Project Vicinity Map*). The West Fork reach joins the East Fork reach about 1 mile southeast of Genoa. The combined Carson River then flows north 18 miles to the end of the upper watershed at Mexican Dam just southeast of Carson City. Downstream of Mexican Dam, the middle watershed of the river runs generally northeast from Carson City past Dayton through portions of unincorporated Lyon County. The middle watershed ends in western Churchill County at Lahontan Dam, where the river flows are augmented by flows from the Truckee Canal (USGS[i]).

Downstream of Lahontan Dam, river flows are regulated by the Carson River Diversion Dam, which is located approximately five miles below Lahontan Dam. The Carson River Diversion Dam is 241-feet long with a 225-foot long, 31-foot high concrete control section that functions to divert water into two main canals (V-Line and T-Line canals) that together irrigate hundreds of farms within the Newlands Project Area. During the irrigation season, Truckee Carson Irrigation District (TCID) diverts a flow of 660 cfs and 150 cfs into the V-Line Canal and T-Line Canal, respectively, and 550 cfs is released downstream of the diversion dam that flows toward ultimate destination - Carson Sink. Existing plan of operations at the Carson River Diversion Dam are graphically shown on *Figure 3 – Existing Flow Diversion Plan at Carson River Diversion Dam*.

Flooding problems in unincorporated Churchill County and the City of Fallon are primarily due to the overflow of the Carson River. Most recently high runoff events occurred in 1983, 1986, 1996, and 1997, respectively. (FEMA[ii]) These high runoff events have filled Lahontan Reservoir and Carson River Diversion Dam upstream of the City of Fallon and the resultant releases, as well as spillway flows, have caused damage to County roads, private properties, and residences. In order to alleviate and minimize flood-related damages in the Carson River floodplains downstream from the diversion dam, CWSD contemplated the possibility of diverting additional flood flows overland to Sheckler Reservoir through uninhabited Churchill County lands, BLM lands, and possibly through US Navy property (*Figure 2 – Project Location Map*).

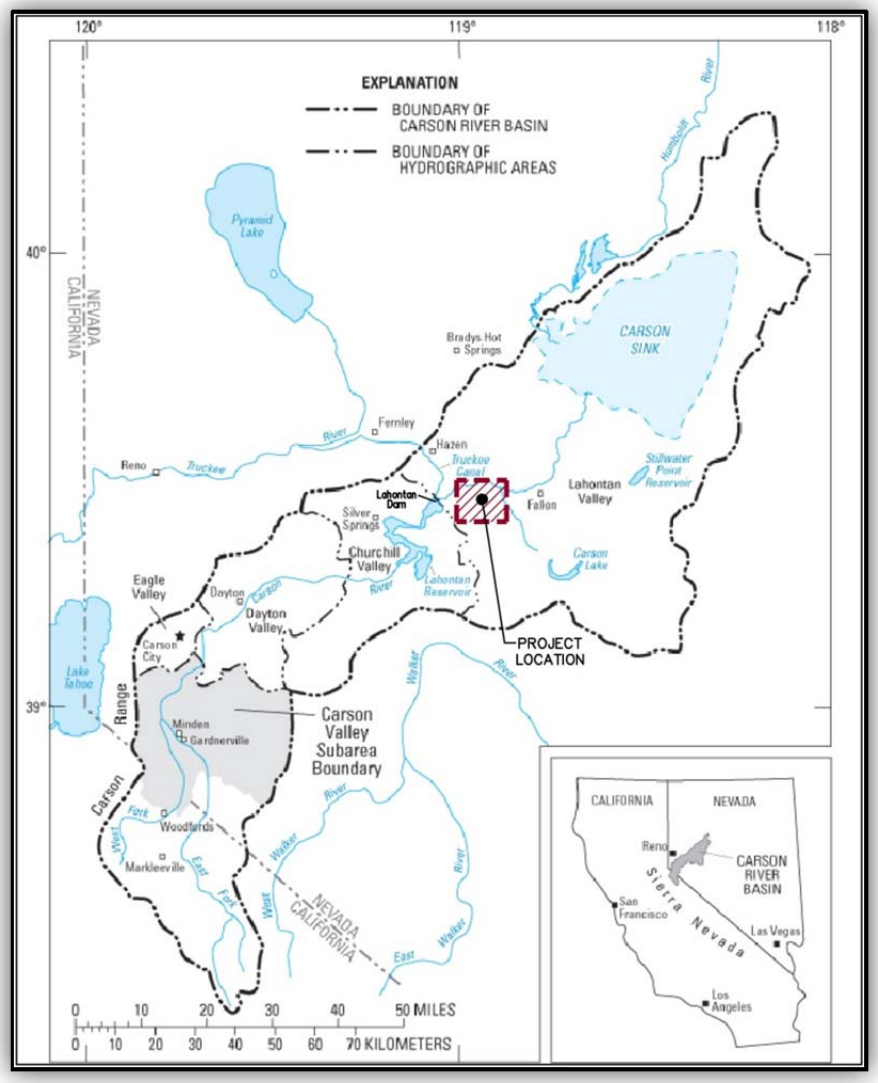


Figure 1 - Project Vicinity Map

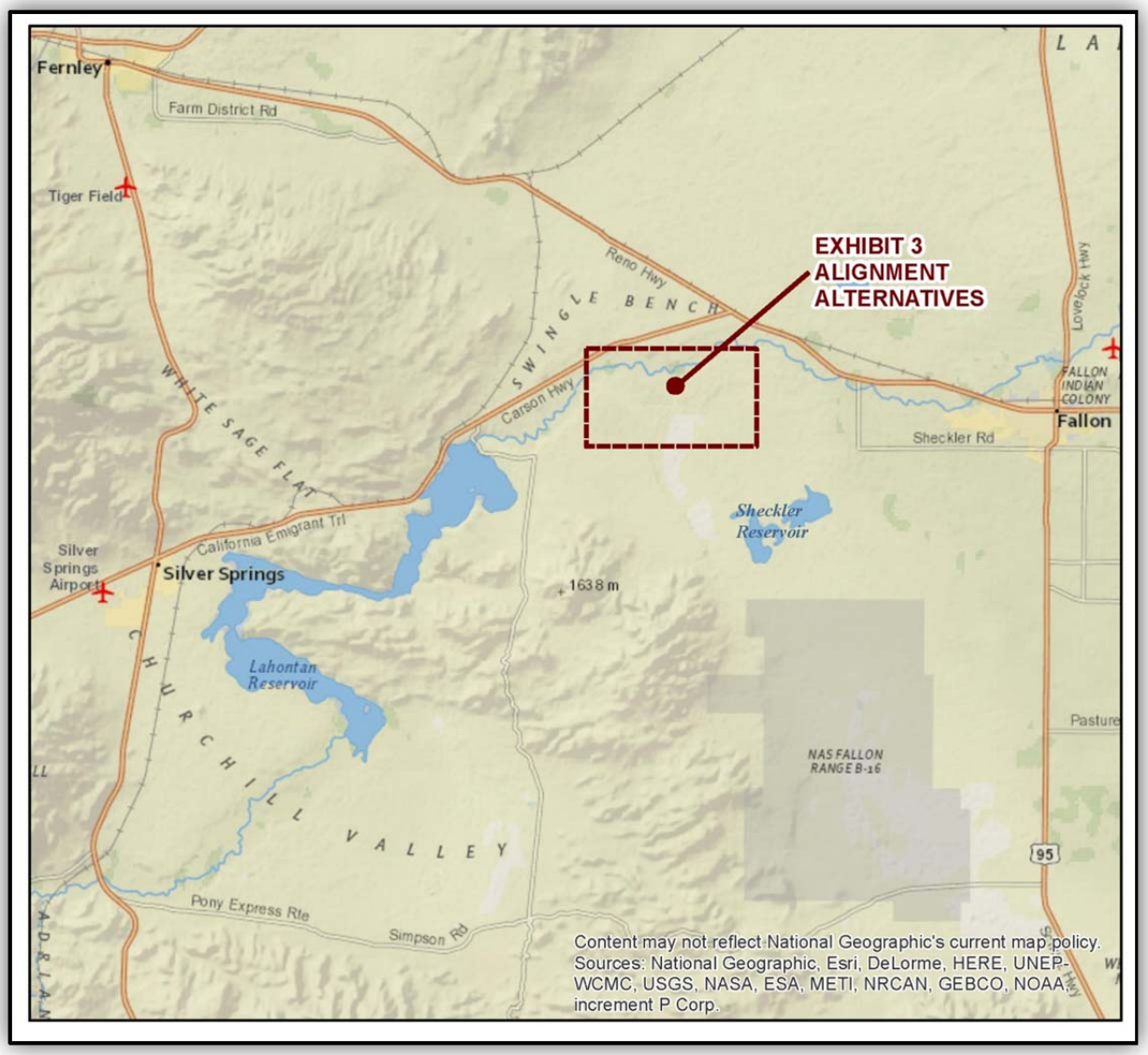


Figure 2 – Project Location Map

Peak discharges for this reach of the Carson River are documented in the hydrologic analysis study performed by the U.S. Army Corps of Engineers (USCAE)[iii]. That study lists 1-percent annual chance of recurrence floodflow in the study reach at 3,100 cubic feet per second (cfs). During discussions with the stakeholders, it was decided that, at a minimum, 1,200 cfs of additional floodflow needs to be diverted from the Carson River to Sheckler Reservoir during the 1-percent annual chance flood.

ROA personnel performed an initial field reconnaissance survey on December 17, 2014 to assess the existing topography and explore potential alternative routes to divert additional

floodwaters from the Carson River to Sheckler Reservoir. Another field visit was performed on April 17, 2015 to identify another less expensive alternative. The photographs taken during the field visit are included in the Appendix 1 and 2.

Immediately after the field visit, available LiDAR data covering the project area were obtained from Churchill County Planning Division[iv] and the base maps were prepared showing the general topography of the project site. The LiDAR data provided by Churchill County included 1-meter Digital Elevation Models (DEMs) and 1-foot interval contour data. Data supplied by the County is sufficient for feasibility level investigations and detailed field surveys are not warranted. After the base maps were prepared, ROA personnel began the process of considering and developing alternatives to divert flood flows from Carson River to Sheckler Reservoir.

Figure 3 – Existing Flow Diversion Plan at Carson River Diversion Dam

3 Alternatives Evaluated

The draft report submitted on March 31st 2015 identified four different alternatives of diverting floodwater away from the Carson River. The stakeholders, specifically Churchill County was concerned about the feasibility of obtaining several million dollars in funding to construct identified alternatives, and requested to look into other feasible low-cost alternatives. Subsequently ROA personnel identified another less expensive alternative that contemplates constructing lateral weirs on existing V-Line Canal to divert flood flows and utilize existing channels downstream of the proposed lateral weirs to safely carry flood flows toward Sheckler Reservoir. Accordingly, the more expensive alternatives identified previously were removed from further consideration and only recently identified alternative is included in this final report. A Do-Nothing alternative was also considered, the analysis of which serves as a baseline to demonstrate the benefits of diverting floodwaters away from the flood prone neighborhoods downstream of Carson River Diversion Dam.

Alternative 1: This alternative will utilize the existing V-Line Canal as a flood diversion channel, and does not require construction of expensive inline structure to impound floodwaters to divert flood flows to Sheckler Reservoir. Instead, this alternative contemplates building two new lateral weirs along the right bank of the existing V-Line Canal, approximately 2.3 miles downstream from the Carson River Diversions Dam. The crest of the proposed lateral weirs will be set such that only flows over 660 cfs are spilled over the lateral weirs and discharge into the existing earthen channels downstream. These existing channels have enough capacity to carry expected flood flows downstream to a sufficient distance, and then flow overland toward Sheckler Reservoir. A detailed hydraulic analysis was performed to assess the capacity of the existing channels and the results of that hydraulic analysis are included in the next section of this report. The proposed centerline alignment of this alternative route is shown on Figures 4-5 in Appendix 3.

Alternative 2: This is the “Do-Nothing” alternative that leaves the system as is and affords no additional flood protection for those facilities located in or adjacent to the Carson River floodplain downstream of the Diversion Dam. The flood flows reaching the Diversion Dam split between the V-Line Canal, the T-Line Canal and the Carson River and are directed downstream in the Carson River floodplain just as it does today. During the occurrence of a significant hydrologic event, overwhelming flood flows will be released from the diversion structure into the Carson River, and the flood flows will eventually spill over the banks of the

Carson River resulting in damage to County and City roads, public infrastructure, property losses and risk to life.

4 Alternatives Analysis

4.1 Alternative 1

This alternative consists of utilizing the existing V-Line Canal in conjunction with proposed two lateral diversion weirs to divert flood flows in excess of 660 cfs toward Sheckler Reservoir. Two new lateral weirs will be built along the right bank of the existing V-Line Canal, approximately 2.3 miles downstream from the Carson River Diversions Dam. The crest of the proposed lateral weirs will be set such that only flows above 660 cfs exit the V-Line Canal and spill over the lateral weirs and discharge into the existing earthen channels. During normal conditions flows will be contained within V-Line Canal and the diverted flow from the Carson River will be available for agricultural purposes as intended.

A HEC-RAS model was built that included proposed lateral weirs and steady flow simulations were performed using built-in flow optimization techniques. The initial split flow optimization estimates were iteratively changed until flow convergence was achieved. Detailed hydraulic simulation results are included in Appendix 4 of the report. Based on HEC-RAS simulation results, it is estimated that two 120-foot lateral weirs with relatively flat side slopes (maximum of 8H:1V) are needed to divert approximately1,200 cfs flow away from the V-Line Canal during the flood events.

Another HEC-RAS model was built to analyze the capacity of the existing channels downstream of the proposed lateral weirs. The results of the HEC-RAS modeling confirmed that the existing channels have enough capacity to carry expected additional flood flows. The detailed output of the HEC-RAS simulations is included in Appendix 4 of this report.

The proposed lateral weirs will be constructed using recycled asphalt materials or cement treated base (CTB). During the flooding events, it is expected that the flow over the proposed lateral weirs will be turbulent enough to cause soil erosion downstream of the weir structures, requiring some kind of energy dissipating mechanism or riprap lining of the downstream channel. Although the existing channels downstream of the proposed lateral weirs have enough capacity to carry flood flows, the side slopes of these channels are

relatively steep and susceptible for bank erosion. Therefore, it is recommended that the banks of these channels for a limited distance downstream be improved with mild side slopes (<2H:1V), and stabilized using rock riprap for a distance downstream to reduce potential for bank erosion.

The preliminary estimate of probable construction cost for this alternative is about $680,000, and the breakdown of costs is shown on *Table 1 - Engineer's Preliminary Estimate of Costs – Alternative 1*. This amount includes an allowance for contingencies of 25% of the estimated construction costs. A schematic sketch of this alternative route is shown on Figures 4-5 in Appendix 3 and a preliminary cross section through the proposed lateral weirs along with typical cross sections through the existing earthen channels downstream of the proposed lateral weirs are shown on Figures 6-11 in Appendix 3.

If implemented, the improvements contemplated under Alternative 1 would achieve the project's objectives and significantly reduce risk to flooding downstream of Lahontan Reservoir within the City of Fallon and unincorporated areas of Churchill County.

Table 1 - Engineer's Preliminary Estimate of Costs – Alternative 1

DIVISION 1 - GENERAL REQUIREMENTS							
ITEM	DESCRIPTION	QUANTITY		UNIT COST		TOTAL
1	Mobilization	1	Lump Sum	2.00%	/%	$8,000
2	Demobilization	1	Lump Sum	2.00%	/%	$8,000
3	Bonds & Insurance	1	Lump Sum	5.00%	/%	$19,000
4	Testing	1	Lump Sum	5.00%	/%	$19,000
5	Construct Lateral Weirs w/ Recycled Asphalt Millings/CTB	2	Lump Sum	$40,000	/LS	$80,000
6	Construct Riprap Outlet Protection and Energy Disspipators	2	Lump Sum	$100,000	/LS	$200,000
7	Channel Grading	2	Lump Sum	$25,000	/LS	$50,000
8	Land Acquisition	1	Lump Sum	$30,000	/LS	$30,000
9	Erosion and Sediment Control / Revegetaion	1	Lump Sum	$15,000	/LS	$15,000
CONSTRUCTION SUB TOTAL						**$429,000**
CONTINGENCY AT 25%[1]						**$107,250**
Engineer's Preliminary Estimate of Construction Costs						**$536,250**

[1]Contingency is for unknowns since a full design has not been completed.

Engineering Design, Permitting, and Services During Construction

ITEM	DESCRIPTION	QUANTITY		UNIT COST		TOTAL
1	Design	1	%	10	/LS	$54,000
2	Permitting	1	%	10	/LS	$54,000
3	Special Inspections, Material Testing	1	%	2	/LS	$11,000
4	Services During Construction	1	%	5	/LS	$27,000
Engineer's Preliminary Estimate of Design, Permitting, and Services During Construction Costs						**$146,000**

Engineer's Preliminary Estimate of Probable Project Costs **$682,250**

Note: Total Project Cost Excludes Financing Charges.

4.2 Alternative 2

This is the "Do-Nothing" alternative that leaves the system as is. The flood flows reaching the Carson River Diversion Dam split to V-Line and T-Line according to the existing plans of operations and much of the floodflow will pass through the diversion dam spillway and continue downstream in the Carson River. During the occurrence of a significant hydrologic event, overwhelming flood flows will be released from the diversion structure into the Carson River, and the flood flows will eventually spill over the banks of the Carson River resulting in the potential of significant damage to County and City roads, as well as property loss and risk of life. Adopting this alternative will have direct and appreciable financial consequences to each stakeholder after each significant flood event, the dates of which are not knowable. Such an approach results in unplanned expenses stressing adopted budgets and financial plans. In addition, land owners and businesses within affected areas will continue to be required to maintain flood insurance and potential for new development in flood prone areas is restricted.

There are no identified capital costs associated with the Do Nothing alternative; however, this alternative also does not achieve the project's objectives of providing flood relief to those areas and the public infrastructure located downstream of Lahontan Reservoir.

5 Findings and Conclusions

Portions of the City of Fallon and unincorporated Churchill County experience flooding during the periods when Lahontan Reservoir is near capacity and a significant hydrologic event occurs simultaneously in the Carson River Watershed. This conceptual study evaluated possibilities of diverting excess floodwaters (~1,200 cfs) downstream of Lahontan Dam away from the Carson River floodplain toward Sheckler Reservoir such that downstream flooding risks are minimized.

During the initial phase of this study four alternative means of conveying these excess flows were identified, and probable construction cost estimates for each alternative were prepared and a draft report was submitted to the stakeholders for review and comment. One of the stakeholders, Churchill County expressed concerns about the feasibility of obtaining required funding to construct suggested alternatives, and directed ROA personnel to identify another less expensive alternative to convey flood flows away from the Carson River.

Subsequently, ROA personnel revisited the project site, and identified another economical alternative that would utilize the existing V-Line Canal in conjunction with two new lateral weirs built on the right banks of the V-Line Canal to divert flood flows toward Sheckler Reservoir. The engineer's probable construction cost for the newly identified flood diversion alternative is approximately $682,250, which includes a 25% contingency. In addition, a "Do Nothing" alternative was also considered to demonstrate the positive impacts of the proposed improvements that alleviate the flooding problems downstream.

Further studies are necessary to assess cultural, environmental impacts of proposed improvements, in addition to performing soil borings, associated material testing, and detailed hydraulic analyses. Furthermore, it is necessary to investigate need for right-of-way of acquisition, easement agreements, and be cognizant of federal, state, and local regulatory requirements.

---

[i] U.S. Department of the Interior, Geologic Survey, Water Resources Data for Nevada

[ii] Federal Emergency Management Agency (2008). Flood Insurance Study Churchill County, Nevada and Incorporated Areas

[iii] U.S. Army Corps of Engineers, Flood Frequency Analysis for Lahontan Dam Outflow, August 1997

[iv] Churchill County Planning Division – LiDAR Dataset

6 Appendices

Appendix 1: December 17, 2014 Site Visit Photo log

Appendix 2: April 17, 2015 Site Visit Photo log

Appendix 3: Exhibits

Appendix 4: HEC-RAS Modeling Results

Appendix 5: Channel Capacity Calculations

AGENDA ITEM #14

CARSON WATER SUBCONSERVANCY DISTRICT

TO: BOARD OF DIRECTORS

FROM: EDWIN D. JAMES

DATE: AUGUST 19, 2015

SUBJECT: Agenda Item #14 - Discussion for possible action regarding a presentation by the USGS on the East Fork Carson River Excessive Algae Investigation

BACKGROUND: In 2008, the issue of excessive algae on the East Fork of the Carson River was reported to CWSD. CWSD staff and representatives from NDEP went out to the site and did see extensive algae in the river (see picture below). Although there were reports of other areas along the Carson River that had some algae growth, this reach was extensive. Through the 208 Clean Water Act, CWSD was able to obtain funding to investigate what may be causing this algae growth. The following is a summary of activities that occurred since 2008.

- In 2009, due to the availability of Economic Stimulus funding, CWSD received some additional funding under the 208 Planning Program. This funding was used to hire the USGS to conduct a study to see if the excessive algae growth was due to high nutrient loading from groundwater sources in the area.
- In 2010, groundwater samples were taken in the area and river water quality samples were taken. One of the concerns about water quality in the Carson River which has been identified by staff is the extensive algae growth that is occurring in the upper and middle Carson River drainage. Staff has been talking with Nevada Division of Environmental Protection (NDEP) regarding the use of the 208 funds to begin identifying the causes of this algae growth. In the initial meeting with NDEP it was recommended that we partner with the USGS since they have expertise in this area and they can provide additional funding that can be matched with the 208 funds.
- In 2011, due to high runoff the water quality sampling was delayed a year.
- In 2012, additional sampling occurred.
- From 2010 to 2014 four funding amends were made to the study. All the funding came from NDEP.

DISCUSSION: The USGS is currently finalizing the algae report. They are hoping the final report will be available to the public by the end of this calendar year. This report is a joint effort with NDEP. At the Board meeting Dave Berger with the USGS and Randy Pahl with NDEP will give an over review of the study and findings. Below is a summary of the findings taken from the draft report:

Stream samples were collected at the same three locations in the summer of 2010 and 2012. Nitrate concentrations ranged from less than the reporting level, that is, less than 0.008 milligrams per liter (mg/L) as nitrogen (N)-to 0.86 mg/L as N, and were higher during the study period in 2012 than 2010. During 2010, concentrations of nitrate were highest in the stream at the middle transect. Ammonium concentrations were similar for the 2010 and 2012 study periods and were either at or less than the reporting level. Nitrite and ammonium in the stream were much lower than nitrate plus nitrite; hence, nitrate was the primary inorganic nitrogen species in the stream. Total phosphorus

concentrations in the stream ranged from 0.018 to 0.07 mg/L and were generally higher in 2010 than in 2012. Dissolved orthophosphate concentrations ranged from 0.005 to 0.038 mg/L as phosphorus (P) and were higher in the 2010 study period than in 2012. Stream dissolved-oxygen concentrations from discrete samples ranged from 6.9 to 14.2 mg/L, and specific conductance ranged from 183 to 373 µS/cm during 2010 and 2012. Specific conductance increased downstream.

Stream temperature exceeded the State of Nevada standard on more than 46 percent of the days in August 2010 and 100 percent of days monitored in September 2010, and all the days monitored in the summer of 2012. Average daily minimum and maximum temperatures were higher in 2012 compared to 2010. The lower flows in 2012 likely contributed to the higher temperature and more frequent standard exceedances. Daily metabolic cycles of the periphyton in the study area produced dissolved oxygen and pH concentrations that at times did not meet State of Nevada water quality standards. The State of Nevada stream dissolved oxygen standard was not met more than 77 percent of days in August 2010 and 50 percent of the days monitored in September 2010 and all the days monitored in 2012. The average minimum daily dissolved oxygen concentration was 1.9 and 2.0 mg/L in July and September 2012, respectively, well below the standard of 5.0 mg/L. The lower streamflows, higher stream temperatures, and higher algal biomass in 2012 likely contributed to the lower DO levels and more frequency of exceedances of State standards. Dissolved oxygen levels were less than the 50-percent saturation threshold for 9 to 13 percent of the days monitored in 2010 and all the days monitored in 2012, indicating levels that are harmful to many aquatic organisms. The presence of algae also caused daily pH fluctuations in the stream resulting in the State of Nevada stream pH standard to be exceeded; however, the exceedances were not extreme.

Figure 19. High algal biomass at middle stream transect (SMT), July 23, 2012, East Fork Carson River, Carson Valley, west-central Nevada. Photograph by R. Pahl.

STAFF RECOMMENDATION: Receive and file.

AGENDA ITEM #15

CARSON WATER SUBCONSERVANCY DISTRICT

TO: BOARD OF DIRECTORS

FROM: EDWIN D. JAMES

DATE: AUGUST 19, 2015

SUBJECT: Agenda Item #15 - Discussion for possible action regarding a review of prior work done by CWSD in the 1980s and 1990s on upstream storage in the Carson River Watershed.

DISCUSSION: In November 2014, Charlie Lawson attended the CWSD board meeting and expressed his concern that CWSD was not pursuing storage on the Carson River. Mr. Lawson noted that storing flood waters and agricultural water rights would help the area during times of drought. Mr. Lawson challenged the board to get active and start evaluating the opportunities of building a dam on the Carson River.

During the late 1980s and early 1990s, CWSD spent quite a bit of time and money evaluating several potential storage sites on the Carson River. Staff has recently reviewed these old studies and reports. Attached is a report that summarizes the earlier work complied by CWSD on the storage alternatives, reviews the assumptions and issues that were considered at that time, and discusses why these projects were not pursued.

STAFF RECOMMENDATION: Receive and file.

Review of earlier studies conducted by CWSD on water storage along the Carson River

Purpose:
To review earlier studies regarding the evaluation of constructing dams on the Carson River and discuss why these projects were not pursued.

Introduction:
In November 2014, Charlie Lawson attended the CWSD board meeting and expressed his concern that CWSD was not pursuing storage on the Carson River. Mr. Lawson noted that storing flood waters and agricultural water rights would help the area during times of drought. Mr. Lawson challenged the board to get active and start evaluating the opportunities of building a dam on the Carson River. During the late 1980s and early 1990s, CWSD spent quite a bit of time and money evaluating several potential storage sites on the Carson River. Staff has recently reviewed these old studies and reports. This report serves to summarize the earlier work complied by CWSD on the storage alternatives, review the assumptions and issues that were considered at that time, and discuss why these projects were not pursued.

Background:
In 1956, the US Congress authorized the Washoe Project. The intent of this project was to build additional upstream reservoirs on the Carson and Truckee Rivers to primarily serve Nevada agricultural interests and provide hydropower. The proposed projects included the Watasheamu Dam on the Carson River and the Prosser, Stampede, and Marble Bluff Dams on the Truckee River. In the mid-1980s, the Bureau of Reclamation released a report stating that the Watasheamu Dam and Reservoir were not economically viable and withdrew their support for the project. During this same period of time the State of California listed the East Fork of the Carson River as Wild and Scenic. This destination prohibited stored water from backing up into California on the East Fork. However, with the drought of 1977 and the increase in population growth in Douglas County, Carson City, and Lyon County, there was local interest to evaluate storage alternatives. During the late 1980s and early 1990s, CWSD hired Kennedy/Jenks/ Chilton (KJC) to evaluate several different dam sites in the Carson River Watershed to store water to meet future municipal water demands in the watershed. These sites included:

- Young's Crossing on the East Fork
- Horseshoe Bend on the East Fork
- Watasheamu on the East Fork
- Bodie site on the East Fork
- Diamond Valley site near the West Fork
- Long Valley site (Mud Lake Dike, Indian Creek Dam) near the West Fork
- Comstock site (two possible sizes) on the main stem

See attached map for site locations (except for Young's Crossing).

Based on some preliminary reviews, it was determined that the Young's Crossing, Horseshoe Bend, and Watasheamu locations were not able to accommodate a goal of 50,000 AF of storage within the Nevada state boundary. The Diamond Valley site was considered a good storage potential; however, there were several institutional and logistic issues that caused CWSD not to pursue this location. Some of the concerns with the Diamond Valley site were:

- The site is located in California and there were high fees for reservoir operation.
- South Tahoe Public Utility District uses Diamond Valley to apply its treated wastewater.

- The only source of water to this site is from the West Fork which only contributes about one-third the volume of water that the East Fork provides.

The other possible dam site on the West Fork was located in Long Valley. This reservoir would require a dam on both Indian Creek and the west side of Mud Lake. In an earlier study by the Bureau of Reclamation, there was a concern of potential serious leakage due to porous soils in the area.

From these preliminary reviews additional research was conducted on the Bodie Dam and Comstock Dam sites. Since all the water on the Carson River is fully appropriated through the Alpine Decree, the only firm water that can be stored is if existing water rights are converted from agricultural to municipal use. In the analysis there was some storage allocated to capture flood waters but no calculation was made on how much firm water this would provide. Included in the studies were evaluations on costs, future water demands, and generation of reclaimed water. The benefits of the project were identified as:

- Avoiding the browning effect caused by moving surface waters from decreed acreage to municipal use by utilizing permitted and certificated groundwater to the maximum extent possible prior to large scale conversion of surface waters.
- Protecting the groundwater and surface water of the upper Carson Basin for in-basin use, instead of allowing exports of these water resources to meet needs outside of the region and/or state.
- Providing orderly development of water resources which will protect the environment and quality of life throughout the Carson Water Watershed.
- Providing a cost-effective plan for water supply.
- Confirming Carson Water Subconservancy District as a regional entity to represent the common interests of the various political subdivisions within the upper Carson River Basin.
- Coordinating water management practices among urban and agricultural needs and interests.
- Seeking and obtaining necessary legislation, with the concurrence of the county governmental bodies, to achieve the stated objectives.

Bodie Dam:

In the late 1980s and early 1990s, Woodward-Clyde Consultants was hired by KJC to conduct several studies associated with the Bodie Dam site. The proposed dam would be located just upstream of the old Ruhenstroth power dam site in Douglas County. The storage capacity of the proposed reservoir would be approximately 50,000 AF. When the reservoir was full the water would back up the East Fork of the Carson River to the state line with California. In 1989, the State of California declared that portion of the East Fork of the Carson River in California as Wild and Scenic. This Wild and Scenic designation prevented water from being backed up into California which set the limit on the size of the dam and reservoir. The water stored at the dam was a combination of flood waters and purchased water rights. The proposal was to purchase and transfer 36,000 AF of water rights to the reservoir. In order to transfer 36,000 AF of water rights, approximately 14,400 acres of water-righted land would have to be purchased (36,000 AF @ 2.5 AF/ac = 14,400 acres). This would require purchasing approximately 70 percent of the irrigated lands that received water from the East Fork of the Carson River in Douglas County. This was a concern to Douglas County, and its Planning Commission took formal action to oppose the project.

Woodward- Clyde evaluated several different dam construction alternatives. The least expensive alternative was a concrete dam. The estimated cost, in 1989 dollars, was approximately $42.6 million. This cost did not include the costs of mitigation or the purchase of water rights. In today's dollars, it is estimated that the cost for the dam would be almost double the 1989 figure. The Nevada Department of Wildlife (NDOW) and the US Fish and Wildlife Service (USFWS) also had concerns about the environmental impact on fisheries. The consultant estimated that the environmental assessment would take about 10-15 years. The report also mentioned that any project along this reach of the East Fork would require a special use permit from US Forest Service (USFS). Although the East Fork portion of the Carson River upstream of the old Ruhenstroth Power Dam is not formally designated by the federal government as Wild and Scenic, in the 1970s this reach of the river was considered "suitability status" for Wild and Scenic. Because of this consideration, the USFS manages this reach of the river as Wild and Scenic until a formal evaluation and recommendation is presented to Congress.

Comstock Dam:

The Comstock Dam site was located in the Carson River Canyon just upstream of the Town of Dayton. The Comstock Dam was one of the original dam sites evaluated by the Bureau of Reclamation. Two possible sizes of reservoir at the Comstock site were considered: a 55,000 AF pool and a 20,000 AF pool. Because of the limited water rights in the Carson City and Lyon County areas, there was a concern that there was not enough water to justify the large reservoir.

A primary advantage of the Comstock Dam site is its close proximity to expected areas of water demand: Carson City and the Dayton Corridor. The site offers a reasonably narrow canyon, an attractive structural setting which minimizes embankment volume and evaporative losses from the reservoir. It also had significant recreational benefits mainly from the dam's nearness to population centers, but there were also concerns about water quality. Like Lahontan Reservoir, a Comstock reservoir could be expected at times to become eutrophic due to algae growth and nutrient loading. There was also the concern that the Comstock site had the potential to affect mercury deposits which lie in the Carson River channel through the Comstock reach. By controlling flood flows in the Carson River, this dam could trap the mercury-laden sediments and releases could cause more scouring downstream.

In addition to the water quality concerns, the Comstock has two other drawbacks compared to upstream dam sites. The site would provide some flood control benefit to the Dayton community but no flood mitigation value to Carson Valley or Carson City. Secondly, there is a shortage of water rights in this segment of the river. Because water right priorities are forfeited if their place of use is changed to another river segment, the most advantageous water rights identified to be acquired were in Sub segment 7a. The total water rights in the Alpine Decree for all of Segment 7 amount to 16,300 AF, when converted to municipal and industrial duty, and Sub segment 7a offered only 8,100 AF. Therefore, little additional yield would be developed by increasing reservoir size much beyond the quantity of water rights available to store in it each year. Considering this, a large dam at the Comstock site (55,000 AF) can only be justified if water rights are transferred into this reach from other segments of the river or if flood control becomes one of the reservoir's functions. Barring such transfers, a small dam (20,000 AF or less) would be more practical than a larger dam.

Due to the concern that the Comstock Dam site is located in the mercury Superfund site, it was estimated that the environmental review process would take longer than the Bodie Dam review.

Also, the unit cost for the water stored at the Comstock Dam was much higher than the unit cost at the Bodie Dam.

Action Taken By CWSD in the Mid-1990s:

During the late 1980s and early 1990s, CWSD was very active in pursuing dam alternatives on the Carson River. By the mid-1990s, all discussion and activities of pursuing a dam on the Carson River ceased. Although the Board did not take any official action to stop pursuing the dam options, the topic was no longer officially discussed at the Board meetings. In reviewing past meeting minutes, CWSD's focus during the mid-to-late-1990s were on purchasing Mud Lake water, providing funds to the USGS to conduct studies on the Dayton Valley and Eagle Valley groundwater basins, and modeling the Carson River using MODSIM. After the 1997 flood, CWSD's focus expanded to deal with flooding and the health of the overall watershed.

Assumptions that have changed since the 1990s:

When the original reports were prepared by KJC for CWSD several assumptions were made regarding future demands and growth. Although many of these assumptions hold true today, there are a few that have changed over the years which have an impact on the earlier studies. The following are some of the assumptions that have changed significantly.

- Reclaimed water:
  In 1988, the total amount of effluent available in the Carson River Watershed upstream of Lahontan Reservoir was estimated to be approximately 14,000 AF/yr. This included the effluent coming from the Tahoe Basin. It was predicted that the amount of effluent by 2040 would increase to nearly 50,000 AF/yr. It was estimated that the 50,000 AF could re-irrigate about 10,000 acres. This additional reclaimed water could be used to irrigate lands in Carson Valley where the surface water rights were purchased and stored in the proposed reservoirs.

  The problem with this assumption is that the amount of reclaimed water generated in the upper watershed has not increased as projected and has actually been decreasing over the past ten years. From 2006 to 2014, there has been a 13% reduction in the amount of reclaimed water being generated. Today the total amount of reclaimed water being generated in the upper Carson River Watershed is approximately 14,000 AF/yr. All of this water is currently being utilized. Therefore, any purchase of surface water rights to be stored in a reservoir would require the permanent drying up of current agricultural lands.

- Population Growth and Water Demands:
  To calculate future municipal water demands KJC contacted the various counties in 1988 regarding their projections on population growth. The population forecasts for the three counties were based on the following projections:
  - Carson Valley's projected growth was at an annual rate of 6.5% with a gradually decreasing rate through the 50-year period down to a 3% rate by 2030.
  - Carson City's projected growth was based on an annual 3% growth rate.
  - Dayton area's projected growth was similar to Carson Valley with a gradually decreasing rate through the 60-year period down to a 3% rate by 2040.

The future water demands were calculated by taking the projected population and multiplying by 0.25 AF/person.

The estimated population forecast and water demands by year and region are shown on Tables 1 & 2.

TABLE 1
UPPER CARSON RIVER BASIN POPULATION PROJECTIONS

ESTIMATED POPULATION BY YEAR*

REGION	1985	1990	2000	2010	2020	2030	2040
Carson Valley	16,900	23,200	40,600	66,200	98,000	131,700	177,000
Eagle Valley	35,400	41,000	55,200	74,100	99,600	107,000+	107,000+
Dayton Corridor	6,200	8,800	17,000	29,500	481,100	71,200	95,700
TOTAL	58,500	73,000	112,800	169,800	245,700	309,900	379,700

+ Maximum population projection based on developable lands.

* Technical Memorandum #6 prepared by Kennedy/Jenks/Chilton, 1988

TABLE 2
PROJECTED WATER REQUIREMENTS
FOR MUNICIPAL AND INDUSTRIAL USES*

WATER REQUIRED (ACRE-FEET/YEAR)

REGION	1985	1990	2000	2010	2020	2030	2040
Carson Valley	4,200	5,800	10,200	16,600	24,500	32,900	44,300
Eagle Valley	8,900	10,300	13,800	18,500	24,900	26,750+	26,750+
Dayton Corridor	1,600	2,200	4,200	7,400	12,000	17,800	23,900
TOTAL	14,700	18,300	28,200	42,500	61,400	77,450	94,950

+ based on population projection.

* Technical Memorandum #6 prepared by Kennedy/Jenks/Chilton, 1988

Comparing the current population in the upper Carson River watershed to the projected population numbers used in the 1988 report shows that the population projection were grossly over estimated. Since projected water demands were based on population growth, the over estimation of population lead to an over estimation of future water demands. One of the biggest reasons for upstream storage was the need to meet the future municipal water demands

Need For Upstream Storage on the Carson River:

- Meeting Municipal Water Demands:
  In the 1980s, the main purpose for storage on the Carson River was to meet future municipal water demands. In the early 1980s, Carson City did not have enough water to

meet its water demands and was faced with a moratorium on growth. Since the 1980s, Carson City has built up its water system and water supplies to the point that they own enough water to meet their ultimate buildout demands.

Reviewing Carson Valley's future water demands compared to the available groundwater source shows that overall there is enough water and rights in the Carson Valley area to meet its growth to 2040 or beyond. There are some water purveyors who will need additional water rights to meet their potential demands, but there are other water purveyors who can provide these water rights.

The only county that is facing a water supply shortage in the future is Lyon County. According to the Brown and Cardwell 2001 report, Lyon County will need new water supplies by 2020. Breaking down that analysis in more detail shows that the Lyon County Utility's service area currently has enough water rights to meet future growth to 2025 or beyond. However, any new growth in the Stagecoach GID area will require a new water source. The Silver Springs Mutual Water Company on paper has enough water rights to meet their future growth. The only question here is how much of the paper water rights can actually be developed.

The estimated perennial yield for the Churchill Valley groundwater basin (Silver Springs area) is 1,600 AF. However, the 2013 State Engineer's Pumping Inventory for this area shows 2,550 AF was pumped and most of that water pertained to domestic wells. According to the State Engineer's records, the total appropriations for quasi-municipal use totals 6,461 AF, but in 2013, only 530 AF was used for this purpose.

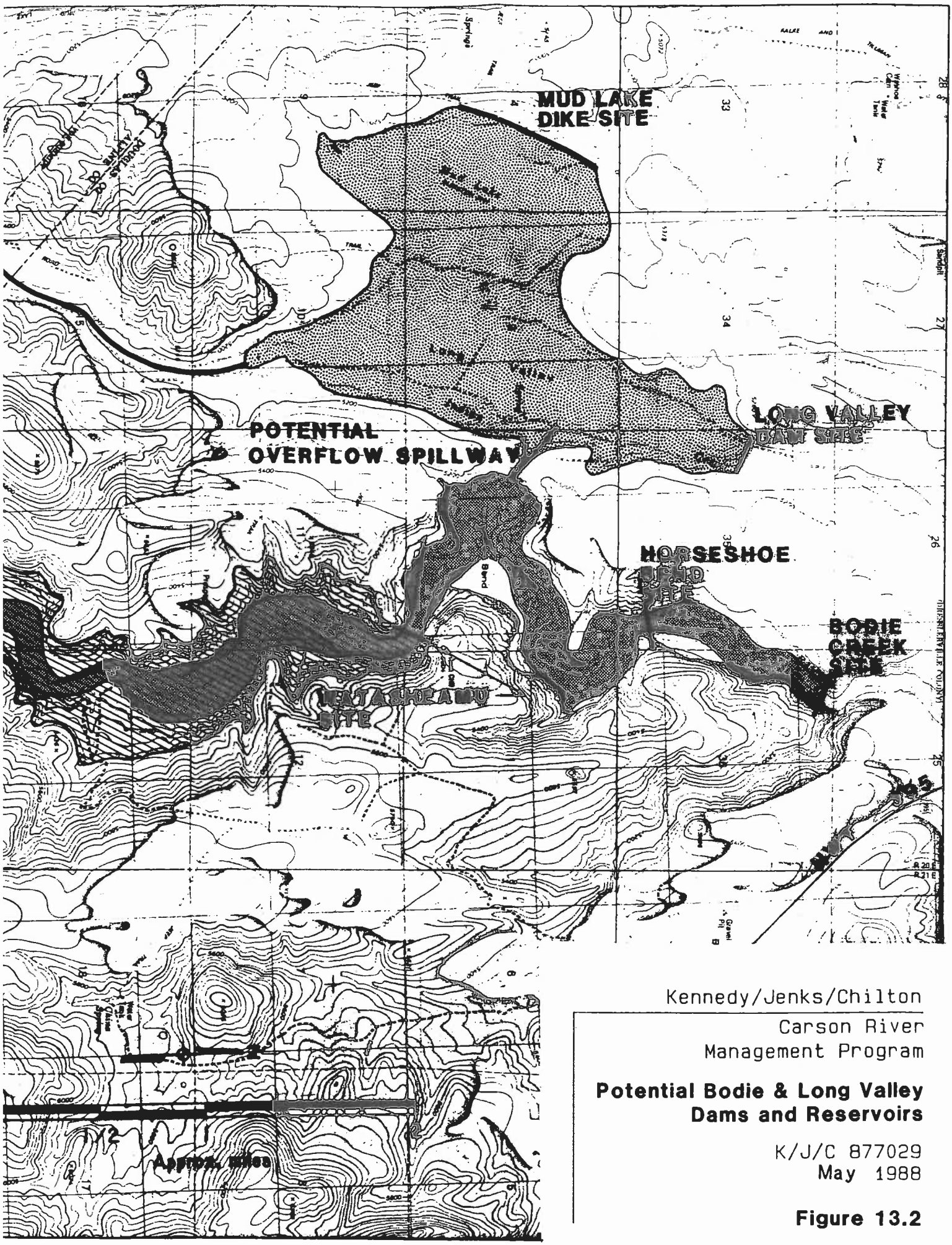
- Regional Water Systems
  Since the early 2000s, CWSD has been working with the various water purveyors to meet their water demands through the construction of several regional pipelines and interties. Today, the Town of Minden provides water to the eastern and northern parts of Douglas County, Indian Hills GID, and Carson City through a regional pipeline. Carson City and the Mound House area of Lyon County are also linked. The Vidler Water Company has installed infrastructure throughout the Dayton area which can also be used to move water both east and west. In the Stagecoach area CWSD upsized a pipeline that will someday be tied into the Lyon County Utility system to the west and the Silver Springs Mutual Water Company to the east.

Today's Water Picture:

Today, CWSD has been focusing on integrating all water demands in the watershed. This includes keeping agriculture viable, maintaining a healthy river corridor, and meeting future municipal water demands. Currently, the plan to meet the future municipal demands is the promotion of additional regional pipelines. As growth continues and begins to exceed the groundwater supplies, there will be a need to develop surface water. Due to the fluctuation in runoff from year to year, storage needs will continue to grow. The need for storage could accelerate if climate predications materialize and the runoff occurs earlier in the season. Although storage will be needed in the future, due to costs and environmental issues it is unlikely there will be any dams constructed on the East and West Forks of the Carson River. Future storage will most likely be groundwater storage or off-channel storage.

Another concern related to any large storage facility is its cost. Building a large facility on the Carson River would most likely cost over $80 million. This does not include the cost and time for all the environmental studies and mitigation or the costs to purchase the water rights. Funding from the federal government is limited, and the State does not have any funding sources. This means that the funding for future growth will have to come from local governments or the private sector. Due to changes in 2007 to the Nevada tax codes which put a cap on how much property taxes can increase year to year, CWSD would have a difficult time trying to access the additional seven (7) cents per $100 in property tax that was included in our statutes to fund these types of projects. Based on this, CWSD is limited to its current funding streams to meet future water demands in the watershed.

Currently, the Desert Research Institute (DRI) and the University of Nevada-Reno (UNR) are conducting a study on the Carson and Truckee Rivers looking at the water supplies and how these supplies may change with climate change. This study will be considering runoff pattern changes, modeling groundwater and surface water interaction, calculating future water demands, and water quality issues. This information will be useful in evaluating ways to meet future water demands and hopefully identify various options to meet the new demands. This study should be completed by 2017.



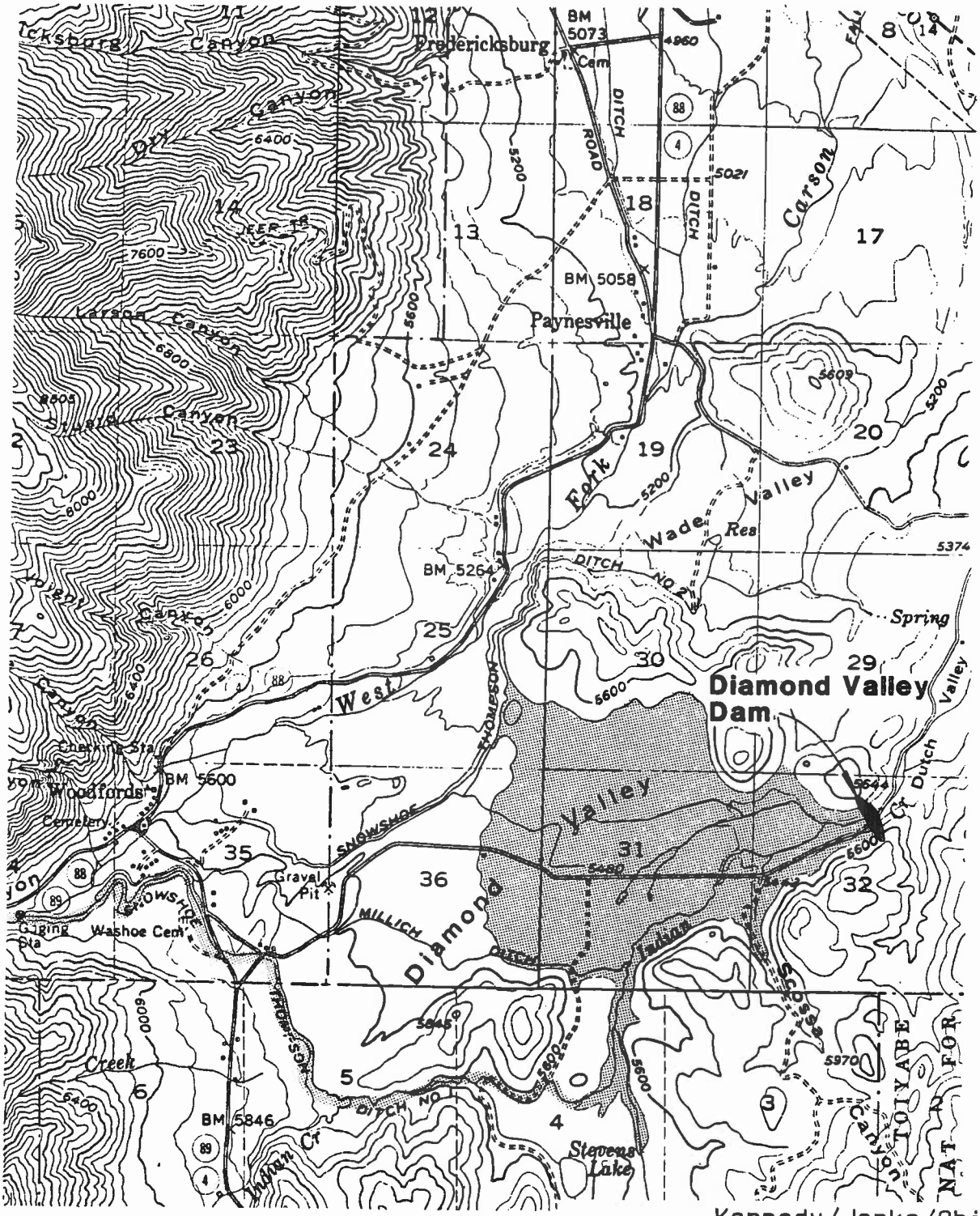
Kennedy/Jenks/Chilton

Carson River
Management Program

Potential Bodie & Long Valley Dams and Reservoirs

K/J/C 877029
May 1988

Figure 13.2



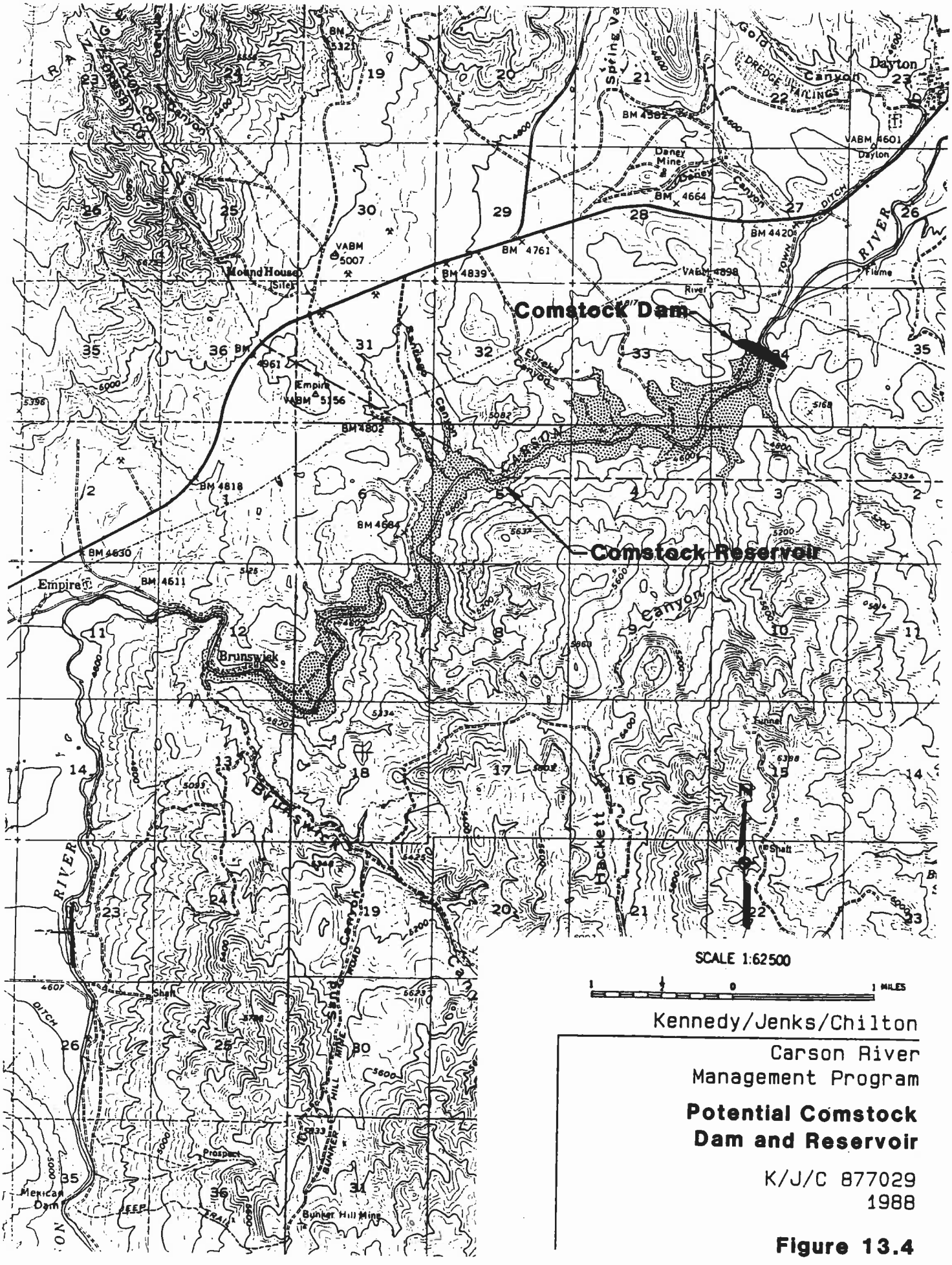
Kennedy/Jenks/Chilton

Carson River
Management Program

Potential Diamond Valley Off-Stream Reservoir

K/J/C 877029
1988

Figure 13.3



Kennedy/Jenks/Chilton

Carson River
Management Program

Potential Comstock Dam and Reservoir

K/J/C 877029
1988

Figure 13.4

STAFF REPORTS

CARSON WATER SUBCONSERVANCY DISTRICT

TO: BOARD OF DIRECTORS

FROM: EDWIN D. JAMES

DATE: AUGUST 19, 2015

SUBJECT: Agenda Item #16 - Staff reports

DISCUSSION: The following is a list of meetings/activities attended by Ed James and staff since the last Board meeting on July 15, 2015:

- 7/16/15 - Ed attended the State Engineer's workshop in Smith Valley on pumping curtailment in the Walker River Watershed.
- 7/16/15 - Courtney met with Rich Wilkinson of Carson City regarding motorized trial signage and rumble pits for the Nevada State Parks grant.
- 7/17/15 - Ed participated in the Douglas on pumping curtailment in the Walker River Watershed.
- County Ag group meeting.
- 7/20/15 - Ed met with Mike Workman for a Lyon County water supply update.
- 7/20/15 - Ed met with Matt Martensen for a Silver Springs Mutual Water Company water supply update.
- 7/20/15 - Ed met with Teri Hurt for a Stagecoach GID water supply update.
- 7/20/15 - Courtney and Melissa conducted a Latino/Hispanic focus group at the Minden Library for the Watershed Literacy Project.
- 7/21/15 - Ed participated in a Nevada Water Resource Association (NWRA) conference call and NWRA meeting in Carson City.
- 7/21/15 - Brenda, Courtney, and Toni participated in the CRC Education Working Group meeting.
- 7/22/15 - Ed attended the Northern Nevada Development Association (NNDA) breakfast meeting in Carson City.
- 7/22/15 - Ed, Brenda, Courtney, and Toni participated in the CRC River Corridor Working Group meeting.
- 7/22/15 - Brenda, Courtney, and Melissa Shaw, CWSD intern, met with Mary Kay Wagner of NDEP regarding the Rapid Assessment Response Evaluation (RARE) protocol and process as it relates to the Watershed Literacy Survey.
- 7/23/15 - Brenda and Melissa Shaw conducted an ethnographic focus group in Carson City for the Watershed Literacy Project.
- 7/23/15 - Brenda, Courtney, and Debbie met regarding updating the CWSD website.
- 7/27/15 - Ed met with Brian Peters in Markleeville regarding the Alpine County Hazard Mitigation Plan.

- 7/28/15 - Ed participated in a Special Carson Truckee Water Conservancy District (CTWCD meeting by teleconference.
- 7/28/15 - Courtney participated in a meeting with Cooperative Weed Management Area (CWMA) representatives regarding National Fish & Wildlife Foundation (NFWF) grant proposals.
- 7/28/15 - Courtney listened to a SRI Webinar Series entitled "Green Infrastructure: Reusing Superfund Sites and Promoting Sustainable Communities."
- 7/29/15 - Toni participated in a Flood Awareness Week Core Team meeting.
- 7/29/15 - Courtney participated in a weed pull event with Alpine Watershed Group at Grover's Hot Springs in Markleeville.
- 8/4/15 - Debbie attended the South Tahoe Public Utility Commission meeting at South Lake Tahoe regarding monitoring wells.
- 8/4/15 - Ed and Toni met with the new POOL/PACT representative, Christine Vido, for an update on our policy.
- 8/5/15 - Brenda and Courtney met with Brandon of RDM Infinity regarding a quote for updating the CWSD Explore Your Watershed web page.
- 8/6/15 - Ed met Austin Roundtree from the California Division of Safety of Dams to inspect the Lost Lakes dams.
- 8/6/15 - Ed attended the Douglas County Board of Commissioners meeting in Minden regarding a presentation on flash flooding in Douglas County.
- 8/6/15 - Ed attended the Douglas County flood workshop in Minden.
- 8/11/15 - Ed participated in the Carson Truckee Water Conservancy District (CTWCD) Board meeting.
- 8/12/15 - Ed participated in a Nevada Silver Jackets meeting in Reno.
- 8/12/15 - Brenda met with Lynn Zonge and Lynell Garfield to develop their joint presentation at the Nevada American Planning Association Conference in Reno in September.
- 8/13/15 - Brenda and Courtney participated in a group review of the Watershed Literacy Survey results.
- 8/19/15 - Ed participated in a Drought Forum in Sparks.

Additional meetings/activities anticipated by staff until the end of August include:

- 8/2015 - Brenda and Courtney will attend the Carson City Weed Coalition meeting in Carson City.
- 8/20/15 - Toni will listen to a POOL/PACT Torch Training webinar.
- 8/25/15 - Ed will participate in a meeting held by the Town of Minden regarding the regional pipeline in Douglas County.
- 8/25/15 - Ed will participate in a NWRA meeting in Carson City.

- 8/26/15 - Brenda and Debbie will participate in a CRC Education Working Group meeting.
- 8/26/15 - Courtney and Toni will participate in a Flood Awareness Week planning meeting.

STAFF RECOMMENDATION: Receive and file.

CORRESPONDENCE

Worrisome warming water is a hot topic

by Anne Knowles
For the Nevada Appeal

The Carson River watershed is in hot water.

That's what happens when the Sierra Nevada snowpack that normally feeds the system is way below normal — just 7 percent of average this year with peak spring runoff finished two months early.

"The water is low and slow and warm," said Duane Petite, Carson River project director, The Nature Conservancy.

Petite spoke at the conservancy's 805-acre River Fork Ranch near Genoa, one of the stops on a two-day tour of the Carson River watershed hosted by the Carson Water Subconservancy District.

Petite said the abnormally tepid water creates its own set of problems on top of the water scarcity that characterizes drought.

"Pollution can be chemicals and pollution can be temperature," Petite said. "The old saying is the solution to pollution is dilution."

It affects wildlife, creating an inhospitable environment for native animals and a welcoming one for invasive species.

Instead of trout, said Petite, the waterways become home to carp. Leeches can replace dragonflies. And algae can thrive on still water, cutting off oxygen where other species live and breed.

JIM GRANT

More than 50 people, attending a watershed tour on June 9, gather along the east channel of the Brockliss slough that runs through the River Fork Ranch.

Water quality can become an issue, which is the main concern of J.B. Lekumberry, co-owner of Ranch One, a 300-acre ranch adjacent to the conservancy site, where he grows hay and winters his cattle. He also leases 400 acres from The Nature Conservancy to run his cattle on River Fork Ranch.

Lekumberry said the recent precipitation means he'll get all the hay he needs for his self-sustaining operation, consisting of 100 mother cows and 40 to 60 steers he raises for market. The ranch sells its grass-fed beef at the Trimmer Outpost in Genoa, located in the childhood home of Lekumberry's wife Lisa.

"We've been fortunate with the rains," Lekumberry said. "But what I'm worried about is water quality. The water is warm."

Lekumberry says parasites grow in the hot water, which means he may need to vaccinate his cows against them.

The Nature Conservancy monitors water quality, said Petite, and often uses the testing as a teaching tool, involving local students in the process.

"We teach them water quality matters for all life, for stock, for wildlife, for humans," Petite said.

On the tour, John Cobourn, water resource specialist, University of Nevada Cooperative Extension, talked about the importance of floodplains.

"The Carson River watershed has set a goal to protect as much floodplain as possible," said Cobourn.

To date, Carson, Douglas and Lyon counties have protected 31 percent of their floodplains, or about 12,450 acres, according to a report written by Coburn and Steven Lewis, extension educator.

Brenda Hunt, watershed program manager at the subconservancy, said floodplain management is a hard sell to the public.

"We talk about this all the time in terms of outreach," Hunt said. "It's not a sexy topic or an easy one to talk about. You have to go through a lot of steps to make people understand."

One way to make it an issue people are going to care enough to learn about, said Cobourn, is to bring it to the ballot box, as Carson City did in 1996, when it passed its Quality of Life Initiative to fund parks and open spaces.

The tour also included stops in Hope and Diamond valleys, Dangberg Ranch, and Fuji Park, where Robb Fellows, chief stormwater engineer and senior project manager, Carson City Public Works, talked about Clear Creek and Baily Pond.

The tour continued with stops at the Lyon County Waste Water Treatment facility, Fort Churchill, Stillwater National Wildlife Refuge and Lahontan Dam.