

**CARSON WATER SUBCONSERVANCY DISTRICT  
BOARD OF DIRECTORS  
AND CARSON RIVER WATERSHED COMMITTEE**

**NOTICE OF PUBLIC MEETING**

**DATE:** October 16, 2019  
**TIME:** 6:30 P.M.  
**LOCATION:** NAI Alliance Conference Room  
1000 N. Division St., Ste. 202  
Carson City, NV 89701

**AGENDA**

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**Please Note:** The Carson Water Subconservancy District (CWSD) Board may: 1) take agenda items out of order; 2) combine two or more items for consideration; and/or 3) remove an item from the agenda or delay discussion related to an item at any time. All votes will be conducted by CWSD Board of Directors. Reasonable efforts will be made to assist and accommodate individuals with disabilities who wish to attend the meeting. Please contact Catrina Schambra at (775)887-7450 ([catrina@cwsd.org](mailto:catrina@cwsd.org)), at least two business days in advance so that arrangements can be made.

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1. Call to Order the CWSD Board of Directors & Carson River Watershed Committee
2. Roll Call
3. Pledge of Allegiance
4. For Discussion Only: Public Comment - Action may not be taken on any matter brought up under public comment until scheduled on an agenda for action at a later meeting.
5. For Possible Action: Approval of Agenda
6. For Possible Action: Approval of the Board Meeting Minutes of September 18, 2019

**CONSENT AGENDA**

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**Please Note:** 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.

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7. For Possible Action: Approval of Treasurer's Report for September 2019
8. For Possible Action: Approval of Payment of Bills for September 2019

**\*\*END OF CONSENT AGENDA\*\***

9. For Possible Action: Presentation by US Forest Service regarding the proposal introduction of Beavers in Faith Valley to enhance wetlands
10. For Possible Action: Authorize General Manager to sign the agreement with JE Fuller regarding Ruhenstroth ADMP in an amount not to exceed \$124,451
11. For Possible Action: Authorize General Manager to sign the agreement with Precision Water Resources Engineering, LLC for Flood mapping in Churchill County in an amount not to exceed \$27,770
12. For Possible Action: Authorize General Manager to sign the agreement with Kimley-Horn for Flood Mitigation Plan for the West Side of Carson City in an amount not to exceed \$148,000

13. For Discussion Only: Presentation on the Watershed Literacy Program
14. For Discussion Only: Presentation on the 2019 Water Year
15. For Discussion Only: Update on Lost Lakes
16. For Discussion Only: Staff Reports - General Manager
  - Legal
  - Correspondence
17. For Discussion Only: Directors Reports
18. For Discussion Only: Update on activities in Alpine County
19. For Discussion Only: Update on activities in Storey County
20. For Discussion Only: Public Comment - Action may not be taken on any matter brought up under public comment until scheduled on an agenda for action at a later meeting.
21. For Possible Action: Adjournment

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**Supporting material for this meeting may be requested from Catrina Schambra at 775-887-7450 ([catrina@cwdsd.org](mailto:catrina@cwdsd.org)) and is available at the CWSD offices at 777 E. William St., #110A, Carson City, NV 89701 and on the CWSD website at [www.cwdsd.org](http://www.cwdsd.org).**

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**In accordance with NRS 241.020, this notice and agenda has been posted at the following locations:**

-Dayton Utilities Complex 34 Lakes Blvd Dayton, NV	-Minden Inn Office Complex 1594 Esmeralda Avenue Minden, NV
-Lyon County Administrative Building 27 S. Main St. Yerington, NV	-Churchill County Administrative Complex 155 N Taylor St. Fallon, NV
-Carson City Hall 201 N. Carson St. Carson City, NV	-Carson Water Subconservancy District Office 777 E. William St., #110A Carson City, NV
-Alpine County Administrative Building 99 Water St. Markleeville, CA	-CWSD website: <a href="http://www.cwdsd.org">http://www.cwdsd.org</a> -State public meetings website: <a href="http://notice.nv.gov">http://notice.nv.gov</a>

**AFFIDAVIT OF POSTING**

The undersigned affirms that on or before 9:00 A.M. on October 9, 2019, he/she posted a copy of the *Notice of Public Meeting and Agenda* for the October 16, 2019, regular meeting of the Carson Water Subconservancy District and the Carson River Watershed Committee, in accordance with NRS 241.020; said agenda was posted at the following location:

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\_\_\_\_\_  
**SIGNATURE**

**Name:** \_\_\_\_\_ **Title:** \_\_\_\_\_ **Date & Time of Posting:** \_\_\_\_\_

## **AGENDA ITEM #6**

### **MINUTES OF LAST BOARD MEETING**

CARSON WATER SUBCONSERVANCY DISTRICT  
BOARD OF DIRECTORS AND  
CARSON RIVER WATERSHED COMMITTEE MEETING  
September 18, 2019, 6:30 P.M.

**Minutes**

Vice Chairman Thaler called the meeting of the Carson Water Subconservancy District (CWSD) to order at 6:30 p.m. in the Storey County Courthouse Museum, 26 South B Street, Virginia City. Roll call of the CWSD Board was taken and a quorum was determined to be present.

**CWSD Directors present:**

Brad Bonkowski, Treasurer  
Stacey Giomi, Director  
Barry Penzel, Director  
Steve Thaler, Vice Chairman  
Larry Walsh, Director  
Mike Workman, Director

**Absent CWSD Directors:** Carl Erquiaga, Ken Gray, Jack Jacobs, Ernie Schank, & Fred Stodieck.

*Roll call of the Caron River Watershed Committee was taken which included CWSD Directors present and Committee Members: David Griffith and Austin Osborne. Committee Member Don Jardine was absent.*

**Others present:**

Kathy Canfield, Storey County  
Brenda Hunt, Watershed Program Manager  
Edwin James, General Manager  
Shauna Langan, River Wranglers  
Debbie Neddenriep, Water Resource Specialist II  
Catrina Schambra, Administrative Assistant/Secretary to the Board

*The Pledge of Allegiance was led by Committee Member Osborne.*

**Item #4 – Discussion Only: Public Comment – None**

**Item #5 – For Possible Action: Approval of Agenda**

*Director Penzel made the motion to approve the agenda. The motion was seconded by Director Walsh and unanimously approved by the Board.*

**Item #6 – For Possible Action: Approval of the Board Meeting Minutes of July 17, 2019**

*Director Giomi made the motion to approve the Board Meeting Minutes of August 21, 2019 as presented. The motion was seconded by Director Workman and unanimously approved by the Board.*



## CONSENT AGENDA

*[Item # 7 Pulled for further discussion concerning updated handout.]*

### **Item # 8 - For Possible Action: Approval of Payment of Bills for August 2019**

*Director Workman made a motion to approve Consent Agenda Item #8 as presented. The motion was seconded by Committee Member Osborne and unanimously approved by the Board.*

### **Item # 7 - For Possible Action: Approval of Treasurer's Report for August 2019**

Mr. James explained that there had been a large negative number being reported on the General Fund Balance Sheet due to Ms. Schambra accounting for transactions made in FY 19-20 that were attributable to the FY 18-19 budget. She learned how to post the transactions to the previous year and remove it from our current year financials and so the report was updated to reflect this. Ms. Schambra has been learning the accounting aspect of Quick Books which gives us a clearer financial picture between yearend and the audit in October and will help make our books more audit friendly and cost efficient in the future.

*Director Giomi made a motion to approve the August Treasurers Report as amended. The motion was seconded by Director Bonkowski and unanimously approved by the Board.*

**\*\*END OF CONSENT AGENDA\*\***

### **Item #9 – For Discussion only: Presentation on River Wranglers Program**

Shauna Langan has been an AmeriCorps Member assigned to work with the River Wranglers program for the past 11 months. When her term expired, she was hired as the Outreach and Education Coordinator for River Wranglers! She is very happy in her new position and thanks CWSD for all their support.

Today River Wranglers started the new Carson River Workday Pilot Program which brings together 4<sup>th</sup> Grade GATE students from Seeliger Middle School and Pioneer High School students in the Leadership Program. This is a year-long, one-on-one mentoring program that RW has never tried before. They will participate in field trips to the river for adventurous learning and fun.

River Wranglers estimates at least 50% of the kids that participate in their programs have never been to the river before. Last year they reached approximately 5,000 kids with their educational program. They learn about bugs and water quality, take nature walks and learn stream assessment just to name a few activities. They are having fun while learning about the Carson River and living in the watershed. It's a great program!

*No action was taken.*

### **Item #10 – For Possible Action: Letter to US Forest Service regarding the proposal to introduce beaver into Faith Valley**

Mr. James announced the issue and shared his thoughts on the pros and cons of the idea of introducing beaver into the watershed. There was robust discussion among the Board.

Ms. Hunt pointed out the positive aspect in that the beaver would help ease erosion. Mr. James says most beaver dams will be blown out by the melt flow in wet years, however this

idea is to have dozens of beaver dams that are reinforced by manmade “help” to get them started, which would withstand river flow and impact movement of the water and our access to our water rights.

Committee Member Osborne asks why the beavers would need help. Mr. James suggests that it would be to make the dams more durable to withstand high flows. Director Bonkowski says beaver dams were never meant to be permanent in their natural state – so why try to make them unnatural? And what about the impact on vegetation and trees? Mr. James says the beavers could wipe out the Aspen trees.

Committee Member Griffith says his understanding is that the type of beavers that are being proposed here are not native beavers to this area. These are non-native and bigger and would do more damage than the smaller Mountain Beaver that is native to the Sierras. Mountain Beaver are small, blind and live underground.

Director Giomi would be interested to know if there are other ideas that are not so invasive and destructive that are being considered. Regarding the draft letter, it says we are open to other options. If we are, what are they? We should state them in the letter.

Director Thaler says he agrees with Committee member Osborne on this - why would we mess with Mother Nature? He thinks that CWSD should state it is against this in the letter. Or better, invite the USFS to come to address our Board, present their idea, and discuss the water rights issues and the effects on downstream counties.

Director Penzel suggests (regarding the possibility of moving our water rights) there would be costs involved, i.e. decommissioning a dam, that the USFS should be responsible for. He thinks we must stress the effects on all entities downstream. We should respectfully ask that we get an informative presentation to our 14-member Board to discuss all the pros and cons, including water rights issues and water flow.

Director Bonkowski reiterates his question on the purpose of the beavers if they plan to build the dams themselves. Ms. Hunt suggests that it may be a financial decision to have the beavers help in the management of the river to save money.

*Director Giomi made a motion that the letter to the US Forest Service be edited to incorporate the concerns of our 14-Member Board and requesting a presentation that will address the impact of this project to our water rights and the river flow to the six counties we represent. The motion was seconded by Director Penzel and unanimously approved by the Board.*

#### **Item #11 – For Discussion only: Review the Marlette Video**

Mr. James introduced the Marlette Video that was produced by CWSD in 2010 showing the history of the lake and its use as a water source.

*No action was taken.*

#### **Item #12 – For Discussion only: Update on Carson River Permits**

Ed James and Patrick King met with State Lands and Conservation District representatives to discuss the permit process. The consensus was it try to implement the Truckee permit process universally and our goal is to help facilitate this process of river projects by conservation districts.

Director Walsh asked if there is a plan to include all conservation districts, that can be used everywhere? Patrick King says the consensus is to make this process as broad as possible. This



can be focused on the Carson River first, and then it can be used as a template for other areas. State Lands can then use it as template for all other conservation districts.

Director Giomi asked for clarification – CWSD is not issuing the permits, rather we are facilitating the process? Mr. James responds, yes, we are helping the entities move forward; helping with language, etc. State Lands was not aware that an agreement existed; this is the first time the new Executive Director has seen the agreement.

Mr. James is hoping to have the process in place in time for next years' river projects.

Director Giomi suggests we write it and present it to them to get the ball rolling.

*No action was taken.*

#### **Item #13 – For Discussion Only: Staff Reports –**

Mr. James reported the following:

- We will be filming for the CWSD Video at the October Board meeting. Dress nice!
- We will be releasing water from Lost Lakes on October 1.
- Will have FEMA projects funding information at the October Board meeting.

Brenda Hunt reports:

- CRC Retreat October 23, 1-4pm at WNC; Topics will include Geomorphology 101, River Projects & Funding.

**Legal – None**

**Correspondence – None**

*No action was taken.*

#### **Item #14– For Discussion Only: Directors Reports –**

- Director Bonkowski asks for a Water Year Numbers Report and a Lahontan Report at next meeting. He will ask Ernie to provide information. He also reported that Carson City is finishing up construction of their intertie line for moving Minden water to the Quill plant; it should be done by December. Once that is completed, Minden Water can be sent to Lyon County, Douglas County and anywhere in Carson City. All this water comes from Carson Valley.
- Director Giomi reported it has been approved by the State Board of Examiners and Carson City "in concept" for a 2-year agreement on improvements; it's a temporary agreement to get to a permanent agreement. He is hoping to have a permanent agreement before next legislative session.
- Director Thaler wanted to just say for the record, he believes CWSD is a model in what we do. This being the final field trip of the summer, and seeing what we all do in our counties -- how it's all the same but different; yet we all come together as a 14-member Board representing 6 counties and manage to get to a consensus almost every time on most issues. He commends the Board on a job well done.

*No action was taken.*

#### **Item #15 – For Discussion Only: Update on activities in Alpine County –**

Committee Member Griffith reported the following:

- Save the Paiute Trout Program is happening now and looks to be a success. They are being physically moved from Coyote Valley Creek to the falls below in Silver Spring

Creek. The Paiute Trout has the distinction of having received federal protection as one of the first animals listed under the Endangered Species Act.

- Lahontan Water Quality & CA State Water Quality Directors are all attending Leviathan Tour this Friday, September 20. He will be attending also. He noted the first tour filled up fast and a second is being scheduled.
- Alpine County now has 2 traffic lights; both of which are associated with construction projects.

*No action was taken.*

**Item #16 – For Discussion Only: Update on activities in Storey County –**

Committee Member Austin Osborne Reported the following:

- Thank you all for coming to Virginia City tonight!
- Storey County is moving forward on the Gold Hill Sewer Project and he is very happy about that.

*No action was taken.*

**Item #17 – For Discussion Only: Public Comment – None**

There being no further business to come before the Board, Chairman Erquiaga adjourned the meeting at 7:51 p.m.

Respectfully submitted,

Catrina Schambra  
Secretary to the Board



**AGENDA ITEM #7**

**TREASURER'S REPORT**

3:21 PM

10/07/19

Cash Basis

## CARSON WATER SUBCONSERVANCY DISTRICT - GENERAL FUND

## Balance Sheet

As of September 30, 2019

	Sep 30, 19
<b>ASSETS</b>	
Current Assets	
Checking/Savings	
1011-00 · Petty Cash	100.00
1013-00 · Cash in Checking - U. S. Bank	195,279.96
1014-00 · Local Gov't Inv. Pool-Regular	511,600.48
Total Checking/Savings	706,980.44
Other Current Assets	
1055-00 · Payroll Deposit - Carson City	500.00
Total Other Current Assets	500.00
Total Current Assets	707,480.44
<b>TOTAL ASSETS</b>	<b>707,480.44</b>
<b>LIABILITIES &amp; EQUITY</b>	
Liabilities	
Current Liabilities	
Other Current Liabilities	
3360-00 · Accrued Vacation	27,994.30
3362-00 · Accrued sick leave	60,200.36
Total Other Current Liabilities	88,194.66
Total Current Liabilities	88,194.66
Total Liabilities	88,194.66
Equity	
4000-00 · Fund Balance	591,867.17
Net Income	27,418.61
Total Equity	619,285.78
<b>TOTAL LIABILITIES &amp; EQUITY</b>	<b>707,480.44</b>

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10/07/19

Cash Basis

## CARSON WATER SUBCONSERVANCY DISTRICT - GENERAL FUND

## Profit &amp; Loss Budget vs. Actual

July through September 2019

	Jul - Sep 19	Budget	\$ Over Budget	% of Budget
<b>Ordinary Income/Expense</b>				
<b>Income</b>				
5008-00 · Alpine Co. Joint Powers contrib		10,400.00	-10,400.00	
5009-00 · Churchill County Ad Valorem		213,817.00	-213,817.00	
5010-00 · Lyon County Ad Valorem		176,286.00	-176,286.00	
5011-00 · Douglas County Ad Valorem	207,736.28	588,466.00	-380,729.72	35.3%
5012-00 · Carson City Ad Valorem		434,373.00	-434,373.00	
5022-00 · Water Lease - Mud Lake		51,000.00	-51,000.00	
5031-00 · Interest Income-LGIP Reg.	4,053.61	14,984.70	-10,931.09	27.1%
5045-00 · Interest Income-B of A Savings	0.01		0.01	100.0%
5050-00 · Watershed Coordinator Grant				
5050-13 · NDEP-WS Coord IV 2019-2022		50,000.00	-50,000.00	
5050-00 · Watershed Coordinator Grant - Other		48,037.00	-48,037.00	
<b>Total 5050-00 · Watershed Coordinator Grant</b>		98,037.00	-98,037.00	
5058-00 · 208 Water Quality Plan		24,478.00	-24,478.00	
5060-00 · Misc. Income				
5060-02 · Watershed Tour		6,000.00	-6,000.00	
<b>Total 5060-00 · Misc. Income</b>	2,854.02	6,000.00	-3,145.98	47.6%
5082-00 · Alpine Co.-CASGEM Grant		1,000.00	-1,000.00	
5096-00 · NFWF-Weed Mgmt.		19,963.00	-19,963.00	
5099-00 · NDEP-WS Lit.Implement.-Phase 3		23,310.00		
6000-00 · FEMA-MAS #8	64,826.42	34,101.00	30,725.42	190.1%
6003-00 · FEMA-MAS #9	45,447.15	393,170.00	-347,722.85	11.6%
6004-00 · BOR WaterSMART Grant		50,000.00	-50,000.00	
<b>Total Income</b>	324,917.49	2,139,385.70	-1,814,468.21	15.2%
<b>Expense</b>				
7015-00 · Salaries & Wages	85,030.93	396,400.00	-311,369.07	21.5%
7020-00 · Employee Benefits	34,035.07	159,000.00	-124,964.93	21.4%
7021-00 · Workers Comp Ins.	387.58	1,400.00	-1,012.42	27.7%
7101-00 · Director's Fees				
7101-01 · Director Benefits	21.92		21.92	100.0%
7101-00 · Director's Fees - Other	1,502.55	16,000.00	-14,497.45	9.4%
<b>Total 7101-00 · Director's Fees</b>	1,844.47	16,000.00	-14,155.53	11.5%
7102-00 · Insurance	4,985.12	5,100.00	-114.88	97.7%
7103-00 · Office Supplies	245.06	3,000.00	-2,754.94	8.2%
7104-00 · Postage	179.95	850.00	-670.05	21.2%
7105-00 · Rent	9,162.00	36,648.00	-27,486.00	25.0%
7106-00 · Telephone/Internet	1,122.32	4,000.00	-2,877.68	28.1%
7107-00 · Travel-transport/meals/lodging				
7107-01 · Car Allowance	1,699.26		1,699.26	100.0%
7107-00 · Travel-transport/meals/lodging - Other	2,015.17	20,400.00	-18,384.83	9.9%
<b>Total 7107-00 · Travel-transport/meals/lodging</b>	3,725.10	20,400.00	-16,674.90	18.3%
7108-00 · Dues & Publications	207.00	1,100.00	-893.00	18.8%
7109-00 · Miscellaneous Expense	423.50	1,000.00	-576.50	42.4%
7110-00 · Seminars & Education	125.00	3,000.00	-2,875.00	4.2%
7111-00 · Office Equipment		3,000.00	-3,000.00	
7112-00 · Bank Charges	8.00	50.00	-42.00	16.0%
7114-00 · Outside Professional Services	234.89	20,000.00	-19,765.11	1.2%
7115-00 · Accounting		16,000.00	-16,000.00	
7116-00 · Legal	4,000.00	36,000.00	-32,000.00	11.1%
7117-00 · Lost Lakes Expenses	804.00	12,700.00	-11,896.00	6.3%
7118-00 · Mud Lake O & M		1,000.00	-1,000.00	
7120-00 · Integrated Watershed Programs				
7120-07 · Watershed Tour		6,000.00	-6,000.00	
7120-31 · Watershed Coord Expenses 17-19	251.37	2,100.00	-1,848.63	12.0%

For internal &amp; discussion purposes only.

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10/07/19

Cash Basis

## CARSON WATER SUBCONSERVANCY DISTRICT - GENERAL FUND

## Profit &amp; Loss Budget vs. Actual

July through September 2019

	Jul - Sep 19	Budget	\$ Over Budget	% of Budget
7120-33 · Watershed Coord Grant 2019-21	94.50	9,500.00	-9,405.50	1.0%
Total 7120-00 · Integrated Watershed Programs	345.87	17,600.00	-17,254.13	2.0%
7215-00 · Sierra NV Journeys-Family Night		4,477.00	-4,477.00	
7332-00 · Carson River Work Days				
7332-05 · CR Work Days 2019-20		26,000.00	-26,000.00	
Total 7332-00 · Carson River Work Days		26,000.00	-26,000.00	
7337-00 · Carson River Restoration				
7337-01 · Carson Valley Conserv District				
7337-20 · CVCD Genoa Bank Stabilize 19-20		87,000.00	-87,000.00	
7337-24 · CVCD Bio, Maint & Debris 19-20		60,000.00	-60,000.00	
7337-91 · CVCD-Cradlebaugh #1 2018-20 EXT		10,000.00	-10,000.00	
Total 7337-01 · Carson Valley Conserv District		157,000.00	-157,000.00	
7337-03 · Dayton Valley Conserv				
7337-33 · DVCD--Restoration 2017-20 EXT		66,600.00	-66,600.00	
7337-34 · DVCD Bank Stabilization 2019-20		90,000.00	-90,000.00	
Total 7337-03 · Dayton Valley Conserv		156,600.00	-156,600.00	
7337-04 · Lahontan Conserv.Dist				
7337-42 · LCD Channel Clearing 2019-20		25,000.00	-25,000.00	
Total 7337-04 · Lahontan Conserv.Dist		25,000.00	-25,000.00	
Total 7337-00 · Carson River Restoration		338,600.00	-338,600.00	
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	
7404-04 · Noxious Weed Control-Lyon Co.		15,000.00	-15,000.00	
7404-05 · Noxious Weed Control-Churchill		15,000.00	-15,000.00	
Total 7404-00 · Noxious Weeds Control-CR Wtrshd		75,000.00	-75,000.00	
7406-00 · 208 Water Quality Mgmt. Plan	3.98	18,367.00	-18,363.02	0.0%
7430-00 · NFWF - Weed Mgmt.	3.84	17,452.00	-17,448.16	0.0%
7433-00 · NDEP-WS Lit.Impl.-Phase 3	16,845.79	23,310.00	-6,464.21	72.3%
7434-00 · FEMA MAS #8				
7434-02 · Update Floodplain Ord.-Loveberg	5,450.00		5,450.00	100.0%
7434-00 · FEMA MAS #8 - Other	40.37	22,993.00	-22,952.63	0.2%
Total 7434-00 · FEMA MAS #8	53,461.07	22,993.00	30,468.07	232.5%
7437-00 · FEMA MAS #9	43,728.84	359,553.00	-315,824.16	12.2%
7438-00 · BOR WaterSMART Market Program	4,832.00	50,000.00	-45,168.00	9.7%
7500-00 · USGS Stream Gage Contract				
7500-03 · USGS Stream Flow Gauges 2019-21	19,601.00	78,405.00	-58,804.00	25.0%
Total 7500-00 · USGS Stream Gage Contract	19,601.00	78,405.00	-58,804.00	25.0%
7508-00 · USGS Do.Co.WQ & GW Monitoring				
7508-03 · DoCo WQ/GW Mon. 2019-21	4,222.00	16,890.00	-12,668.00	25.0%
Total 7508-00 · USGS Do.Co.WQ & GW Monitoring	4,222.00	16,890.00	-12,668.00	25.0%
7524-00 · USGS-GW Lvl & WQ in Ch.Co.				
7524-02 · USGS-GW Lvl & WQ-ChCo 2018-22	1,450.00	5,800.00	-4,350.00	25.0%
Total 7524-00 · USGS-GW Lvl & WQ in Ch.Co.	1,450.00	5,800.00	-4,350.00	25.0%
7526-00 · USGS-Eagle/Dayt/Ch.Vly. 2016-20	6,447.00	3,225.00	3,222.00	199.9%
7600-00 · Alpine County Projects				

For internal &amp; discussion purposes only.

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## CARSON WATER SUBCONSERVANCY DISTRICT - GENERAL FUND

10/07/19

## Profit &amp; Loss Budget vs. Actual

Cash Basis

July through September 2019

	Jul - Sep 19	Budget	\$ Over Budget	% of Budget
7600-09 · Al.Co.-CASGEM		10.00	-10.00	
7600-11 · AWG CR Upper WS Prog 2019-20		25,000.00	-25,000.00	
Total 7600-00 · Alpine County Projects		25,010.00	-25,010.00	
7610-00 · Douglas County Projects				
7610-10 · Do.Co.Reg.Pipeline Debt Service		125,000.00	-125,000.00	
Total 7610-00 · Douglas County Projects		125,000.00	-125,000.00	
7620-00 · Carson City Projects				
7620-11 · CC Reg.Pipeline Debt Service		125,000.00	-125,000.00	
7620-16 · CC Reuse Master Plan 2019-20		50,000.00	-50,000.00	
7620-17 · Mexican Dam Portage 2019-20		25,000.00	-25,000.00	
Total 7620-00 · Carson City Projects		200,000.00	-200,000.00	
7640-00 · Churchill County Projects				
7640-09 · Lahontan Vly.Wtr.Lvl. 2018-21		18,000.00	-18,000.00	
7640-17 · TCID Carson Diversion Dam 19-20		50,000.00	-50,000.00	
7640-18 · Dixie Vlt Wtr Lvl Meas 2019-22		28,000.00	-28,000.00	
Total 7640-00 · Churchill County Projects		96,000.00	-96,000.00	
Total Expense	297,498.88	2,240,330.00	-1,942,831.12	13.3%
Net Ordinary Income	27,418.61	-100,944.30	128,362.91	-27.2%
Other Income/Expense				
Other Income				
8005-00 · Beginning Equity		599,388.00	-599,388.00	
Total Other Income		599,388.00	-599,388.00	
Other Expense				
8008-00 · Preliminary Planning		392,000.00	-392,000.00	
Total Other Expense		392,000.00	-392,000.00	
Net Other Income		207,388.00	-207,388.00	
Net Income	27,418.61	106,443.70	-79,025.09	25.8%

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Cash Basis

**CARSON WATER SUBCONSERVANCY DISTRICT - GENERAL FUND**  
**Profit & Loss YTD Comparison**  
**September 2019**

	Sep 19	Jul - Sep 19
7120-33 · Watershed Coord Grant 2019-21 - Other	80.00	80.00
Total 7120-33 · Watershed Coord Grant 2019-21	94.50	94.50
Total 7120-00 · Integrated Watershed Programs	301.88	345.87
7215-00 · Sierra NV Journeys-Family Night		
7332-00 · Carson River Work Days		
7332-04 · CR Work Days 2018-19		
Total 7332-00 · Carson River Work Days		
7337-00 · Carson River Restoration		
7337-01 · Carson Valley Conserv District		
7337-91 · CVCD-Cradlebaugh #1 2018-20 EXT		
Total 7337-01 · Carson Valley Conserv District		
7337-03 · Dayton Valley Conserv		
7337-33 · DVCD--Restoration 2017-20 EXT		
7337-35 · DVCD Post Flood Repairs #18-11A		
Total 7337-03 · Dayton Valley Conserv		
Total 7337-00 · Carson River Restoration		
7404-00 · Noxious Weeds Control-CR Wtrshd		
7404-01 · Noxious Weed Control-Alpine Co.		
7404-02 · Noxious Weed Control-Douglas Co		
7404-03 · Noxious Weed Control-CarsonCity		
7404-05 · Noxious Weed Control-Churchill		
Total 7404-00 · Noxious Weeds Control-CR Wtrshd		
7406-00 · 208 Water Quality Mgmt. Plan		
7406-03 · LID Implementation 2018-19		3.98
Total 7406-00 · 208 Water Quality Mgmt. Plan		3.98
7430-00 · NFWF - Weed Mgmt.		
7433-00 · NDEP-WS Lit.Impl.-Phase 3		3.84
7433-01 · NDEP -WS LIT 3-MATCH 2019-20	73.79	10,018.78
7433-00 · NDEP-WS Lit.Impl.-Phase 3 - Other	2,970.70	6,827.01
Total 7433-00 · NDEP-WS Lit.Impl.-Phase 3	3,044.49	16,845.79
7434-00 · FEMA MAS #8		
7434-01 · Dayton ADMP(JE Fuller)		47,970.70
7434-02 · Update Floodplain Ord.-Loveberg		5,450.00
7434-00 · FEMA MAS #8 - Other	0.10	40.37
Total 7434-00 · FEMA MAS #8	0.10	53,461.07
7437-00 · FEMA MAS #9		
7437-01 · South Dayton Valley ADMP(JEF)	7,269.00	11,191.90
7437-02 · North CC ADMP (MB)	1,691.22	1,691.22
7437-03 · Pinenut Cr. Restudy-Remap.(HDR)	30,733.12	30,733.12
7437-04 · Flood Awareness 2019		
7437-41 · River Wranglers-FAW		
7437-04 · Flood Awareness 2019 - Other		6.45
Total 7437-04 · Flood Awareness 2019		6.45
7437-00 · FEMA MAS #9 - Other	40.26	106.15
Total 7437-00 · FEMA MAS #9	39,733.60	43,728.84
7438-00 · BOR WaterSMART Market Program		
7438-01 · Water Mktg Study-LUMOS 2019-21	3,800.00	4,832.00
Total 7438-00 · BOR WaterSMART Market Program	3,800.00	4,832.00

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Cash Basis

**CARSON WATER SUBCONSERVANCY DISTRICT - GENERAL FUND**  
**Profit & Loss YTD Comparison**  
**September 2019**

	Sep 19	Jul - Sep 19
<b>Ordinary Income/Expense</b>		
<b>Income</b>		
5009-00 · Churchill County Ad Valorem		
5010-00 · Lyon County Ad Valorem		
5011-00 · Douglas County Ad Valorem	177,501.46	207,736.28
5012-00 · Carson City Ad Valorem		
5022-00 · Water Lease - Mud Lake		
5031-00 · Interest Income-LGIP Reg.	1,159.54	4,053.61
5045-00 · Interest Income-B of A Savings		0.01
5050-00 · Watershed Coordinator Grant		
5050-12 · NDEP-WS Coord III 2018-2020		
<b>Total 5050-00 · Watershed Coordinator Grant</b>		
5058-00 · 208 Water Quality Plan		
5058-04 · NDEP-LID Implementation 2018-19		
<b>Total 5058-00 · 208 Water Quality Plan</b>		
5060-00 · Misc. Income		2,854.02
5082-00 · Alpine Co.-CASGEM Grant		
5083-00 · Al.Co.-Mesa GW Monitoring Grant		
5096-00 · NFWF-Weed Mgmt.	3,776.65	
5098-00 · FEMA-MAS #7		
5099-00 · NDEP-WS Lit.Implement.-Phase 3		
6000-00 · FEMA-MAS #8	34,892.45	64,826.42
6003-00 · FEMA-MAS #9	64,826.52	45,447.15
<b>Total Income</b>	<b>282,156.62</b>	<b>324,917.49</b>
<b>Expense</b>		
7015-00 · Salaries & Wages	31,668.97	85,030.93
7020-00 · Employee Benefits	12,522.24	34,035.07
7021-00 · Workers Comp Ins.		387.58
7101-00 · Director's Fees		
7101-01 · Director Benefits	9.42	21.92
7101-02 · Director's Fees-Alpine Co.		320.00
7101-00 · Director's Fees - Other	640.00	1,502.55
<b>Total 7101-00 · Director's Fees</b>	<b>649.42</b>	<b>1,844.47</b>
7102-00 · Insurance		4,985.12
7103-00 · Office Supplies	61.02	245.06
7104-00 · Postage	66.15	179.95
7105-00 · Rent	3,054.00	9,162.00
7106-00 · Telephone/Internet	377.44	1,122.32
7107-00 · Travel-transport/meals/lodging		
7107-02 CWSD Admin Mileage	10.67	10.67
7107-01 · Car Allowance	566.42	1,699.26
7107-00 · Travel-transport/meals/lodging - Other	715.92	2,015.17
<b>Total 7107-00 · Travel-transport/meals/lodging</b>	<b>1,293.01</b>	<b>3,725.10</b>
7108-00 · Dues & Publications	207.00	207.00
7109-00 · Miscellaneous Expense		423.50
7110-00 · Seminars & Education		125.00
7112-00 · Bank Charges		8.00
7114-00 · Outside Professional Services		234.89
7116-00 · Legal	2,000.00	4,000.00
7117-00 · Lost Lakes Expenses		804.00
7120-00 · Integrated Watershed Programs		
7120-31 · Watershed Coord Expenses 17-19	207.38	251.37
7120-33 · Watershed Coord Grant 2019-21		
7120-34 · WS Coord Grant MATCH 2019-21	14.50	14.50

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Cash Basis

**CARSON WATER SUBCONSERVANCY DISTRICT - GENERAL FUND**  
**Profit & Loss YTD Comparison**  
**September 2019**

	Sep 19	Jul - Sep 19
7439-00 · FEMA MAS #10	31.07	37.50
7500-00 · USGS Stream Gage Contract		
7500-02 · Stream Gages 2017-19		
7500-03 · USGS Stream Flow Gauges 2019-21	19,601.00	19,601.00
Total 7500-00 · USGS Stream Gage Contract	19,601.00	19,601.00
7508-00 · USGS Do.Co.WQ & GW Monitoring		
7508-02 · DoCo WQ/GW Mon. 2017-19		
7508-03 · DoCo WQ/GW Mon. 2019-21	4,222.00	4,222.00
Total 7508-00 · USGS Do.Co.WQ & GW Monitoring	4,222.00	4,222.00
7524-00 · USGS-GW Lvl & WQ in Ch.Co.		
7524-02 · USGS-GW Lvl & WQ-ChCo 2018-22	1,450.00	1,450.00
Total 7524-00 · USGS-GW Lvl & WQ in Ch.Co.	1,450.00	1,450.00
7526-00 · USGS-Eagle/Dayt/Ch.Vly. 2016-20	6,447.00	6,447.00
7527-00 · USGS-Arsenic Data Collection-CV		
7527-01 · USGS-CV Arsenic Study 2018-19		
Total 7527-00 · USGS-Arsenic Data Collection-CV		
7528-00 · USGS-Mercury/Arsenic/Lead Mon.		
7640-00 · Churchill County Projects		
7640-09 · Lahontan Vly.Wtr.Lvl. 2018-21		
7640-16 · Dixie Vly.Wtr.Lvl.Meas 2016-19		
Total 7640-00 · Churchill County Projects		
Total Expense	130,530.39	297,498.88
Net Ordinary Income	151,626.23	27,418.61
Other Income/Expense		
Other Income		
8009-00 · Trans. In-Floodplain Mgmt. Fd.		
Total Other Income		
Net Other Income		
Net Income	151,626.23	27,418.61



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## CARSON WTR SUBCONSERVANCY DIST - ACQUISITION/CONSTRUCTION

10/07/19

## Balance Sheet

Cash Basis

As of September 30, 2019

	Sep 30, 19
ASSETS	
Current Assets	
Checking/Savings	
1013-01 · Local Gov't Inv.Pool-Reserve	771,073.95
Total Checking/Savings	771,073.95
Total Current Assets	771,073.95
TOTAL ASSETS	771,073.95
LIABILITIES & EQUITY	
Equity	
4000-01 · Fund Balance - Capital Project	766,270.77
Net Income	4,803.18
Total Equity	771,073.95
TOTAL LIABILITIES & EQUITY	771,073.95

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## CARSON WTR SUBCONSERVANCY DIST - ACQUISITION/CONSTRUCTION

10/07/19

## Profit &amp; Loss Budget vs. Actual

Cash Basis

July through September 2019

	Jul - Sep 19	Budget	\$ Over Budget	% of Budget
Ordinary Income/Expense				
Income				
5032-01 · Interest Income - LGIP Res.	4,803.18	19,106.33	-14,303.15	25.1%
Total Income	4,803.18	19,106.33	-14,303.15	25.1%
Expense				
7341-01 · Upsize LyCo/Stagecoach Pipeline		250,000.00	-250,000.00	
7342-01 · Upstream Storage Evaluation		22,000.00	-22,000.00	
7343-01 · Construction Projects		475,000.00	-475,000.00	
Total Expense		747,000.00	-747,000.00	
Net Ordinary Income	4,803.18	-727,893.67	732,696.85	-0.7%
Net Income	<u>4,803.18</u>	<u>-727,893.67</u>	<u>732,696.85</u>	<u>-0.7%</u>

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## CARSON WTR SUBCONSERVANCY DIST - ACQUISITION/CONSTRUCTION

10/07/19

## Profit &amp; Loss YTD Comparison

Cash Basis

September 2019

	Sep 19	Jul - Sep 19
Ordinary Income/Expense		
Income		
5032-01 - Interest Income - LGIP Res.	1,639.11	4,803.18
Total Income	1,639.11	4,803.18
Net Ordinary Income	1,639.11	4,803.18
Net Income	1,639.11	4,803.18

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Cash Basis

**Floodplain Management Fund**  
**Balance Sheet**  
As of September 30, 2019

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	Sep 30, 19
<b>ASSETS</b>	
Current Assets	
Checking/Savings	
1013-03 · LGIP - Floodplain	399,730.97
Total Checking/Savings	399,730.97
Total Current Assets	399,730.97
<b>TOTAL ASSETS</b>	<b>399,730.97</b>
<b>LIABILITIES &amp; EQUITY</b>	
Equity	
32000 · Retained Earnings	397,214.72
Net Income	2,516.25
Total Equity	399,730.97
<b>TOTAL LIABILITIES &amp; EQUITY</b>	<b>399,730.97</b>



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Cash Basis

# Floodplain Management Fund

## Profit & Loss Budget vs. Actual

### July through September 2019

	Jul - Sep 19	Budget	\$ Over Budget	% of Budget
Ordinary Income/Expense				
Income				
5032-03 · Int. Inc.-LGIP-Floodplain	2,516.25	9,699.30	-7,183.05	25.9%
Total Income	2,516.25	9,699.30	-7,183.05	25.9%
Expense				
7203-03 · Reg. Flood Preliminary Planning	0.00	300,000.00	-300,000.00	0.0%
7206-03 · Flood Project Along SR88-Minden	0.00	40,000.00	-40,000.00	0.0%
7212-03 · CVCD-2017 Flood Permit/Repairs	0.00	0.00	0.00	0.0%
7213-03 · DVCD-2017 Flood Permit/Repairs	0.00	0.00	0.00	0.0%
7214-03 · ChCo Floodplain Evaluation	0.00	35,000.00	-35,000.00	0.0%
Total Expense	0.00	375,000.00	-375,000.00	0.0%
Net Ordinary Income	2,516.25	-365,300.70	367,816.95	-0.7%
Other Income/Expense				
Other Income				
8000-03 · Beginning Equity	0.00	387,972.00	-387,972.00	0.0%
Total Other Income	0.00	387,972.00	-387,972.00	0.0%
Other Expense				
8002-03 · Trans.Out-General Fund	0.00	0.00	0.00	0.0%
Total Other Expense	0.00	0.00	0.00	0.0%
Net Other Income	0.00	387,972.00	-387,972.00	0.0%
Net Income	2,516.25	22,671.30	-20,155.05	11.1%

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Cash Basis

**Floodplain Management Fund**  
**Profit & Loss YTD Comparison**  
September 2019

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	Sep 19	Jul - Sep 19
Ordinary Income/Expense		
Income		
5032-03 · Int. Inc.-LGIP-Floodplain	858.15	2,516.25
Total Income	858.15	2,516.25
Net Ordinary Income	858.15	2,516.25
Net Income	<u>858.15</u>	<u>2,516.25</u>

**AGENDA ITEM #8**

**PAYMENT OF BILLS**

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Cash Basis

## CARSON WATER SUBCONSERVANCY DISTRICT - GENERAL FUND

## Transaction Detail by Account

September 2019

Type	Date	Num	Name	Memo	Paid Amount	Balance
<b>1013-00 · Cash in Checking - U. S. Bank</b>						
Check	09/03/2019	9694	Euronev, Ltd.	Sept 2019 Rent	-3,054.00	-3,054.00
Check	09/03/2019	9695	King & Russo, Ltd.	Professional Services August 2019	-2,000.00	-5,054.00
Check	09/03/2019	9696	Carl Erquiaga	Replace lost mileage checks#9593 & #9631	-182.43	-5,236.43
Deposit	09/03/2019			Deposit	34,880.35	29,643.92
Deposit	09/03/2019			Deposit	3,776.65	33,420.57
Check	09/04/2019	9697	JE Fuller Hydrology & Geomorpholog...	Inv.#P3121.01-8 SDVADMP Project P3121.01 Prof...	-7,269.00	26,151.57
Check	09/04/2019	9698	RDM Infinity, LLC	Invoice # 2063 Website Tech Services	-412.50	25,739.07
Check	09/05/2019	9699	Carson City	CWSD Payroll #18 (8/16/19-8/29/19)	-23,382.58	2,356.49
Check	09/06/2019	9700	HDR Engineering, Inc.	Inv. #1200212705 Pinenut Creek LOMR - 7/1/19 - 8/...	-23,032.25	-20,675.76
Check	09/06/2019	9701	Konica Minolta Business Solutions U...	Acct#3091 8/1/19-8/31/19	-118.05	-20,793.81
Check	09/06/2019	9702	Sign Pro	Inv. #22112 I AM CARSON RIVER BANNER	-100.00	-20,893.81
Check	09/11/2019	9703	Shane Fryer	9/9/19 WS Lit 3-MATCH (Video Shoot Meal)	-73.79	-20,967.60
Check	09/12/2019	9704	American Planning Association	APA Membership & NV Dues 10/1/19-9/30/20 -B. H...	-207.00	-21,174.60
Deposit	09/16/2019			Deposit	177,513.56	156,338.96
Check	09/16/2019	9705	HDR Engineering, Inc.	Inv. #1200214312 Pinenut Creek LOMR - 8/4/19 - 8/...	-7,700.87	148,638.09
Check	09/16/2019	ACH	U.S. Geological Survey	Inv#90756824 Qtrly Pymt JFA #17WSNV00139	-6,447.00	142,191.09
Check	09/16/2019	ACH	U.S. Geological Survey	Inv#90756826 Qtrly Pymt JFA #119ZJFA00121	-4,222.00	137,969.09
Check	09/16/2019	ACH	U.S. Geological Survey	Inv#90756825 Qtrly Pymt JFA #18WSNV00134	-1,450.00	136,519.09
Check	09/17/2019	9706	Edwin James	Reimbursement for 9/17/19 Minden Mgrs.Mtg Meal	-149.96	136,369.13
Check	09/19/2019	9707	Edwin James	Reimbursement for 9/18/19 Board Mtg Meal	-198.14	136,170.99
Check	09/19/2019	9708	Carson City	CWSD Payroll #19 (8/30/19-9/12/19)	-21,944.47	114,226.52
Check	09/19/2019	9709	Office Depot Business Credit	Acct #6011 5685 11775 7761	-9.43	114,217.09
Check	09/19/2019	9710	Charter Communications	Acct#8354110010917880	-309.94	113,907.15
Check	09/19/2019	9711	Stacey Giomi	9/18/19 Bd Mtg Mileage Reimbursement	-19.56	113,887.59
Check	09/19/2019	9712	David Griffith	9/18/19 Bd Mtg Mileage Reimbursement	-47.65	113,839.94
Check	09/19/2019	9713	Barry Penzel	9/18/19 Bd Mtg Mileage Reimbursement	-30.66	113,809.28
Check	09/19/2019	9714	Steve Thaler	9/18/19 Bd Mtg Mileage Reimbursement	-31.04	113,778.24
Check	09/19/2019	9715	Larry Walsh	9/18/19 Bd Mtg Mileage Reimbursement	-42.61	113,735.63
Check	09/19/2019	9716	Mike Workman	9/18/19 Bd Mtg Mileage Reimbursement	-13.87	113,721.76
Check	09/19/2019	9717	David Griffith	September Director Fee	-80.00	113,641.76
Check	09/23/2019	ACH	U.S. Geological Survey	Inv#90756827 Qtrly Pymt JFA #19ZJFA00127	-19,601.00	94,040.76
Check	09/23/2019	9718	Bank of America	SEPT 2019, Acct. #4024 4910 0003 3949	-213.65	93,827.11
Check	09/25/2019	9719	Resource Concepts, Inc	Inv#19-1571 Project 19-134	-2,048.21	91,778.90
Check	09/26/2019	9720	Lumos & Assoc., Inc.	Inv# 102111 Project #9834	-3,800.00	87,978.90
Deposit	09/27/2019			Deposit	64,826.52	152,805.42
Check	09/30/2019	9722	Deborah Nedderniep	3rd Quarter Mileage Reimbursement	-69.60	152,735.82
Check	09/30/2019	9723	Catrina Schambra	3rd Quarter Mileage Reimbursement	-10.67	152,725.15
Check	09/30/2019	9724	Brenda Hunt	3rd Quarter Mileage Reimbursement	-377.00	152,348.15
Check	09/30/2019	9725	Shane Fryer	3rd Quarter Mileage Reimbursement	-190.24	152,157.91
Check	09/30/2019	9726	Michael Baker International, Inc.	Inv#1061180 Proj#170572 NCC ADMP Professional...	-1,691.22	150,466.69
Total 1013-00 · Cash in Checking - U. S. Bank					150,466.69	150,466.69
<b>1014-00 · Local Gov't Inv. Pool-Regular</b>						
Deposit	09/30/2019			Interest	1,159.54	1,159.54
Total 1014-00 · Local Gov't Inv. Pool-Regular					1,159.54	1,159.54
<b>3307-00 · CC Payroll Due</b>						
General Jo...	09/05/2019			August Meals	179.70	179.70
Check	09/05/2019	9699	Carson City	Payroll #18 (8/16/19-8/29/19)	23,382.58	23,562.28
General Jo...	09/05/2019			Payroll #18 (8/16/19-8/29/19)	-23,562.28	
General Jo...	09/19/2019			Payroll # 19 8/30/19-9/12/19	-21,944.47	-21,944.47
Check	09/19/2019	9708	Carson City	Payroll #19 (8/30/19-9/12/19)	21,944.47	
Total 3307-00 · CC Payroll Due						
<b>5011-00 · Douglas County Ad Valorem</b>						
Deposit	09/16/2019	695861	Douglas County Treasurer	August Ad Valorem	-177,501.46	-177,501.46
Total 5011-00 · Douglas County Ad Valorem					-177,501.46	-177,501.46
<b>5031-00 · Interest Income-LGIP Reg.</b>						
Deposit	09/30/2019			Interest	-1,159.54	-1,159.54
Total 5031-00 · Interest Income-LGIP Reg.					-1,159.54	-1,159.54
<b>5096-00 · NFWF-Weed Mgmt.</b>						
Deposit	09/03/2019		National Fish & Wildlife	Inv 3 - 7/1/2018-6/30/2019	-3,776.65	-3,776.65
Total 5096-00 · NFWF-Weed Mgmt.					-3,776.65	-3,776.65
<b>6000-00 · FEMA-MAS #8</b>						
Deposit	09/03/2019		FEMA	Draw #16	-34,880.35	-34,880.35
Deposit	09/16/2019	1281	River Wranglers	July & August copies	-12.10	-34,892.45
Total 6000-00 · FEMA-MAS #8					-34,892.45	-34,892.45
<b>6003-00 · FEMA-MAS #9</b>						

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Cash Basis

CARSON WATER SUBCONSERVANCY DISTRICT - GENERAL FUND  
Transaction Detail by Account  
September 2019

Type	Date	Num	Name	Memo	Paid Amount	Balance
Deposit	09/27/2019		FEMA	Draw 8	-64,826.52	-64,826.52
Total 6003-00 · FEMA-MAS #9					-64,826.52	-64,826.52
<b>7015-00 · Salaries &amp; Wages</b>						
General Jo...	09/05/2019			Salary Payroll #18 Fryer	3,069.22	3,069.22
General Jo...	09/05/2019			Salary Payroll #18 Hunt	3,110.34	6,179.56
General Jo...	09/05/2019			Salary Payroll #18 James	5,550.97	11,730.53
General Jo...	09/05/2019			Salary Payroll #18 Neddenriep	2,206.19	13,936.72
General Jo...	09/05/2019			Salary Payroll #18 Schambra	2,322.36	16,259.08
General Jo...	09/05/2019			August Meals	-89.85	16,169.23
General Jo...	09/19/2019			Salary Payroll #19 Fryer	2,996.78	19,166.01
General Jo...	09/19/2019			Salary Payroll #19 Hunt	2,696.17	21,862.18
General Jo...	09/19/2019			Salary Payroll #19 James	5,533.00	27,395.18
General Jo...	09/19/2019			Salary Payroll #19 Neddenriep	1,969.39	29,364.57
General Jo...	09/19/2019			Salary Payroll #19 Schambra	2,304.40	31,668.97
Total 7015-00 · Salaries & Wages					31,668.97	31,668.97
<b>7020-00 · Employee Benefits</b>						
General Jo...	09/05/2019			Benies Payroll #18 Fryer	487.52	487.52
General Jo...	09/05/2019			Benies Payroll #18 Hunt	1,497.55	1,985.07
General Jo...	09/05/2019			Benies Payroll #18 James	2,268.12	4,253.19
General Jo...	09/05/2019			Benies Payroll #18 Neddenriep	1,078.78	5,331.97
General Jo...	09/05/2019			Benies Payroll #18 Schambra	1,028.75	6,360.72
General Jo...	09/19/2019			Benies Payroll #19 Fryer	478.16	6,838.88
General Jo...	09/19/2019			Benies Payroll #19 Hunt	1,375.66	8,214.54
General Jo...	09/19/2019			Benies Payroll #19 James	2,267.86	10,482.40
General Jo...	09/19/2019			Benies Payroll #19 Neddenriep	1,011.35	11,493.75
General Jo...	09/19/2019			Benies Payroll #19 Schambra	1,028.49	12,522.24
Total 7020-00 · Employee Benefits					12,522.24	12,522.24
<b>7101-00 · Director's Fees</b>						
<b>7101-01 · Director Benefits</b>						
General Jo...	09/05/2019			Director Benies Payroll #18 Erquiaga	1.16	1.16
General Jo...	09/05/2019			Director Benies Payroll #18 Giomi	1.42	2.58
General Jo...	09/05/2019			Director Benies Payroll #18 Jacobs	1.42	4.00
General Jo...	09/05/2019			Director Benies Payroll #18 Penzel	1.42	5.42
General Jo...	09/05/2019			Director Benies Payroll #18 Schank	1.42	6.84
General Jo...	09/05/2019			Director Benies Payroll #18 Thaler	1.42	8.26
General Jo...	09/05/2019			Director Fee Payroll #18 Workman	1.16	9.42
Total 7101-01 · Director Benefits					9.42	9.42
<b>7101-00 · Director's Fees - Other</b>						
General Jo...	09/05/2019			Director Fee Payroll #18 Erquiaga	80.00	80.00
General Jo...	09/05/2019			Director Fee Payroll #18 Giomi	97.97	177.97
General Jo...	09/05/2019			Director Fee Payroll #18 Jacobs	97.97	275.94
General Jo...	09/05/2019			Director Fee Payroll #18 Penzel	97.97	373.91
General Jo...	09/05/2019			Director Fee Payroll #18 Schank	97.97	471.88
General Jo...	09/05/2019			Director Fee Payroll #18 Thaler	97.97	569.85
General Jo...	09/05/2019			Director Fee Payroll #18 Workman	80.00	649.85
General Jo...	09/05/2019			August Meals	-89.85	560.00
Check	09/19/2019	9717	David Griffith	September Director Fee	80.00	640.00
Total 7101-00 · Director's Fees - Other					640.00	640.00
Total 7101-00 · Director's Fees					649.42	649.42
<b>7103-00 · Office Supplies</b>						
Check	09/06/2019	9701	Konica Minolta Business Solutions U...	August Copies	118.05	118.05
Check	09/19/2019	9709	Office Depot Business Credit	Office Supplies	9.43	127.48
General Jo...	09/30/2019			Sept. Copies	-66.46	61.02
Total 7103-00 · Office Supplies					61.02	61.02
<b>7104-00 · Postage</b>						
Check	09/23/2019	9718	Bank of America	Bd Pkg Mailing	66.15	66.15
Total 7104-00 · Postage					66.15	66.15
<b>7105-00 · Rent</b>						
Check	09/03/2019	9694	Euronev, Ltd.	Sept Rent	3,054.00	3,054.00
Total 7105-00 · Rent					3,054.00	3,054.00
<b>7106-00 · Telephone/Internet</b>						
Check	09/19/2019	9710	Charter Communications	Sept. Phone/Internet Svcs.	309.94	309.94
Check	09/23/2019	9718	Bank of America	Sept - Microsoft Internet	5.00	314.94
Check	09/23/2019	9718	Bank of America	Sept -Microsoft 365	62.50	377.44

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Cash Basis

## CARSON WATER SUBCONSERVANCY DISTRICT - GENERAL FUND

## Transaction Detail by Account

September 2019

Type	Date	Num	Name	Memo	Paid Amount	Balance
Total 7106-00 · Telephone/Internet					377.44	377.44
<b>7107-00 · Travel-transport/meals/lodging</b>						
<b>7107-02 CWSD Admin Mileage</b>						
Check	09/30/2019	9723	Catrina Schambra	3rd Quarter Mileage - Schambra	10.67	10.67
Total 7107-02 CWSD Admin Mileage					10.67	10.67
<b>7107-01 · Car Allowance</b>						
General Jo...	09/05/2019			Car Allowance Payroll #18 James	283.21	283.21
General Jo...	09/19/2019			Car Allowance Payroll #19 James	283.21	566.42
Total 7107-01 · Car Allowance					566.42	566.42
<b>7107-00 · Travel-transport/meals/lodging - Other</b>						
Check	09/03/2019	9696	Carl Erquiaga	Replace lost mileage checks#9593 & #9631	182.43	182.43
Check	09/17/2019	9706	Edwin James	Reimbursement for 9/17/19 Minden Mgrs.Mtg Meal	149.96	332.39
Check	09/19/2019	9707	Edwin James	Reimbursement for 9/18/19 Board Mtg Meal	198.14	530.53
Check	09/19/2019	9711	Stacey Giomi	9/18/19 Bd Mtg Mileage Reimbursement	19.56	550.09
Check	09/19/2019	9712	David Griffith	9/18/19 Bd Mtg Mileage Reimbursement	47.65	597.74
Check	09/19/2019	9713	Barry Penzel	9/18/19 Bd Mtg Mileage Reimbursement	30.66	628.40
Check	09/19/2019	9714	Steve Thaler	9/18/19 Bd Mtg Mileage Reimbursement	31.04	659.44
Check	09/19/2019	9715	Larry Walsh	9/18/19 Bd Mtg Mileage Reimbursement	42.61	702.05
Check	09/19/2019	9716	Mike Workman	9/18/19 Bd Mtg Mileage Reimbursement	13.87	715.92
Total 7107-00 · Travel-transport/meals/lodging - Other					715.92	715.92
Total 7107-00 · Travel-transport/meals/lodging					1,293.01	1,293.01
<b>7108-00 · Dues &amp; Publications</b>						
Check	09/12/2019	9704	American Planning Association	APA Membership & NV Dues 10/1/19-9/30/20-B. Hunt	207.00	207.00
Total 7108-00 · Dues & Publications					207.00	207.00
<b>7116-00 · Legal</b>						
Check	09/03/2019	9695	King & Russo, Ltd.	Professional Services August 2019	2,000.00	2,000.00
Total 7116-00 · Legal					2,000.00	2,000.00
<b>7120-00 · Integrated Watershed Programs</b>						
<b>7120-31 · Watershed Coord Expenses 17-19</b>						
General Jo...	09/30/2019			Sept. Copies	34.54	34.54
Check	09/30/2019	9724	Brenda Hunt	3rd Quarter Mileage - B. Hunt	66.70	101.24
Check	09/30/2019	9725	Shane Fryer	3rd Quarter Mileage - S. Fryer	106.14	207.38
Total 7120-31 · Watershed Coord Expenses 17-19					207.38	207.38
<b>7120-33 · Watershed Coord Grant 2019-21</b>						
<b>7120-34 · WS Coord Grant MATCH 2019-21</b>						
Check	09/30/2019	9722	Deborah Neddenriep	3rd Quarter Mileage - D. Neddenriep	14.50	14.50
Total 7120-34 · WS Coord Grant MATCH 2019-21					14.50	14.50
<b>7120-33 · Watershed Coord Grant 2019-21 - Other</b>						
Check	09/23/2019	9718	Bank of America	Aerial Geo Tiff/Minden, Misc	60.00	60.00
Check	09/23/2019	9718	Bank of America	Aerial Geo Tiff/Indian Hills	20.00	80.00
Total 7120-33 · Watershed Coord Grant 2019-21 - Other					80.00	80.00
Total 7120-33 · Watershed Coord Grant 2019-21					94.50	94.50
Total 7120-00 · Integrated Watershed Programs					301.88	301.88
<b>7433-00 · NDEP-WS Lit.Impl.-Phase 3</b>						
<b>7433-01 · NDEP -WS LIT 3-MATCH 2019-20</b>						
Check	09/11/2019	9703	Shane Fryer	9/9/19 WS Lit 3-MATCH (Video Shoot Meal)	73.79	73.79
Total 7433-01 · NDEP -WS LIT 3-MATCH 2019-20					73.79	73.79
<b>7433-00 · NDEP-WS Lit.Impl.-Phase 3 - Other</b>						
Check	09/04/2019	9698	RDM Infinity, LLC	Invoice # 2063 Website Tech Services	412.50	412.50
Check	09/06/2019	9702	Sign Pro	I AM CARSON RIVER BANNER	100.00	512.50
Check	09/25/2019	9719	Resource Concepts, Inc	Professional Services thru August 31, 2019	2,048.21	2,560.71
General Jo...	09/30/2019			Sept. Copies	15.59	2,576.30
Check	09/30/2019	9724	Brenda Hunt	3rd Quarter Mileage - B. Hunt	310.30	2,886.60
Check	09/30/2019	9725	Shane Fryer	3rd Quarter Mileage - S. Fryer	84.10	2,970.70
Total 7433-00 · NDEP-WS Lit.Impl.-Phase 3 - Other					2,970.70	2,970.70
Total 7433-00 · NDEP-WS Lit.Impl.-Phase 3					3,044.49	3,044.49
<b>7434-00 · FEMA MAS #8</b>						

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Cash Basis

**CARSON WATER SUBCONSERVANCY DISTRICT - GENERAL FUND**  
Transaction Detail by Account  
September 2019

Type	Date	Num	Name	Memo	Paid Amount	Balance
General Jo...	09/30/2019			Sept. Copies	0.10	0.10
Total 7434-00 · FEMA MAS #8					0.10	0.10
<b>7437-00 · FEMA MAS #9</b>						
<b>7437-01 · South Dayton Valley ADMP(JEF)</b>						
Check	09/04/2019	9697	JE Fuller Hydrology & Geomorpholog...	SDVADMP Project P3121.01 Professional Svcs. 8/...	7,269.00	7,269.00
Total 7437-01 · South Dayton Valley ADMP(JEF)					7,269.00	7,269.00
<b>7437-02 · North CC ADMP (MB)</b>						
Check	09/30/2019	9726	Michael Baker International, Inc.	Professional Svcs. thru Sept. 1, 2019	1,691.22	1,691.22
Total 7437-02 · North CC ADMP (MB)					1,691.22	1,691.22
<b>7437-03 · Pinenut Cr. Restudy-Remap.(HDR)</b>						
Check	09/06/2019	9700	HDR Engineering, Inc.	Pinenut Creek LOMR - 7/1/19 - 8/3/19	23,032.25	23,032.25
Check	09/16/2019	9705	HDR Engineering, Inc.	Pinenut Creek LOMR - 8/4/19 - 8/31/19	7,700.87	30,733.12
Total 7437-03 · Pinenut Cr. Restudy-Remap.(HDR)					30,733.12	30,733.12
<b>7437-00 · FEMA MAS #9 - Other</b>						
General Jo...	09/30/2019			Sept. Copies	7.20	7.20
Check	09/30/2019	9722	Deborah Neddenriep	3rd Quarter Mileage - D. Neddenriep	33.06	40.26
Total 7437-00 · FEMA MAS #9 - Other					40.26	40.26
Total 7437-00 · FEMA MAS #9					39,733.60	39,733.60
<b>7438-00 · BOR WaterSMART Market Program</b>						
<b>7438-01 · Water Mktg Study-LUMOS 2019-21</b>						
Check	09/26/2019	9720	Lumos & Assoc., Inc.	Professional Services 8/10/19-9/6/19	3,800.00	3,800.00
Total 7438-01 · Water Mktg Study-LUMOS 2019-21					3,800.00	3,800.00
Total 7438-00 · BOR WaterSMART Market Program					3,800.00	3,800.00
<b>7439-00 · FEMA MAS #10</b>						
General Jo...	09/30/2019			Sept. Copies	9.03	9.03
Check	09/30/2019	9722	Deborah Neddenriep	3rd Quarter Mileage - D. Neddenriep	22.04	31.07
Total 7439-00 · FEMA MAS #10					31.07	31.07
<b>7500-00 · USGS Stream Gage Contract</b>						
<b>7500-03 · USGS Stream Flow Gauges 2019-21</b>						
Check	09/23/2019	ACH	U.S. Geological Survey	Qtrly Pymt JFA #19ZJJFA00127	19,601.00	19,601.00
Total 7500-03 · USGS Stream Flow Gauges 2019-21					19,601.00	19,601.00
Total 7500-00 · USGS Stream Gage Contract					19,601.00	19,601.00
<b>7508-00 · USGS Do.Co.WQ &amp; GW Monitoring</b>						
<b>7508-03 · DoCo WQ/GW Mon. 2019-21</b>						
Check	09/16/2019	ACH	U.S. Geological Survey	Qtrly Pymt JFA #119ZJJFA00121	4,222.00	4,222.00
Total 7508-03 · DoCo WQ/GW Mon. 2019-21					4,222.00	4,222.00
Total 7508-00 · USGS Do.Co.WQ & GW Monitoring					4,222.00	4,222.00
<b>7524-00 · USGS-GW Lvl &amp; WQ in Ch.Co.</b>						
<b>7524-02 · USGS-GW Lvl &amp; WQ-ChCo 2018-22</b>						
Check	09/16/2019	ACH	U.S. Geological Survey	Qtrly Pymt JFA #18WSNV00134	1,450.00	1,450.00
Total 7524-02 · USGS-GW Lvl & WQ-ChCo 2018-22					1,450.00	1,450.00
Total 7524-00 · USGS-GW Lvl & WQ in Ch.Co.					1,450.00	1,450.00
<b>7526-00 · USGS-Eagle/Dayt/Ch.Vly. 2016-20</b>						
Check	09/16/2019	ACH	U.S. Geological Survey	Qtrly Pymt JFA #17WSNV00139	6,447.00	6,447.00
Total 7526-00 · USGS-Eagle/Dayt/Ch.Vly. 2016-20					6,447.00	6,447.00
<b>TOTAL</b>						

NO PETTY CASH TRANSACTIONS SEPTEMBER 2019



## **AGENDA ITEM #9**

## CARSON WATER SUBCONSERVANCY DISTRICT

**TO:** BOARD OF DIRECTORS

**FROM:** EDWIN D. JAMES

**DATE:** OCTOBER 16, 2019

**SUBJECT:** Agenda Item # 9– For Possible Action: Presentation by US Forest Service regarding the proposal to introduce beaver into Faith Valley

**DISCUSSION:** Based on discussion at the September CWSD Board meeting, staff sent a letter to the US Forest Service requesting that they attend the October Board meeting regarding the proposal to promote beaver dams in Faith Valley (see attached letter). Sally Chapman and Matt Zumstein from the US Forest Service have indicated that they will be attending the meeting. Julie Fair with American Rivers has also indicated that she will attend the meeting. The goal of the meeting is to better understand the US Forest Service plan regarding the promotion of beaver dams in Faith Valley, express CWSD concerns, and to discuss possible solutions.

**STAFF RECOMMENDATION:** Provide direction to staff.



September 26, 2019

Matt Zumstein, District Ranger  
Carson Ranger District  
U. S. Forest Service  
1536 S. Carson Street  
Carson City, Nevada 89701

**RE: Beaver Restoration Assessment Tool (BRAT) for Faith Valley**

Dear District Ranger Zumstein,

The Carson Water Subconservancy District (CWSD) is a bi-state, multi-county, quasi-governmental organization charged with the responsibility of overseeing water resource management within the Carson River Watershed. The Carson River Watershed includes portions of Alpine County, California and Douglas, Carson City, Lyon, Storey, and Churchill Counties in Nevada. The CWSD Board of Directors consists of 14 members, including elected officials, agricultural experts and other community leaders who are dedicated to establishing a balance between the water needs of the communities within the Carson River Watershed and the function of the river system.

On August 12, 2019, CWSD staff attended a presentation hosted by American Rivers that outlined the values of introducing beaver into Faith Valley to restore the West Fork river and improve habitat for Willow Flycatcher. CWSD has some concerns regarding the proposal to promote beaver dams in Faith Valley. CWSD owns the water rights in Lost Lakes located upstream of Faith Valley. We are concerned that the promotion of beaver dams may affect access to our water rights.

A little background on the Lost Lakes water rights: Lost Lakes reservoirs are located at the head waters of the West Fork of Carson River. The reservoirs were built in the 1920s to store spring runoff and then released in late summer to augment water needs to farmlands located in the south portion of Carson Valley. Historically, the farmers would release a set amount of water from Lost Lakes and they would then divert that water out of the river at their diversion structure. Because timing of the water delivery was important, the farmers would remove any beaver dams in Faith and Hope Valleys so not to impede their water flow. In October 2001, CWSD purchased the Lost Lakes water rights. CWSD uses the water for environmental, recreation, irrigation, and municipal purposes. Typically, CWSD stores water in the springtime and then release

the water in the fall for downstream users. During this operation the concern regarding timing of water deliveries is not a major issue. However, twice CWSD has released the water during the summer period for particular water needs downstream and it is important that the water be able to move through the river system in a timely and efficient fashion.

In light of the changes the U.S. Forest Service is planning for the West Fork, we would like to invite you to our October 16 (6:30 pm) Board meeting so we can discuss this project and better understand its goals. The decision to change the ecosystem of the watershed will affect the area and all the counties downstream in a variety of ways that may not have been considered. We would like the opportunity to lend our expertise to this project to make sure all these concerns are addressed.

We want to thank you for your consideration of our concerns. The CWSD October Board meeting will be held on Wednesday, October 16 at 6:30 pm in the NAI Alliance Conference Room, 1000 N. Division St., Ste. 202, Carson City, NV 89701. Please contact Ed James, CWSD General Manager at (775) 887-7456, or email [edjames@cwsd.org](mailto:edjames@cwsd.org) to confirm your ability to present the U.S. Forest Service proposal to promote beaver dams in Faith Valley at our upcoming Board meeting.

Sincerely,



Carl Erquiaga  
Chairman, Board of Directors  
Carson Water Subconservancy District

CE:cat

cc: Sally Champion, U.S. Forest Service  
Julie Fair, American Rivers  
Kimra McAfee, Alpine Watershed Group  
Cindy Wise, Lahontan Regional Water Quality Control Board

## **AGENDA ITEM #10**

## CARSON WATER SUBCONSERVANCY DISTRICT

**TO:** BOARD OF DIRECTORS

**FROM:** EDWIN D. JAMES

**DATE:** OCTOBER 16, 2019

**SUBJECT:** Agenda Item # 10– For Possible Action: Authorize General Manager to sign the agreement with JE Fuller regarding Ruhenstroth ADMP in an amount not to exceed \$124,451.

**DISCUSSION:** Attached is the agreement, scope of work, fees, and schedule to conduct the Ruhenstroth ADMP Phase 1. This project is being funded by FEMA Cooperating Technical Partners (CTP) MAS 10 grant. The original costs for this project came in much higher than funds available to do the study. After several discussions with JE Fuller and Douglas County staff it was decided that this project would be broken into two phases. Phase One would be funded under the MAS 10 grant and CWSD would request additional funding in MAS 11. Phase One will focus on mapping, hydrology, hydraulic, and Flood Risk data. Phase Two will focus on developing various alternatives.

**STAFF RECOMMENDATION:** Authorize General Manager to sign the agreement with JE Fuller regarding Ruhenstroth ADMP in an amount not to exceed \$124,451.



**PROFESSIONAL SERVICES AGREEMENT  
FOR  
RUHENSTROTH AREA DRAINAGE MASTER PLAN PHASE I,  
DOUGLAS COUNTY, NEVADA**

This agreement (the "Agreement") is entered into between JE Fuller/ Hydrology and Geomorphology, Inc., an Arizona corporation ("JEF") and Carson Water Subconservancy District, a political subdivision of the State of Nevada ("OWNER") and shall be effective as of October 16, 2019.

NOW, THEREFORE, in consideration of the mutual promises herein set forth and of other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto hereby agree as follows:

1. OWNER has authorized the services set forth on Exhibit A to be performed by JEF (the Work") and JEF has agreed to perform the Work set forth on Exhibit A, according to the terms and conditions set forth herein. JEF will not be required to perform any additional Work, not expressly set forth on Exhibit A, unless the parties agree in writing to the additional Work and the compensation to be paid for such additional Work.

2. JEF will invoice the OWNER for the Work and OWNER agrees to compensate JEF for performing the Work according to the terms and conditions set forth in this Section 2 and as set forth on Exhibit A. Payment for the Work performed by JEF and the expenses incurred by JEF shall be invoiced on at least a monthly basis. Payments are due and payable by the OWNER within thirty (30) days after the date of the invoice unless written notification is received by JEF from OWNER disputing the invoice amount within five (5) "work days" of the date on the invoice. Upon receipt of the dispute notification the parties agree to communicate in person, via telephone or electronic mail within five (5) work days of the receipt of the dispute notification for the purpose of resolving the dispute. If the dispute is resolved the amount agreed upon in writing shall continue to be due within thirty (30) days after the date of the invoice. If the dispute remains unresolved at the end of the thirty (30) day invoice period, then JEF may suspend the performance of any additional Work until resolution of the dispute or may terminate this Agreement pursuant to Section 9. Any payments that are not made within the thirty (30) day invoice period shall accrue interest at ten percent (10%) per annum from the date of the invoice until the date paid. For purposes of this Agreement a "work day" shall be Monday through Friday except legally recognized holidays.

3. JEF and OWNER hereby agree that JEF is an independent contractor and is not an employee of OWNER, and OWNER is not employee of JEF, for any purpose including, but not limited to, Federal and State income withholding, Social Security, Federal and State unemployment insurance and worker's compensation, and agrees further that the JEF will be responsible for the payment of all Federal and State income tax and Social Security obligations with respect to payments received from OWNER hereunder.

4. JEF is responsible for the securing of any licenses and/or permits required in connection with the performance of this contract, except as specifically excluded by the description of the Work in Exhibit A.

5. JEF shall perform the Work without undue delay and shall devote such time and effort to complete the Work in accordance with the terms of this Agreement. JEF agrees that the services to be performed by JEF pursuant hereto will be performed in a manner consistent with that degree of care and skill ordinarily exercised by members of the same profession currently practicing under similar circumstances.

6. JEF agrees not to discriminate against any employee or applicant for employment because of race, religion, color, sex, age, disability, or national origin and further agrees not to engage in unlawful employment practices.

7. The parties will not waive and intend to assert available NRS chapter 41 liability limitations in all cases. Contract liability of both parties shall not be subject to punitive damages. To the extent applicable, actual contract damages for any breach shall be limited by NRS 353.260 and NRS 354.626.

Consistent with the above paragraph of this Contract, each party shall indemnify, hold harmless and defend, not excluding the others right to participate, the other party from and against all liability, claims, actions, damages, losses, and expenses, including, but not limited to, reasonable attorneys' fees and costs, arising out of any alleged negligent or willful acts or omissions of the indemnifying party, its officers, employees and agents. Such obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described in this paragraph.

The indemnification obligation under this paragraph is conditioned upon receipt of written notice by the indemnifying party within thirty (30) days of the indemnified party's accrual notice of any actual or pending claim or cause of action. The indemnifying party shall not be liable to hold harmless any attorneys' fees and costs for the indemnified party's chosen right to participate with legal counsel.

8. JEF shall provide OWNER insurance as follows:

a. General Liability Insurance: Prior to commencement and for the duration of activities that constitute the Project that is the subject of this Contract, JEF shall maintain commercial general liability as follows:

- i. Two Million Dollars (\$2,000,000.00) - General Aggregate.
- ii. Two Million Dollars (\$2,000,000.00) - Products & Completed Operations Aggregate.
- iii. One Million Dollars (\$1,000,000.00) - Each Occurrence.



iv. CGL insurance shall be written on ISO occurrence form CG 00 01 04 13 (or a substitute form providing equivalent coverage) and shall cover liability arising from premises, operations, products-completed operations, personal and advertising injury, and liability assumed under an insured contract [(including the tort liability of another assumed in a business contract)].

v. OWNER, its officers, employees and immune contractors shall be included as an insured under the CGL, using ISO additional insured endorsement CG 20 10 or CG 20 26, or a substitute providing equivalent coverage, including coverage under the commercial umbrella.

vi. This insurance shall apply as primary insurance with respect to any other insurance or self-insurance programs afforded to OWNER. There shall be no endorsement or modification of the CGL to make it excess over other available insurance; alternatively, if the CGL states that it is excess or pro rata, the policy shall be endorsed to be primary with respect to the additional insured.

vii. There shall be no endorsement or modification of the CGL limiting the scope of coverage for liability assumed under a contract.

viii. JEF waives all rights against OWNER and its agents, officers, directors and employees for recovery of damages to the extent these damages are covered by the commercial general liability or commercial umbrella liability insurance maintained pursuant to this Contract. Insurer shall endorse CGL policy as required to waive subrogation against OWNER with respect to any loss paid under the policy.

b. Business Automobile Liability Insurance:

i. JEF shall maintain automobile liability and, if necessary, commercial umbrella liability insurance with a limit of not less than \$1,000,000 each accident for bodily injury and property damage.

ii. Such insurance shall cover liability arising out of owned, hired, and non-owned autos (as applicable). Coverage as required above shall be written on ISO form CA 00 01, CA 00 05, CA 00 25, or a substitute form providing equivalent liability coverage.

iii. JEF waives all rights against OWNER and its agents, officers, directors and employees for recovery of damages to the extent these damages are covered by the automobile liability or other liability insurance obtained by JEF pursuant to this Contract. (No need for 3 year)

c. Professional Liability Insurance

i. JEF shall maintain professional liability insurance applying to all activities performed under this Contract with limits not less than One Million Dollars (\$1,000,000.00) and Two Million Dollars (\$2,000,000) in the aggregate.

ii. Retroactive date: Prior to commencement of the performance of this Contract.

iii. JEF will maintain professional liability insurance during the term of this Contract and for a period of three (3) years after termination of this Contract unless waived by the OWNER. In the event of non-renewal or other lapse in coverage during the term of this Contract or the three (3) year period described above, JEF shall purchase Extended Reporting Period coverage for claims arising out of JEF's negligence acts, errors and omissions committed during the term of the Professional Liability Policy. The Extended Reporting Period shall continue through a minimum of three (3) years after termination date of this Contract.

9. Either party may terminate this Agreement at any time without cause upon delivery of written notice to that effect to the other, in which event this Agreement shall terminate twenty-four (24) hours after the receipt of such written notice by the other party; provided, however, that in the event of such termination, OWNER shall pay JEF for any amounts due, as described in Section 2, through the date of termination. Upon full payment by OWNER and receipt of all compensation and reimbursement of expenses by JEF, then JEF shall deliver to OWNER all sketches, drawings, tracings, computations, survey notes and any other documentation prepared or obtained by JEF in connection with this Agreement. Notwithstanding a termination of Agreement pursuant to this paragraph, except to the extent limited by a termination prior to completion of the Work, any applicable representations and certifications of JEF shall remain in full force and effect and the indemnifications of each party shall remain in full force and effect. Any obligation for JEF to further perform any Work shall terminate as of the date of the termination of this Agreement.

10. OWNER now owns and will hereafter develop, compile and own certain proprietary techniques, trade secrets, and confidential information which have great value in its business (collectively, "Owner Information"). OWNER will be disclosing Owner Information to JEF during JEF's performance of the Work. Owner Information includes any and all information concerning discoveries, developments, designs, improvements, inventions, formulas, software programs, processes, techniques, know-how, data, research techniques, customer and supplier lists, marketing, sales or other financial or business information, scripts, and all derivatives, improvements and enhancements to any of the above. Owner Information also includes like third-party information which is in OWNER'S possession under an obligation of confidential treatment.

a. JEF agrees that at all times during or subsequent to the performance of the Work, JEF will keep confidential and not divulge, communicate, or use Owner Information, except for JEF's own use during the period of time that JEF is performing the Work according to the terms of this Agreement, to the extent necessary to perform the Work. JEF further agrees not to cause the transmission, removal or transport of tangible embodiments of, or electronic files containing, Owner Information from OWNER'S principal place of business, without prior written approval of OWNER.

b. JEF's obligations with respect to any portion of the Owner



Information as set forth above shall not apply when JEF can document that (i) it was in the public domain at the time it was communicated to JEF by OWNER; (ii) it entered the public domain subsequent to the time it was communicated to JEF by OWNER through no fault of JEF; (iii) it was in JEF's possession free of any obligation of confidence at the time it was communicated to JEF by OWNER; or (iv) it was rightfully communicated to JEF free of any obligation of confidence subsequent to the time it was communicated to JEF by OWNER.

11. JEF and OWNER acknowledge that this Agreement constitutes the entire agreement of the parties with respect to the subject matter hereof. This Agreement may be modified or amended only by an instrument in writing signed by the parties hereto. This Agreement shall be governed by the laws of the State of Nevada. Duties and obligations under this agreement are not assignable.

12. In the event either OWNER or JEF shall be in default in connection with this Agreement, the non-defaulting party shall have the right to pursue any remedies available at law or in equity. The prevailing party will be entitled to recovery of all reasonable costs incurred, including staff time, court costs, attorneys' fees and other related expenses.

13. All notices, requests, demands or other communications required or permitted to be given hereunder ("Notices") shall be delivered to the parties respectively at the address set forth below each party's signature on this Agreement. Either party hereto shall have the right to change the address as to which Notices are sent to it under this Agreement by providing to the other party written notice of the change of such address in the manner set forth above. All Notices shall be in writing and shall be either personally delivered, delivered via overnight courier, or deposited in the United States Mails, postage pre-paid to the appropriate address as set forth above. Any Notice that is personally delivered, or delivered via overnight courier, shall be deemed to be given immediately upon delivery. Any Notice that is mailed shall be deemed to be given three (3) days after the deposit of the same into the United States Mails.

14. In an effort to resolve any conflicts that arise during the design or construction of the project or following the completion of the project, the OWNER and JEF agree that all disputes between them arising out of or relating to this Agreement shall be submitted to nonbinding mediation unless the parties mutually agree otherwise. The OWNER and JEF further agree to include a similar mediation provision in all agreements with independent contractors and consultants retained for the project and to require all independent contractors and consultants also to include a similar mediation provision in all agreements with subcontractors, subconsultants, suppliers or fabricators so retained, thereby providing for mediation as the primary method for dispute resolution between the parties to those agreements.

15. Nothing contained in this Agreement shall create a contractual relationship with or a cause of action in favor of a third party against either the OWNER OR JEF. JEF's services under this Agreement are being performed solely for the OWNER's benefit, and no other entity shall have any claim against JEF because of this Agreement

or the performance or nonperformance of services hereunder. The OWNER agrees to include a provision in all contracts with contractors and other entities involved in this project to carry out the intent of this paragraph.

16. This Agreement may be executed in one or more parts, all of which taken together shall constitute one instrument. The parties agree that fax or pdf signatures shall be deemed original signatures for the purposes of this Agreement.

17. The terms of this Agreement constitute the entire agreement between the parties, and the parties represent that there are no collateral agreements or side agreements not otherwise provided for within the terms of this Agreement and the Exhibits hereto.

18. The parties agree to execute all documents that may be necessary to carry out the intent and purposes of this Agreement.

19. Any modification or amendment of this Agreement shall be in writing and shall be executed by all parties.

20. If any provision of this Agreement is held to be invalid or unenforceable, all the remaining provisions shall nevertheless continue in full force and effect.

21. The provisions of this Agreement shall inure to the benefit of and be binding upon the parties hereto.

22. Any waiver by any party of a breach of any provision of this Agreement shall not operate as or be construed as a waiver of any subsequent breach thereof.

23. In the event suit is brought (or arbitration instituted) or an attorney is retained by any party to this Agreement to enforce the terms of this Agreement or to collect any money due hereunder, or to collect money damages for breach hereof, the prevailing party shall be entitled to recover, in addition to any other remedy, reimbursement for reasonable attorneys' fees, court costs, costs of investigation and other related expenses incurred in connection therewith. All lawsuits under this Agreement, unless otherwise specified, shall be filed in Carson City County, Nevada.

24. This Agreement shall be subject to and governed by the laws of the State of Nevada, regardless of the fact that one or more of the parties now is or may become a resident of a different state.

25. Whenever a word is used in this Agreement in the masculine gender, it shall also be construed as being used in the feminine and neuter genders, and singular usage shall include the plural and vice versa, all as the context shall require.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be effective the day and year first above written.



OWNER: Carson Water  
Subconservancy District:

JE Fuller/ Hydrology & Geomorphology,  
Inc.:

Signature: \_\_\_\_\_

Signature: \_\_\_\_\_



Name: \_\_\_\_\_

Name: Michael Kellogg

Title: \_\_\_\_\_

Title: Chief Operating Officer

Address: \_\_\_\_\_

Address: 8400 South Kyrene Road, STE 201  
Tempe, AZ 85284

# **EXHIBIT A**

## **Scope of Work**

October 7, 2019

The following is a Scope of Work (SOW) for the **Ruhenstroth Area Drainage Master Plan (RADMP) Phase I**. It is the project team's understanding that the overall vision for the project is to identify and quantify the flood hazard risk within the Ruhenstroth community. Residents and stakeholders will be informed of the project and have the opportunity to engage and provide input throughout the project through a public outreach process that is defined in the SOW. The major task headings in this SOW were selected to be in compliance with the FEMA Mapping Information Platform (MIP) format.

#### **Project Goals**

- Define flood hazards for the 25-year, 24-hour storm
- Define flood hazards for the 100-year, 24-hour storm
- Define flood hazards for the 100-year, 6-hour storm

#### **Deliverables**

All Deliverables and Submittals for the RADMP will be provided to the Client Team in digital format. Draft submittals for each task will be provided to the Client Team for review and approval and will include supporting digital data.

#### **Study Area**

For modeling purposes as defined in this SOW, the RADMP is divided into two study areas. Although interrelated, they are segregated within this SOW to clearly differentiate tasks related to each area. It should be noted that the exact limits of each study area are approximate and may change (slightly) during the course of the project. The Study Areas are shown in Figure 1 and are briefly defined below.

1. Upper Watershed Area – This includes the upper watershed generally defined by tributary flow patterns that drain to the piedmont landform areas. This area will be modeled using a coarser grid 2-dimensional model.
2. Detailed Model Area – This includes the piedmont landform from the Upper Watershed Area limit to the Carson River. This area will be modeled using a finer-grid 2-dimensional model.

There are many individual watercourses that impact the study area, all of which originate from the Pine Nut Mountain range.

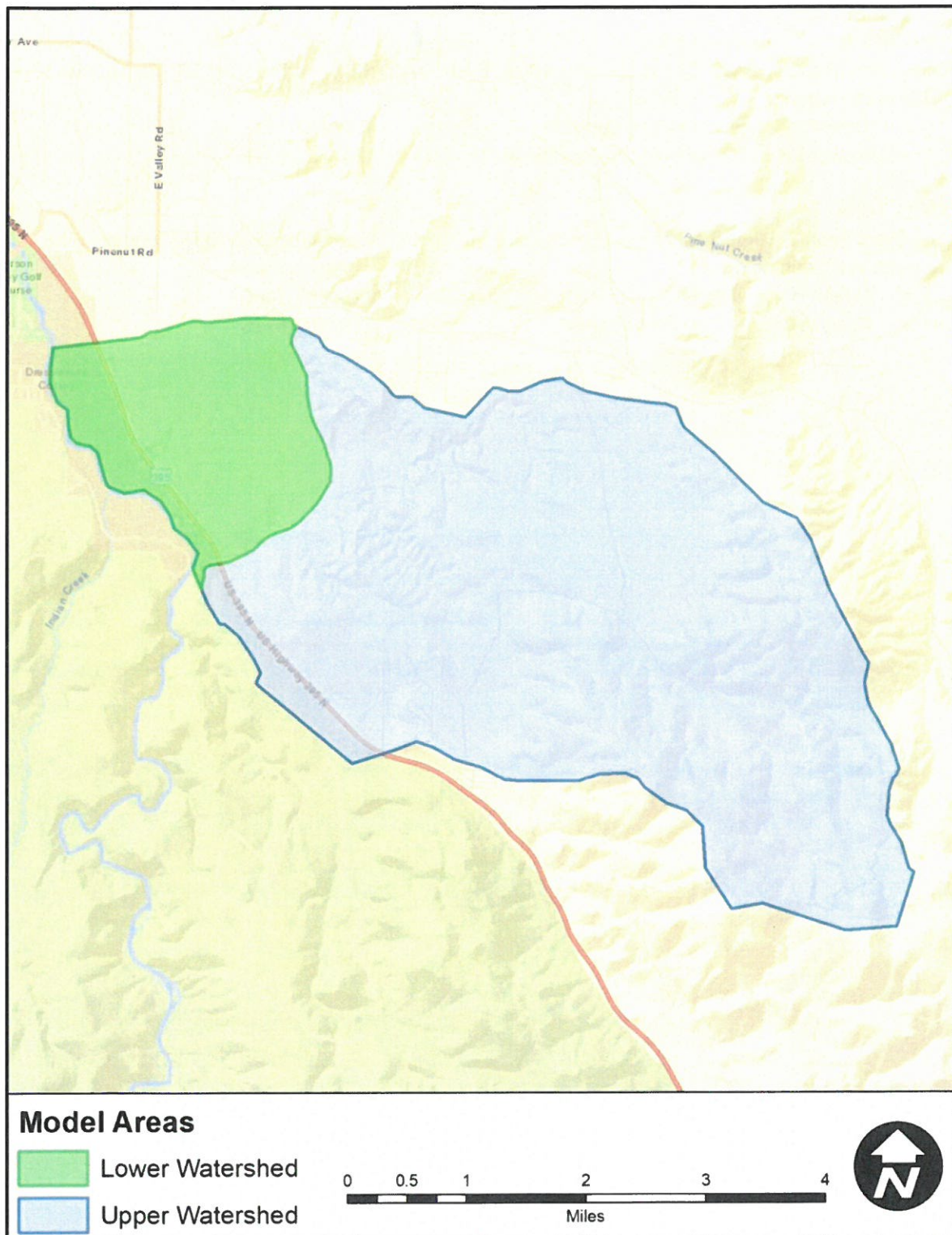


Figure 1. Project study area

**Consultant Team**

The Consultant Team is comprised of: JE Fuller/Hydrology & Geomorphology (JEF) who will serve as Prime and Lumos and Associates (LA) as Subconsultant. Each Task outlined in the SOW will identify the primary responsible party.

- Project Manager: Mike Kellogg (JEF) (480) 222-5712
- Project Engineer: Richard Waskowsky (JEF) (480) 222-5702

**Client Team**

The Client Team is comprised of Lyon County and the Carson Water Subconservancy District. Lead contacts are listed below.

- Carson Water Subconservancy District: Ed James (775) 887-7456
- Douglas County: Courtney Walker (775) 782-6215



## SCOPE OF WORK

### Task 1.0 PROJECT MANAGEMENT

**Project Manager.** The JEF Project Manager will be the official point of contact between the Client Team and the Consultant Team for all issues related to the project.

**Project Coordination Meetings.** The Consultant Team will participate in project coordination meetings with the Client Team via teleconference and WebEx meetings if requested.

**Contract Type.** The project contract type will be lump-sum.

**Invoicing.** JEF will invoice the Carson Water Subconservancy District monthly with a percent complete estimate for each task. The invoice will include a brief progress report per task.

**Project Schedule.** The project will be completed by October 31, 2020. A project schedule is included with this SOW as Attachment A.

**Project Fee.** A project fee table is included with the SOW as Attachment B.

- 1.1 **Mapping Information Platform (MIP) Data Preparation and Upload.** At the conclusion of the project, JEF will prepare the final digital data deliverable for compliance with FEMA MIP standards and upload the data to the MIP platform.

### Task 2.0 TOPOGRAPHIC DATA CAPTURE

- 2.1 The Consultant Team will collect, organize, and review existing data, reports, plans, and records that affect the study area provided by the Client Team and other sources. Data may include but will not be limited to:
- Historical aerial photography
  - Historical topography
  - Geologic mapping
  - NRCS soils mapping
  - Photographs and video of documented flooding, erosion, and sedimentation.
  - Drainage reports
  - Previous studies
  - Computer modeling
  - Land Use
  - Rainfall and stream gage records
  - NOAA Atlas 14 rainfall statistics



### Task 3.0 SURVEY DATA CAPTURE

- 3.1 **LiDAR Acquisition.** JEF will supervise the acquisition of LiDAR to be flown at an average density of 8/ppm (points per square meter). Please note that the LiDAR will not be able to penetrate any planted winter crops or dense vegetation to any reliable detail.
- 3.2 **Supplemental Survey.** LA will provide supplemental field survey as requested by JEF (supplemental topography and ground shots) if needed. The additional survey field work would be conducted to tie in with the LiDAR topography control to ensure the supplemental work can be tied into the base mapping.
- 3.3 **Site Visits.** JEF will conduct up to two (2) site visits as necessary for data collection, field inspection, and model verification purposes. These site visits will be in addition to public meetings (Task 7.0).

### Task 4.0 HYDROLOGIC DATA CAPTURE

- 4.1 **Upper Watershed Area Existing Conditions Model Development.** JEF will develop the base 2D model assuming existing conditions. Topography will be derived from the project LiDAR and the supplemental survey data (Task 3.0).
  - 4.1.1 **Software.** JEF will develop a rainfall/runoff hydrologic and hydraulic model for the Upper Watershed Area using the most updated version of the FLO-2D PRO software package developed by FLO-2D Software, Inc.<sup>1</sup> The version used at the onset of the modeling effort will be used consistently throughout the project.
  - 4.1.2 **Grid Size.** The maximum grid size for the Upper Watershed Modeling will be 20-feet. The tributary flow pattern of the Upper Watershed area is ideal for a larger grid size model, which will allow for shorter run times and more efficient development of the upstream hydrology. The grid elevations will be determined by converting the LiDAR data (and other supplemental survey data as necessary) into a gridded raster dataset at the same cell size as the 2D model.
  - 4.1.3 **Rainfall.** JEF will obtain rainfall data/distributions for the 25-year, 24-hour and 100-year storms. Rainfall hyetographs will be developed with close coordination with the Client Team and may be sourced from Nevada Department of Transportation (NDOT), National Oceanic and Atmospheric Administration (NOAA), or other relevant sources. Precipitation depths will be determined using NOAA Atlas 14 precipitation frequency estimates<sup>2</sup>.

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<sup>1</sup> <https://www.flo-2d.com/>

<sup>2</sup> Per *Drainage Guidelines for Lyon County*, Section 15, revised September 12, 2006

4.1.4 **Rainfall Losses<sup>3</sup>.** Green-Ampt loss method will be applied to compute rainfall losses due to soil infiltration. Soils data will be obtained from NRCS Soils mapping for Douglas County. The input parameters will be verified against similar parameters from applicable past-projects.

4.1.5 **Floodplain Cross-Sections.** Floodplain cross-sections will be established throughout the model area based on preliminary 2D model results. The cross-sections will be aligned as perpendicular to the direction of flow as possible. The project team will coordinate with Client Team regarding the desired locations of floodplain cross-sections.

4.1.6 **Outflow Hydrographs.** Hydrographs at the downstream boundary will be applied at the upstream boundary of the model for the Lower Watershed Area. Scripts will be developed to automate this hydrograph application.

## **Task 5.0 HYDRAULIC DATA CAPTURE**

5.1 **Lower Watershed Area Existing Conditions Model Development.** JEF will develop the base 2D model assuming existing conditions. Topography will be derived from the project LiDAR and the supplemental survey data (Task 3.0).

5.1.1 **Software.** JEF will develop a rainfall/runoff hydrologic and hydraulic model for the Detailed Watershed Area using the most updated version of the FLO-2D PRO software package developed by FLO-2D Software, Inc. The version used at the onset of the modeling effort will be used consistently throughout the project.

5.1.2 **Grid Size.** The maximum grid size for the 2D modeling will be 10-feet which should be adequate to represent road-side ditches and other major hydraulic structures within the modeling area. The grid elevations will be determined by converting the LiDAR data (and other supplemental survey data as necessary) into a gridded raster dataset at the same cell size as the 2D model.

5.1.3 **Rainfall.** The rainfall durations and distributions for the 25-year, 24-hour and 100-year storms that were developed for Task 4.1.3 will be incorporated into the detailed model. The NOAA Atlas 14 Rainfall depths will be spatially varied across the 2D domain based on the NOAA atlas 14 dataset.

5.1.4 **Rainfall Losses.** The same rainfall loss methodology applied in Task 4.1.4 will be applied to the detailed model.

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<sup>3</sup> Per *Drainage Guidelines for Lyon County*, Section 15, revised September 12, 2006

5.1.5 **Inflows.** Outflow hydrographs from Task 4.1.6 will be incorporated into the 2D model as inflow hydrographs (see Task 4.1.6). The inflow hydrograph locations will be at the model boundary between the Upper Watershed and Detailed 2D models.

5.1.6 **Impervious Area.** Impervious area will be estimated based on general assumptions on a zoning-level basis. Any rock outcrop areas identified in the NRCS soil survey will also be included.

5.1.7 **Land Use/Friction Losses.** Any existing datasets that identify surface characteristics will be incorporated into the model. In areas without existing data, a n-value dataset will be generated based on major surface characteristics (e.g. roads, natural desert, developed parcels, etc.).

5.1.8 **Obstructions to Storage and flows.** Volumetric and flow obstructions will be modeled from existing datasets (e.g. building footprints) using the area reduction factor (ARF) input data file. Other flow obstructions (such as berms) should be captured in the project LiDAR mapping but may be modified as necessary using the FLO-2D cell elevation adjustments or the LEVEE.DAT input file.

5.1.9 **Culverts.** Hydraulic rating curves for larger, regional culverts (greater than 24 inches) will be developed from field survey data (Task 3.1) and incorporated into the model as hydraulic structures. Given the historical problem with sedimentation and debris, a clogging factor will likely be used in when developing the hydraulic rating curves. Culverts smaller than 24 inches may be added if initial results indicate they are necessary.

5.1.10 **Floodplain Cross-Sections.** Floodplain cross-sections will be established throughout the model area based on preliminary 2D model results. The cross-sections will be aligned as perpendicular to the direction of flow as possible. The project team will coordinate with Lyon County regarding the desired locations of floodplain cross-sections.

5.1.11 **Model Verification.** A preliminary existing conditions model will be reviewed by County staff (Stormwater Management, Road Maintenance, etc.) to verify the model is appropriately representing the locations and magnitude of flooding compared with historical flooding accounts. The preliminary results will also be compared with historical drainage complaints and damage reports provided by the Client Team.

5.2 **Sedimentation Engineering.** Flooding-related sedimentation and debris accumulation have historically been problematic within the study area. JEF will conduct sedimentation engineering tasks to identify the areas potentially impacted by sedimentation and quantify sedimentation rates. JEF will also perform sediment yield computations.

5.2.1 **Sediment Sample Analysis.** The Client Team will collect up to 12 sediment samples for standard mechanical sieve analysis. The results will be used to support the analyses in Task 5.2. The samples will be collected during the site visits (Task 3.3).



## **Task 6.0 FLOOD RISK PRODUCTS DATA CAPTURE**

- 6.1 **Flood Hazard Classification.** JEF will define flood hazard risk to pedestrians (children), vehicles, and buildings using the depth-velocity relationship outlined in the United States Bureau of Reclamation (USBR) Technical Memorandum 11 (TM 11) (1988). In addition, a building inundation assessment will be done using the FLO-2D results. The analyses will be conducted for the 25-year and 100-year flood events. The results will be hazard classification exhibits for pedestrians, impacted buildings, roadway locations, and inundated buildings for each flood event.
- 6.2 **All Weather Access.** JEF will formulate alternatives which will result in all-weather access for both the 25-year and 100-year flood events for the following:
- Buckskin Lane
  - Mustang Lane
  - Cayuse Drive
  - Horseman Lane

## **Task 7.0 PUBLIC EVENTS**

- 7.1 **Public Meeting.** LA will prepare for and implement a public open-house meeting designed to educate and gather initial input and concerns regarding the RADMP. JEF will lead the public meetings by presenting an overview of the project.

7.1.1 Open House: Educational and input meeting located in Douglas County near the initiation of the study. The Consultant Team will work with the Client Team to complete the following:

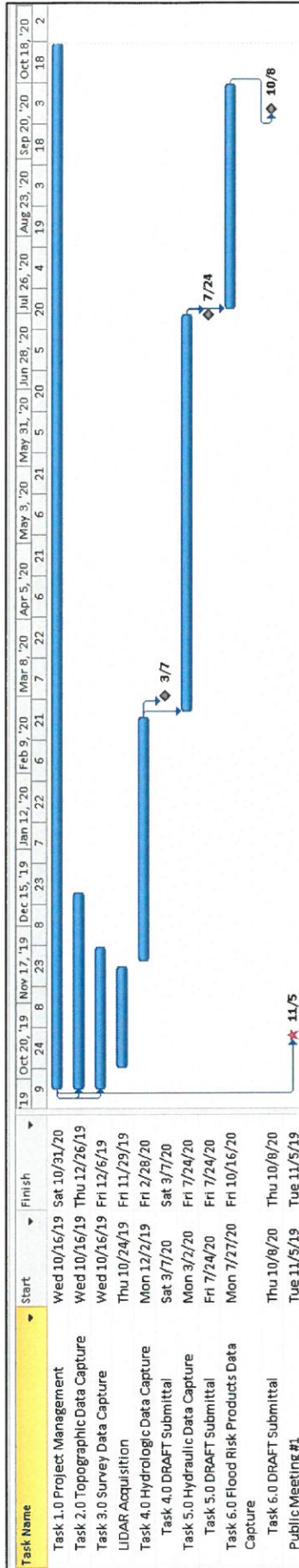
- Location research, availability, confirmation and set-up
- Development and review of speaker and content order
- Development of Boards
- Development of feedback handout
- Advertising (assuming some assistance by the County)
- Press Release development and distribution (assuming majority of this will be conducted by the County)
- Website correspondence management (assuming some assistance by the County)
- Compilation of input from residents

### **EXCLUSIONS, LIMITATIONS, AND ASSUMPTIONS**

The following are exclusions, limitations, and assumptions associated with this scope of work:

- Preparation of FEMA submittals are not included

- All data will be available at no cost
- A geotechnical report is not included
- Environmental Permitting is not included
- Storm Water Pollution Prevention Plan is not included
- Final construction plans are not included
- Landscape Plans are not included
- The Client Team will assist in locating documentation regarding existing easements and property information
- The Client Team will pay for any meeting location fees
- The Client Team will pay for any website fees



ATTACHMENT A. PROJECT SCHEDULE



RUHENSTROTH AREA DRAINAGE MASTER PLAN PHASE I

Task	TASK DESCRIPTION	JE FULLER													
		Project Manager \$134.00	Project Principal \$167.00	Sr. Project Engineer \$162.00	Project Engineer \$130.00	Admin \$94.00	JEF Labor Total	JEF Direct Expenses	Project Manager \$175.00	Survey Manager \$175.00	2-Person Survey Crew \$215.00	Project Coordinator \$115.00	Lumos Labor Total	Lumos Direct Expenses	Team Total With Expenses
1.0	PROJECT MANAGEMENT	52			18		\$ 12,558.00	\$ -	0	0	0	\$ -	\$ -	\$ 12,558.00	
1.1	MP Data Preparation and Upload				25		\$ 3,250.00								
2.0	TOPOGRAPHIC DATA CAPTURE	10	0	0	30	0	\$ 5,240.00	\$ -	0	0	0	\$ -	\$ -	\$ 5,240.00	
2.1	Data Collection				30		\$ 5,240.00								
3.0	SURVEY DATA CAPTURE	60	0	0	29	0	\$ 11,810.00	\$ 39,329.00	0	8	16	\$ 4,840.00	\$ 1,980.00	\$ 58,659.00	
3.1	LEDM Acquisition	20			5		\$ 3,330.00	\$ 35,839.00				\$ -	\$ -		
3.2	Supplemental Survey	10			4		\$ 1,860.00		8		16	\$ 4,840.00	\$ 1,980.00		
3.3	Site Visits	30			20		\$ 6,620.00	\$ 4,090.00				\$ -	\$ -		
4.0	HYDROLOGIC DATA CAPTURE	10	0	0	40	0	\$ 6,540.00	\$ -	0	0	0	\$ -	\$ -	\$ 6,540.00	
4.1	Upper Watershed Existing Conditions Model Development	10			40		\$ 6,540.00					\$ -	\$ -		
5.0	HYDRAULIC DATA CAPTURE	20	0	0	110	0	\$ 16,980.00	\$ -	0	0	0	\$ -	\$ -	\$ 16,980.00	
5.1	Lower Watershed Existing Conditions Model Development	10			80		\$ 11,740.00					\$ -	\$ -		
5.2	Sedimentation Engineering	10			30		\$ 5,240.00					\$ -	\$ -		
6.0	FLOOD RISK PRODUCTS DATA CAPTURE	16	0	0	80	0	\$ 12,544.00	\$ -	0	0	0	\$ -	\$ -	\$ 12,544.00	
6.1	Flood Hazard Classification	12			40		\$ 6,806.00					\$ -	\$ -		
6.2	All Weather Access	4			40		\$ 5,736.00					\$ -	\$ -		
7.0	PUBLIC EVENTS	20	0	0	10	0	\$ 3,980.00	\$ 2,800.00	4	0	0	\$ 4,150.00	\$ 1,100.00	\$ 12,030.00	
7.1	Public Meeting	20			10		\$ 3,980.00	\$ 2,800.00	4			\$ 4,150.00	\$ 1,100.00		
TOTALS		188	0	0	317	0	\$ 69,652.00	\$ 42,720.00	4	8	16	30	\$ 8,990.00	\$ 3,080.00	PROJECT TOTAL \$ 124,451.00

ATTACHMENT B. FEE TABLE

## **AGENDA ITEM #11**

## CARSON WATER SUBCONSERVANCY DISTRICT

**TO:** BOARD OF DIRECTORS

**FROM:** EDWIN D. JAMES

**DATE:** OCTOBER 16, 2019

**SUBJECT:** Agenda Item # 11 – For Possible Action: Authorize the General Manager to sign the agreement with Precision Water Resources Engineering, LLC for Determining the Flood Frequency Distribution for the Carson River Below Lahontan Reservoir for FEMA Flood Remapping in an amount not to exceed \$27,770.

**DISCUSSION:** Attached is the scope of work, fees, and schedule to conduct the Flood Frequency Distribution for the Carson River Below Lahontan Reservoir for FEMA Flood Mapping. The scope of work is a little different than the other floodplain mapping studies since we are hoping to use the Riverware program to calculate the hundred-year flood flows below Lahontan Reservoir. Attached is the methodology on how Riverware will be used to calculate flows below Lahontan Reservoir. Because Riverware is not an approved software by FEMA for calculating flood flows, the consultant has included costs to meet with both FEMA and USBR to get their support to use Riverware. Due to the uncertainty on the number of meeting necessary to get FEMA and USBR approval the total costs of this project maybe more or less than the proposal. If the costs exceed the contract amount an amendment will be brought back to CWSD Board for approval.

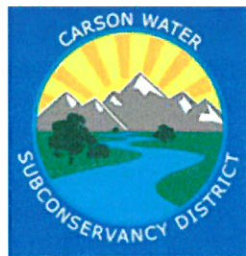
Once the flood frequency distribution methodology has been approved CWSD will need to enter into an agreement with HDR to do the flood modeling and mapping.

Funding for this project is coming from FEMA's Cooperating Technical Partners (CTP) MAS 10 grant.

**STAFF RECOMMENDATION:** Authorize the General Manager to sign the agreement with Precision Water Resources Engineering, LLC for Determining the Flood Frequency Distribution for the Carson River Below Lahontan Reservoir for FEMA Flood Remapping in an amount not to exceed \$ 27,770.

# Carson Water Subconservancy District:

## Determining the Flood Frequency Distribution for the Carson River Below Lahontan Reservoir for FEMA Flood Remapping



Submitted by,  
Precision Water Resources Engineering  
October 7<sup>th</sup>, 2019



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<b>2</b>	<b>PROPOSED WORK</b>	<b>2</b>
<b>3</b>	<b>COST AND SCHEDULE</b>	<b>2</b>
<b>4</b>	<b>SUMMARY</b>	<b>3</b>



## 1 Introduction

Precision Water Resources Engineering (Precision) is pleased to submit this scope of work, proposed cost, and schedule to the Carson Water Subconservancy District. The following describes the tasks to be undertaken and the associated cost and the schedule.

Churchill County (County) is preparing to conduct a restudy and remapping of the floodplains for the Carson River below Lahontan Reservoir Dam. The 100-year recurrence interval flow was determined in the late 1970's by the US Army Corps of Engineers (USACE) (4,300 cfs) and then again in 2003 by the Bureau of Reclamation (7,317 cfs - 7,714 cfs). Based on recent high-flow events and the availability of improved modeling tools, there is a compelling case to be made that the 100-year recurrence interval flow rate is lower than both estimates.

Precision Water Resources Engineering (Precision) has developed a methodology for determining all of the requisite recurrence interval flow rates for the river channel below the reservoir and described it thoroughly in a document that has been submitted to the County and to Carson Water Subconservancy District (CWSD) and to FEMA for preliminary acceptance. FEMA gave preliminary approval to CWSD to pursue a grant to perform the remapping, which has been secured, but submitted a letter detailing questions and concerns that remain to be addressed. The United States Bureau of Reclamation (USBR) owns the Lahontan Dam and will also need to be included in this process. They will need to indicate their concurrence with the methodology for developing the requisite recurrence interval flows before proceeding to the hydraulic analysis and mapping phase of this project.

## 2 Proposed Work

This project is comprised of the following tasks:

1. Secure FEMA's approval for the methodology described in the document for determining the required recurrence interval – It is expected that this task will entail up to three meetings including meeting preparation to communicate the details of our proposed method, to respond to their comments, and achieve their acceptance.
2. Achieve USBR agreement for the methodology – It is expected that this task will entail up to three meetings with LBAO staff to assure their concurrence with the process and the methodology. The goal will be to have them agree with the findings of the hydrologic analysis before proceeding with the mapping portion of the project. The first phase of the mapping project will entail consulting with USBR to determine how much of the flow can be assumed to be diverted from the river into the Newlands project distribution system thereby reducing the flow in the river channel downstream.
3. Perform the hydrologic analysis as described in the document to determine the required recurrence interval flood flows for the reach below Lahontan reservoir.
4. Write a report describing the analysis performed and summarizing its results.

## 3 Cost and Schedule

For this project Precision will utilize three different labor classifications to accomplish the project: Principal (\$185/hr), Water Resources Engineer (\$125/hr) and Engineering Technician




(\$90/hr). It is expected that each will contribute 40%, 30%, 30% of the total hours respectively. This calculates for the purposes of building this estimate to a composite rate of \$138.50/hr

Deliverable	Hours	Total Cost
Project Tasks		
1. Secure FEMA Approval of Method	40	\$5,540
2. Secure USBR Approval of Method	40	\$5,540
3. Perform Hydrologic Analysis	88	\$12,188
4. Write Engineering Report of Results	32	\$5,060
<b>TOTAL</b>	<b>200</b>	<b>\$27,770</b>

Precision can begin work on this project as soon as the contract is executed. If the contract is executed before October 31<sup>st</sup>, is assumed that tasks 1 and 2 can be completed by December 31, 2019. The schedule for these two tasks is the most uncertain as the scheduling of meetings and the amount of concurrence/resistance to the proposed methodology is difficult to predict. If these tasks require more than the six total meetings and the 80 total hours allocated, then the project will either need to stop or additional funding will need to be secured. Upon completion of tasks 1 and 2, task 3 can begin and will require one month to complete. If all tasks are on schedule, task 3 will be complete by January 31<sup>st</sup>, 2020. Task four will require 3 weeks to complete. If all tasks are on schedule, task 4 will be completed by February 21<sup>st</sup>, 2020.

## 4 Summary

Precision is grateful for the opportunity to provide a proposal to the Carson Water Subconservancy District. We look forward to the opportunity to work with the team that has been assembled to perform the work to remap the Carson River below Lahontan Reservoir. If you have further questions, please contact Shane Coors at 720-261-7007 or [shane@precisionwre.com](mailto:shane@precisionwre.com).

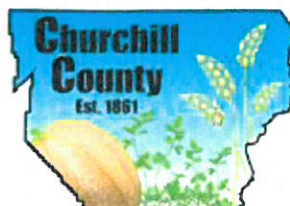


# PROPOSED METHODOLOGY FOR DETERMINING THE 100-YEAR FLOOD FLOW IN THE CARSON RIVER BELOW LAHONTAN RESERVOIR

**For Submission to FEMA for Preliminary Approval**

PREPARED FOR CHURCHILL COUNTY, NEVADA

May 21, 2019



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## I. Background and Purpose

The purpose of this document is to describe a methodology for determining the peak discharge-frequency relationship in the Carson River immediately below Lahontan Reservoir. Churchill County (the County) is exploring a revision of the Flood Insurance Rate Map (FIRM) for the Carson River floodplain in the County including the City of Fallon and unincorporated areas of Churchill County. The first step in that process would be to revise the hydrologic analysis used to establish the peak discharge-frequency relationship for the outflow from Lahontan Dam. This document describes the process for that revision and was prepared for FEMA's review and preliminary acceptance.

FEMA has developed a library of guidance documents that "provide vetted recommended approaches for FEMA's Risk Mapping, Assessment and Planning (Risk MAP) Program. These guidance documents support current FEMA standards and facilitate effective, efficient implementation of the program." The introductory paragraph in section 6.0 of the General Hydrologic Considerations (Guidance Document 71) document states, "The Mapping Partner should consider revisions to the effective hydrologic analysis when a more recent hydrologic analysis yields flood discharges that are statistically different from the effective discharges.... A hydrologic analysis could be performed before collecting the hydraulic data to determine if changes in the flood discharges alone are sufficient to warrant a new study." The County is proposing a revised hydrologic analysis as referenced above to determine if a full remapping is warranted.

Because in the most recent Flood Insurance Study for the County (2008) the hydrologic analysis determining the flood flows below Lahontan Dam was performed in 1977, the County has reason to believe that a new analysis utilizing a longer gage record and better tools to simulate the operations of Lahontan Reservoir would likely yield a different, more accurate, result. This document simply describes the method that is being proposed by the County to determine the peak discharge-frequency relationship for the reach in the Carson River immediately below Lahontan Dam.

### A. Area of Focus

The reach of river considered herein begins immediately below Lahontan Dam and extends approximately six miles downstream to the Carson Diversion Dam. The flows in this reach are the result of outflows from Lahontan Dam. This is the uppermost reach of the Carson River that would be considered in the remapping effort. At the Carson Diversion Dam, there are significant diversions from the river into the Newlands Project through the V-Line and T-Line canals. Remaining flows stay in the natural river channel and flow downstream to the City of Fallon and other parts of the County. Assumptions about how the flows are diverted and managed from this point downstream in a flood event are important for determining the extent of the floodplain throughout the area but are not relevant to this proposed hydrologic analysis. See Figure 1 for a map of the study area.

There are two USGS stream gages that are referenced in this proposed methodology. The first is the Carson RV NR Fort Churchill, NV Gage (USGS 1031200) (Ft. Churchill Gage). This gage is approximately 30 miles upstream of Lahontan Reservoir Dam and 15 miles upstream of the water surface of the reservoir (depending on its elevation). Flows through the Carson River measured at this gage represent the entire surface water inflow to Lahontan Reservoir for the proposed analysis. The second gage is the

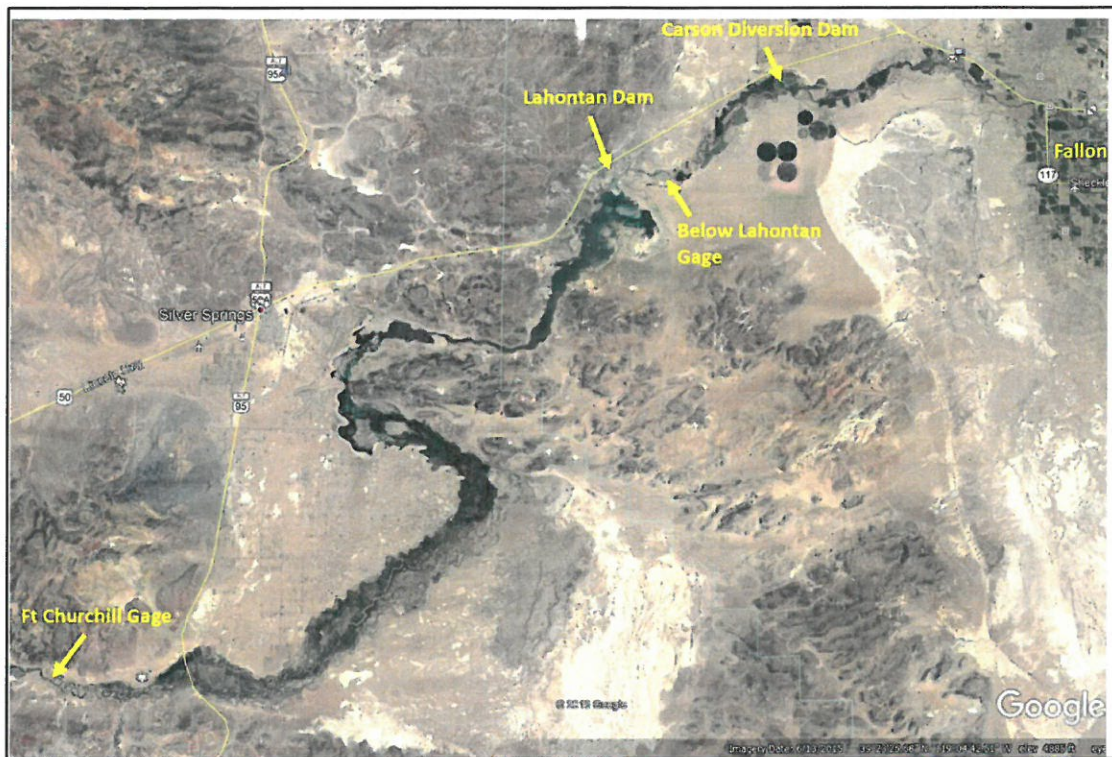


Figure 1 Study Area

Carson RV Blw Lahontan Reservoir Nr Fallon, NV Gage (USGS 10312150) (Blw Lahontan Gage). This gage is approximately 1.2 miles below the Lahontan Dam on the Carson River. Flows measured at this gage represent the total outflow from Lahontan Dam.

## II. Review of Previous Efforts

The FEMA General Hydrologic Considerations document identifies three separate general approaches for performing the hydrologic analysis.

1. Statewide regression equations
2. Statistical analysis of stream gage data
3. Hydrologic (rainfall/runoff) models

Two significant previous efforts to determine the 1-percent likelihood flood flow in reference to these recommended approaches are described for context.



#### A. USACE 1977

In 1977 the United States Army Corps of Engineers (USACE) performed an in-house study to determine the peak discharge-frequency relationship in the Carson River immediately below Lahontan Reservoir. In this study they routed the peak 10-, 2-, 1-, and 0.2-percent annual chance frequency (Ft. Churchill Gage) flows through the Lahontan Dam using historical storage of the dam (U.S. Department of the Army, Corp of Engineers, August 1977). The peak inflows used in the 1977 study were determined by a standard log-Pearson Type III statistical analysis of discharge records for a 66-year period at the Ft. Churchill gage. (2008 FIS). The value determined by this study for the 1-percent annual occurrence likelihood was 4,300 cfs.

This method could be classified as a modified statistical analysis of stream gage data approach (approach #2). It is modified because the standard Log Pearson Type III distribution recommended by USGS Bulletin 17B for analysis of this type is applied to the Ft. Churchill gage data at the inflow of Lahontan reservoir. Then selected flows from this peak discharge-frequency relationship are routed through the reservoir in a simulation model starting with historical storage levels (note it is not clear exactly what “historical storage levels” means as the calculated flows probably didn’t ever occur in the historic record). The resulting simulated outflow from Lahontan reservoir is then determined to be the flow of the same frequency. In other words, the study took the 1-percent annual occurrence flow calculated at the Ft. Churchill gage and routed it through Lahontan reservoir to determine the 1-percent annual occurrence flow below Lahontan reservoir.

It is important to note that at the time of the study, the historical record at the Ft. Churchill gage was 66 years long and did not include several significant modern flooding events including 1983, 1997, and 2017. The record at the Blw Lahontan Gage at that time was 11 years long which is very short for supporting a statistical peak flow analysis. The record at both gages is now considerably longer and more robust and includes several historic flooding events. This fact alone makes a revision of the hydrologic analysis seem warranted.

#### B. USBR 1996

The Lahontan Basin Area Office (LBAO) of the United States Bureau of Reclamation (USBR) is in Carson City, Nevada and oversees operations of Lahontan Reservoir and the Lahontan Dam. In 1996 The USBR Denver Technical Services Center performed a study entitled, “Early Warning System Reliability Study, Lahontan Dam, Nevada”. This study determined the 1-percent occurrence probability flow to be between 7,317 cfs to 7,714 cfs depending on whether the flashboards are in place. The method employed in this study to determine this range of flows was to calculate the 1-percent 7-day volume at the Fort Churchill gage on the Carson River and route it through Lahontan reservoir that was initialized full to the spillway crest. The resulting simulated outflow is a combination of controlled releases through the outlet works and uncontrolled spill over the spillways. In a letter to FEMA in 2003, and again in 2008, LBAO Area Managers referenced this study as the basis of USBR’s current position regarding the 1-percent occurrence flow.

This method is difficult to classify among the three methods called out by FEMA for developing the 1-percent annual chance flow. What is clear is that the flow calculated by this method seems to have a

lower probability of occurrence than 1-percent as the assumption that the reservoir starts full to the top of the spillway is itself a very rare occurrence (only one time during flood season in 100-year record). Combining a 1-percent inflow event with a rare (~1-percent) storage condition results statistically in an outflow with a chance of occurrence that is much lower than 1 percent.

### III. Proposed Method

The proposed method for revising the peak discharge-frequency relationship would, like the USACE 1977 method, be classified as a modified statistical analysis of stream gage data approach. Very simply the proposed method is to take the entire record of daily flows at the Ft. Churchill gage and input it to an operations model of Lahontan reservoir which simulates all current operational criteria of the reservoir including Truckee Canal inflows to produce a simulated daily outflow hydrograph. This daily hydrograph will then be statistically analyzed per FEMA guidelines to determine the peak discharge-frequency relationship, and more specifically the resulting 1-percent flow in this reach below Lahontan reservoir.



Figure 2 Hydrologic Analysis Method Schematic

This method is similar but preferable to the USACE 1977 method for several reasons. First, the available gage record is approximately 40 years longer now and includes several historic flooding (both short and long duration) events. Second, the model includes inflows from the Truckee Canal which have a significant impact on ongoing storage levels in Lahontan Reservoir. Third, continuous simulation of the reservoir operations using the daily record of flows removes the challenge of determining the statistically appropriate reservoir initialization level.

In determining the 1-percent flood flow below a reservoir, it is important to note that the mode producing this flood is not known ahead of time. The 1-percent flood flow below a reservoir may be the result of a 1-day flood, a 7-day flood, a 90-day flood, or more likely a non-standard interval event. The appropriate interval is a complex function of the inflow hydrology, the reservoir physical characteristics, and its operational criteria. Both the USACE 1977 and the USBR 1996 studies assumed the mode of flooding that would result in the 1-percent flood flow (and all other occurrence probabilities) before simulating the reservoir operations. The USBR assumed a 7-day flood, and the USACE assumed what appears to be 1-day volume (it isn't exactly clear what time interval was used, but it was necessarily a specific interval). The method proposed here makes no assumption about the mode that will produce the 1-percent flow below the reservoir. The entire record with all modes inherently contained in it will be simulated, and the results will bear out which mode ends up producing the highest reservoir outflows.



Details of the elements of the proposed method follow:

#### A. Fort Churchill Gage Data

The record for the Ft. Churchill gage begins April 13, 1911. The hydrologic analysis will go through the end of water year 2018. This results in more than 107 years of daily flows that are available for use in determining the peak discharge-frequency relationship. This is a substantial record and is more than adequate to support the statistical analysis proposed. FEMA Guidance states that the minimum length of historical record needed for using this approach is 10 years.

#### B. RiverWare Model

The reservoir/system operations model that will be used to simulate Lahontan Reservoir is the Truckee-Carson RiverWare Planning Model (RiverWare Model). It is important to note that this model is not a hydrologic model and the approach proposed by this document is not the hydrologic model approach. The RiverWare Model is an operations model that is used to simulate the operations of Lahontan Reservoir to support using a modified statistical analysis of stream gage data approach.

##### 1. Development and Uses

The RiverWare Model was developed by a multi-agency technical group led and funded largely by LBAO. Development began in 2009 and is ongoing. LBAO has overseen the model development and use since its inception. The model has been used extensively by LBAO and many other basin entities including Truckee Meadows Water Authority, Truckee Carson Irrigation District, the City of Fernley, the US Fish and Wildlife Service. The model has been used for numerous studies, reports and analyses in the basin since its initial development. Some significant projects include the Newlands Project Planning Study (2011), the Truckee Basin Study (2014), City of Fernley Firm Yield Study (2016), the Truckee Canal Corrective Action Study (2016), and the OCAP Biological Assessment (2019). The model has been relied upon for significant decisions regarding policy development, basin operations, drought security, and many others.

##### 2. Capabilities

The RiverWare model simulates the Carson River basin from the Ft Churchill gage down through the Newlands Project. In the Truckee basin, it simulates from the headwaters down to the terminus in Pyramid Lake including all basin reservoirs, diversions, and the Truckee Canal. All significant basin policy is represented including the Orr Ditch Decree, the Truckee River Operating Agreement (TROA), and the Newlands Project Operating Criteria and Procedures (OCAP). The model has been vetted by all basin stakeholders and is widely accepted as an accurate representation of Truckee-Carson basin system operations including Lahontan Reservoir and the OCAP.

##### 3. Characterization of Features and Policy

###### a) *Lahontan Reservoir Physical Characteristics*

Lahontan Reservoir physical characteristics in the model are updated to LBAO's current values. The 2017 runoff season necessitated revisions of the storage volume in the reservoir below the spillway and the top of the flashboards. Release capacity of each side of the outlet works and the spillways are current based on actual operations in 2017. These values will be reviewed with LBAO before performing the proposed analysis.

*b) Lahontan Reservoir Operational Criteria*

Lahontan Reservoir operational criteria especially in managing high flows are contained in the model. LBAO developed the criteria as they are represented in the model currently based on recent wet year operations in 2006, 2011, 2017, and 2018. These criteria will be reviewed with LBAO before performing the proposed analysis

*c) OCAP*

The 1997 OCAP is represented in the model. The OCAP defines storage targets in Lahontan reservoir and resulting allowable diversions through the Truckee Canal to meet these targets in years in which Carson River inflows are insufficient to achieve them. Because the Truckee Canal provides significant additional inflows to Lahontan reservoir, proper representation of OCAP operations will ensure that the storage levels in Lahontan will be accurate prior to high inflow events occurring in the Carson basin. These criteria will be reviewed with LBAO before performing the proposed analysis.

*d) TROA/Truckee Operations*

TROA is a comprehensive operating agreement for the Truckee River system that determines the flows and operations throughout the basin which began to be implemented in 2015. TROA is represented accurately in the RiverWare model such that the water available for diversion through the Truckee Canal to Lahontan reservoir will be represented correctly. This will affect the simulated storage levels in Lahontan Reservoir. These criteria will be reviewed with LBAO before performing the proposed analysis.

4. Model Scenario Configuration Description

For the hydrologic analysis proposed, the following important characteristics of the configuration of the model will be used:

*a) Analysis Period*

Because the RiverWare Model starts on the first day of the water year, the start date for the analysis will be October 1<sup>st</sup>, 1911, which is the earliest start-of-water-year date in the historical Ft. Churchill gage record. The analysis period will end on December 31<sup>st</sup>, 2018.

*b) System Inflows*

As discussed above for inflows to Lahontan reservoir, historical flows from the Ft. Churchill gage will be used. For the rest of the inflows needed to run the model on the Truckee system, an established historical hydrology set will be used. The dataset begins in 1900 and goes through 2018 and has been used in nearly every study done with the RiverWare Model. Only that portion of this dataset that overlaps with the Analysis Period for this study will be used. A detailed writeup describing this historical inflow data is available upon request.

*c) System Demands*

the current demand levels for both the Truckee and Carson systems will be represented in the model and will be static throughout the analysis period. For the Newlands Project, the most recent demand that is available is the 2018 demand. This demand dataset has been developed for other uses of the model and a more detailed description is available upon request.

*d) System Initialization*

Because the historical record of reservoir water surface elevation and reservoir storage on Lahontan Reservoir does not go back as far as the Ft. Churchill gage record, the initial storage in Lahontan



Reservoir will have to be estimated. For this analysis, Lahontan reservoir will be initialized at the historic average storage level for October 1<sup>st</sup>. Because the demand below the reservoir is so large compared to the storage, it will take a very short time for the simulated storage level to be unaffected by the initial storage value, likely within one season. On the Truckee side, Lake Tahoe will be initialized to its historical storage level on the start of the analysis period. The other reservoirs will be initialized to their historical average storage on September 30<sup>th</sup>.

### C. Statistical Analysis

After the simulation of the Lahontan operations by the RiverWare Model is complete, the simulated hydrograph for the Lahontan Reservoir outflows will be exported from the model. This hydrograph will consist of 107+ years of daily values. For a standard statistical analysis of stream gage data approach for developing flood hydrology, FEMA guidance calls for applying the method described in USGS Bulletin 17B to determine the specific flood flow values associated with desired probability of occurrence. For this approach, the same methodology prescribed in USGS Bulletin 17B will be applied to the simulated Lahontan Reservoir outflow daily hydrograph. In this Bulletin the Log Pearson Type III distribution is called out to be used to fit to the data and determine specific flood flows. Application of this method to the outflow hydrograph will be very straight-forward and robust as the analysis period is long and the flows are well defined.

It is important to note that it would be possible to apply the same statistical analysis to the Blw Lahontan gage record which is now 66 years long. It is proposed to do this and to use the flood flows so determined as a check for the flows derived from the proposed method.

The proposed method utilizing the RiverWare Model as an operations model is preferable for at least two reasons. First, the OCAP was introduced in 1967 and greatly decreased allowable (and actual) flows through the Truckee Canal and therefore storage levels in Lahontan. The OCAP was revised in 1988 and again in 1997, each time further reducing the target storage levels in Lahontan Reservoir. Additionally, TROA became operative in late 2015 and significantly decreased the amount of water that is divertible to Lahontan Reservoir at the Truckee Canal.

The historic record of outflows from Lahontan Reservoir is based upon operations under these outdated regimes, which are substantially different from current operations. Each of the revisions in basin operation policy described above served to reduce the storage levels in Lahontan Reservoir. Consequently, the gage record at the blw Lahontan gage is conservative with regards to flooding. It represents elevated release levels compared with current Lahontan releases. The flows resulting from a standard statistical analysis as described in USGS Bulletin 17B should result in flood flows that are higher than those determined by the proposed method using the operations model. Comparing the two will provide greater confidence in the application of the method proposed in this document.

## IV. Conclusion

Churchill County is interested in doing a revision of the hydrologic analysis to determine if a revision of the county's FIRM is warranted. This document described a methodology for performing this hydrologic revision that is consistent with FEMA guidance and represents significant improvement over the analysis that was performed in 1977 that forms the basis of the current FIRMs. This document is being submitted to FEMA for evaluation and preliminary acceptance of the proposed method. Upon FEMA's approval, the hydrologic analysis described herein would be initiated to see if the resulting 1-percent



flood flow below Lahontan Dam warrants proceeding to the next steps of hydraulic analysis and remapping.

## V. References

Federal Emergency Management Agency, Flood Insurance Study, Churchill County, Nevada (and Incorporated Areas), September 26<sup>th</sup>, 2008

Federal Emergency Management Agency, Guidance for Flood Risk Analysis and Mapping – General Hydrologic Consideration (Guidance Document 71), February 2018

Federal Emergency Management Agency, Website – Guidance Documents

<https://www.fema.gov/media-library/assets/documents/34953>

U.S. Department of the Army, Corps of Engineers, Flood Frequency Analysis for Lahontan Dam Outflow (in—house study), August 1977

U.S. Department of the Interior, Bureau of Reclamation, letter from Mr. Kenneth Parr of the U.S. Bureau of Reclamation to Mr. Eric Simmons of the Federal Emergency Management Agency, subject: Available Hydrologic Information for the Carson River, August 15, 2008

U.S. Department of the Interior, Bureau of Reclamation, letter from Ms. Elizabeth Rieke of the U.S. Bureau of Reclamation to Mr. John Eldridge Jr. of the Federal Emergency Management Agency, subject: Fallon Flood Insurance Rate Maps, May 16, 2003

US Department of the Interior, Geological Survey, Bulletin #17B of the Hydrology Subcommittee, “Guidelines for Determining Flood Flow Frequency”, March 1982

## **AGENDA ITEM #12**

## CARSON WATER SUBCONSERVANCY DISTRICT

**TO:** BOARD OF DIRECTORS

**FROM:** EDWIN D. JAMES

**DATE:** OCTOBER 16, 2019

**SUBJECT:** Agenda Item # 12 – For Possible Action: Authorize the General Manager to sign agreement with Kimley-Horn to conduct the Flood Mitigation Study for the West Carson City Flood Management Plan in an amount not to exceed \$ \$148,000.

**DISCUSSION:** Attached is the Scope of Services, costs, and time schedule for the West Carson City Flood Management Plan. This is one of the projects that was submitted and approved for FEMA funding under the Cooperating Technical Partners (CTP) MAS #10 application. The Scope of Services, costs, and time schedule were reviewed and negotiated with CWSD and Carson City staff. The entire costs will be covered by the CTP grant.

**STAFF RECOMMENDATION:** Authorize the General Manager to sign agreement with Kimley-Horn to conduct the Flood Mitigation Study for the West Carson City Flood Management Plan in an amount not to exceed \$ \$148,000.



## **Carson Water Subconservancy District**

### **West Carson City Flood Management Plan**

#### SCOPE OF SERVICES

Prepared October 3, 2019

The Carson Water Subconservancy District (CWSD), Carson City (City), and FEMA have been working to more accurately define flood hazards in the Carson Valley for years. Hydrologic and hydraulic studies have been completed throughout the Carson City urban area using CTP grant funds and City funds. This study is a continuation of these efforts and will build on previous studies in the project area wherever possible.

The goals for this project will be to identify mitigation solutions for areas impacted by flood flows along Kings Canyon Creek and Ash Canyon Creek. More specifically, Carson City would like to investigate the feasibility of storage facilities immediately upstream of Longview Way. In addition, this project will evaluate the existing conditions and capacities of the Kings Canyon Creek and Ash Canyon Creek drainage infrastructure through the downtown area of Carson City to outfalls just upstream of Hwy 50. Finally, conceptual mitigation solutions may be developed for the urban areas downstream of Longview Way. The scope of work for the study/plan would incorporate the follow tasks:

#### **Task 1. Data Collection**

- a. Carson City houses considerable data relevant to this study or the project area. Kimley-Horn will collect, review, and process existing data provided by Carson City and other sources as necessary to determine applicability of use for this effort. Data may include LiDAR, previous studies, GIS layers, and survey data.
- b. As part of the effort to evaluate the existing drainage facilities, specifically storm drain systems, it may be necessary to conduct field assessments or actual field survey to collect required data. Fees associated with this task include these efforts. If not required, these fees will be redirected to other tasks as needed.

#### **Task 2. Existing Conditions Analyses**

- a. Kimley-Horn will create a FLO-2D model with SWMM integration for the area bounded roughly by Longview Way, 5<sup>th</sup> Street, Saliman Road, and Williams Street. The FLO-2D model will route Kings and Ash Canyon watershed flows through the urban area of the study. The existing storm drain system will be modeled in SWMM as part of an integrated model. Buildings and other obstructions will be accounted for using Area Reduction Factors (ARFs). The intent of this effort will be to determine



the existing capacity of drainage infrastructure, identify weak points in the system, and quantify structures potentially impacted by flooding. Design storms will include 10-, 50-, and 100-year reoccurrence intervals.

### **Task 3. – Proposed Conditions Analyses**

- a. Kimley-Horn will develop a conceptual design of a basin or basin system in City owned or available property upstream of Longview Way. The basin design will use existing hydrologic analyses for routing. It is anticipated that the source of hydrology will be HDR's HEC-1 effective models submitted in 2010. Basin conceptual design will include volume, footprint, side slopes, inlet and outlet improvements, and any erosion control required.
- b. For segments of the existing conveyance systems that are determined to be deficient, Kimley-Horn will evaluate conceptual design solutions that may be implemented to improve performance or mitigate flooding potential. It is anticipated that mitigation alternatives will be evaluated by coding into proposed conditions FLO-2D/SWMM models to determine effectiveness of the solution. The focus of this effort will be on implementable solutions that fit within budget constraints and are effective in mitigating flooding conditions.

### **Task 4. – Public Meeting Support**

- a. Kimley-Horn will assist the City in conducting up to two (2) public meetings to present the results of existing conditions analyses and conceptual design. Public meetings may focus on basin and other area improvements separately, or may present existing conditions results first, followed by overall mitigation solutions. Kimley-Horn will prepare public meeting materials including display boards, meeting invitation language, PowerPoint presentation, and any required handouts. Kimley-Horn can also present technical data at each meeting if desired by the City. It is assumed that the City will secure facilities and distribute invitations to residents.
- b. In addition to the public meetings described above, Kimley-Horn will present the results of the project to the Board of Supervisors and the CWSD Board as directed by Carson City and CWSD. It is assumed that these presentations will coincide with public meeting dates to reduce travel costs.

### **Task 5. – Design Concept Report/Plan**

- a. Kimley-Horn will develop conceptual level plan sheets for the basin and storm drain design. Plan sheets will show plan and profile considering known right-of-way and utility constraints. Notes, details, and specifications will not be included.
- b. Kimley-Horn will compile all collected data, analyses, and design into a design concept report for submittal and approval to the City and CWSD. Kimley-Horn will submit a draft report and final report that addresses all comments. It is assumed that all submittals will be electronic, and that one round of comments will be addressed.



**Task 6. – Project Management**

- a. Project management includes onsite project meeting and presentation time, as well as FEMA Map Information Platform management. In addition, project management includes contract management, invoicing, internal meetings with staff, and Quality Control/Quality Assurance.

**KIMLEY-HORN ALLOWANCES**

**Task 7. - Expenses (Allowance)**

- a. This allowance is for expenses anticipated for this project including: Travel expenses, in-house reproduction, and mileage.

**OTHER EXCLUSIONS**

- a. Geotechnical and environmental services are not included
- b. Topographic mapping services are not included

Kimley-Horn will perform the services in Tasks 1 - 7 for the total lump sum labor below. In addition to the lump sum labor fee, direct reimbursable expenses such as express delivery services, fees, air travel, and other direct expenses will be billed at cost.

Task 1	Data Collection	\$13,240
Task 2	Existing Conditions Analyses	\$28,600
Task 3	Proposed Conditions Analyses	\$56,900
Task 4	Public Meeting Support	\$10,680
Task 5	Design Concept Report	\$22,120
Task 6	Project Management	\$13,960
Task 7	Expenses	\$2,500
Total Lump Sum Fee		\$148,000

## Schedule

West Carson City  
Flood Management Plan

Task	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Oct-20	Nov-20	Dec-20
Data Collection													
Existing Conditions Analyses													
Proposed Conditions Analyses													
Public meeting Support													
Design Concept Report													
Project Management													

\* Start and end dates for each task are the first and last day of the month respectively

## **AGENDA ITEM #13**

## **CARSON WATER SUBCONSERVANCY DISTRICT**

**TO:** BOARD OF DIRECTORS

**FROM:** EDWIN D. JAMES

**DATE:** OCTOBER 16, 2019

**SUBJECT:** Agenda Item # 13 – For Discussion: Presentation on the Watershed Literacy Program

**DISCUSSION:** Staff will present the draft Watershed Literacy video.

**STAFF RECOMMENDATION:** Receive and file.

## **AGENDA ITEM #14**



## **CARSON WATER SUBCONSERVANCY DISTRICT**

**TO:** BOARD OF DIRECTORS

**FROM:** EDWIN D. JAMES

**DATE:** OCTOBER 16, 2019

**SUBJECT:** Agenda Item # 14 – For Discussion Only: Presentation on the 2019 Water Year

**DISCUSSION:** Staff will give an overview the 2019 Water Year.

**STAFF RECOMMENDATION:** Receive and file.

## **AGENDA ITEM #15**

## CARSON WATER SUBCONSERVANCY DISTRICT

**TO:** BOARD OF DIRECTORS

**FROM:** EDWIN D. JAMES

**DATE:** OCTOBER 16, 2019

**SUBJECT:** Agenda Item # 15 – For Discussion Only: Update on Lost Lakes

**DISCUSSION:** CWSD staff has been releasing water from Lost Lakes. Staff will give the Board a brief update on the amount of water released and conditions/issues related to Lost Lakes.

**STAFF RECOMMENDATION:** Receive and file.

## **STAFF REPORTS**



## CARSON WATER SUBCONSERVANCY DISTRICT

**TO:** BOARD OF DIRECTORS

**FROM:** EDWIN D. JAMES

**DATE:** October 16, 2019

**SUBJECT:** Agenda Item #16 - For Information Only: Staff Report

**DISCUSSION:** The following is a list of meetings/activities attended by Ed James and staff since the last Board meeting on September 18, 2019:

- 9/19/19 – Ed, Brenda, Debbie, Catrina, Shane & Loren held staff meeting
- 9/19/19 - Brenda, Debbie, Shane & Loren participated in USACE teleconference
- 9/19/19 – Brenda attended AFPM Webinar re: Floodways
- 9/20/19 – Ed participated in teleconference with Churchill County re: Floodplain Study
- 9/23/19 – Ed met with Courtney Walker re: Pine Nut Study
- 9/24/19-9/25/19 – Ed attended the NWRA Fall Symposium in Reno
- 9/24/19 – Brenda participated in CFPW conference call
- 9/25/19 – Shane gave a presentation at the NWRA Fall Symposium regarding the use of Drones
- 9/26/19 – Ed participated in the Marlette Lake Tour
- 9/26/19 – Brenda, Shane & Loren met re: IAMCARSONRIVER Campaign
- 9/27/19 – Ed and Debbie met with Courtney Walker re: Douglas County Flood Ordinance
- 9/30/19 – Ed attended presentations at USGS regarding studies in the Carson River Watershed
- 10/1/19 – Ed, Debbie & Loren released water at Lost Lakes
- 10/1/19 – Brenda met with Neon Agency re: IAMCARSONRIVER Campaign
- 10/2/19 – Brenda, Debbie & Loren hosted CRC Education Working Group meeting with focus of Snap Shot Day
- 10/3/19 – Ed participated in Skype meeting with Kimley-Horn & Carson City regarding the North & West Carson City Flood studies
- 10/4/19 – Ed and Loren went up to Lost Lakes
- 10/7/19-10/10/19 – CWSD Annual Audit
- 10/7/19 – Ed participated in conference call w/JE Fuller re: Ruhenstroth ADMP
- 10/8/19 – Ed attended CTWCD meeting in Reno
- 10/8/19 – Debbie and Ed met regarding FEMA presentations
- 10/8/19 – Debbie performed water survey at private home in Genoa
- 10/9/10 – Ed, Loren and Don Jardine went up to Lost Lakes

- 10/15/19 – Brenda, Shane & Loren attended River Wranglers Calibration Day and provided Streambank Training for Snap Shot Day
- 10/16/19 – Video Shoot for IAMCARSONRIVER Campaign at CWSD office and at Board Meeting

Meetings/activities anticipated through the end of October:

- 10/18/19 –Brenda, Debbie, Shane, Catrina & Loren to participate in Snap Shot Day
- 10/22/19 – Ed and Debbie to participate in CTP conference call
- 10/23/19 – Ed, Brenda, Debbie, Shane, Catrina & Loren will host CRC meeting at WNC
- 10/24/19 – Ed to participate in Leviathan Mine Tour

**STAFF RECOMMENDATION:** Receive and file.

**NO CORRESPONDENCE**