



DRAFT MEMORANDUM 093026.0

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TO: SVGMD DATE: September 30, 2026
FROM: Stetson Engineers Inc. JOB NO: 2919-02-001
RE: Scope of Work to Develop A Rainfall-Runoff Relationship for Plumas County

1.0 SCOPE OF WORK AND PROJECT APPROACH

The Plumas Watershed Forum Grant identifies the need to design and install Managed Aquifer Recharge (MAR) Projects in Sierra Valley. Specific tasks include Preliminary Design and Permitting of Pilot MAR Project (Task 4), Construction of Pilot MAR Facilities at Little Last Chance Creek (Task 5), and Pilot MAR Performance and Monitoring (Task 6). The propose of this proposal is to support each of these tasks by characterizing the rainfall-runoff relationship from precipitation events that create runoff in Plumas County. The rainfall-runoff relationship determined through this monitoring will provide the documentation and quantification of available non-gaged surface water along the northern rim of the valley, which can then be applied in assessing direct recharge and or in-lieu recharge projects in this region.

The project approach includes installation of surface water measuring devices at two locations on the Diamond G Ranch. Then, using available rainfall gages in Beckwourth and other areas in northern Sierra Valley, surface water runoff will be compared to rainfall intensity and total accumulation to develop a rainfall-runoff relationship. The results will then be used to estimate the volume of water available for MAR Projects during varying types of hydrologic conditions.

2.0 SCOPE OF WORK

2.1 TASK 1 - SURFACE GAGE INSTALLATION AND SURVEYING

This task includes the installation of measuring and monitoring devices at two locations on the Diamond G Ranch. Location 1 is at an existing weir located at a pond on the northwestern portion of the Ranch. A monitoring device will be installed to measure height of water through the weir and used to convert to flow. Location 2 is in an existing dirt ditch and includes the installation of a 24-inch Parshall Flume and monitoring device. Together, these two locations will measure a drainage area of more than six square miles.

Equipment purchases include one Parshall Flume and two monitoring devices for approximately \$20,250. Installation costs are estimated at \$10,000. These costs will be billed directly to the SVGMD and are not included in this proposal for professional services.

2.2 TASK 2 – DATA ANALYSIS AND REPORTING

Task 2 includes the collection, processing, and reporting of data collected between October 2026 and mid-December 2026. Stetson Engineers will analyze rainfall runoff events from the early winter season and develop a methodology for the District to continue measurements and analysis following the submittal of a final report by December 31, 2026.

3.0 PROJECT COSTS

The total estimated project costs is \$20,900 for professional services to complete Tasks 1 and 2. The total equipment costs billed directly to SVGMD is estimated to be \$30,250. The total project costs to support MAR development under the Plumas Watershed Forum Grant is \$51,150. This request represents a change order to Stetson Engineers for \$20,900 under Task 4 – Preliminary Design and Permitting.

A detailed cost sheet for professional services and specific equipment is attached to this proposal.

Attachment A

Rainfall Runoff Inflow Study Plumas County

30-Sep-26

		Stetson Engineers					Rounded
		Stephen Reich, PE, PG Principal	Senior III (Barnard)	Senior II (Vaquz)	GIS Manager	Associate II (Tuncer)	
Tasks	Billing Rate \$/hour	\$266	\$152	\$169	\$140	\$132	
Task 1 - Equipment Installation							
Planning and Permitting		2	8		4		\$2,308
Purchasing			8				\$1,216
Field Installation			14			14	\$3,976
Survey weir at Pond			0			0	\$0
Programming and set up			4			4	\$1,136
Expenses							\$380
Subtotal							\$9,016
							\$ 9,000
Task 2 - Report							
Data Collection in December 2025			4				\$608
Flow Rating at Pond and data Analysis			12	4		8	\$3,556
Develop Rainfall Runoff Analysis		4	24		4	16	\$7,384
Expenses							\$0
Subtotal							\$11,928
							\$ 11,900
Task 1 through 4 Subtotal w/o Expenses	Subtotal	6	74	4	8	42	\$20,184
Total Labor hours	134						
Total Expenses							\$760
GRAND TOTAL Stetson Engineers							\$20,944
							\$ 20,900

Itemized Expenses

Task 1 Task 2

Travel Direct Costs	cost per	Count	Count	
Hotel	\$130	0	0	
Per Diem, day of travel	\$50	0	0	
Per Diem, over night	\$71	0	0	
M&I (10 hr.)	\$26	0	0	
Air	\$700	0	0	
Car	\$100	0	0	
parking	\$20	0	0	
mileage	\$0.76	500	500	
Subtotal		\$380	\$380	

Task 1 Task 2

Direct Expenses	cost per	Count	Count	
BW Copies	\$0.15	0	0	
Color Copies	\$0.89	0	0	
Color copies large	\$1.89	0	0	
Telephone	\$20	0	0	
Teleconference	\$40	0	0	
Postage	\$50	0	0	
GPS Survey Grade Instrument	\$600	0	0	
Field Supplies	\$500	0	0	
Flume	\$9,800	0	0	
Dataloggers	\$920	0	0	
Subtotal		\$0	\$0	

Total

Total

Grand Total Expenses

\$760

Rainfall-Runoff Inflow Study

Equipment, Vendor, and Installation Costs Invoiced Directly to SVGMD

Location	Estimate	Notes on Estimate
<u>Site 1 - Pond</u>		
No facilities needed	NA	
Monitoring equipment	\$2,250	Based on Neatmon
Monitoring equipment installation (vendor)	\$1,000	Based on Neatmon
Total Site 1	\$3,250	
<u>Site 2 – Flume at Ditch</u>		
Flume	\$13,750	VPC quote
Flume Installation	\$10,000	Estimate
Monitoring equipment	\$2,250	Based on Neatmon
Monitoring equipment installation (vendor)	\$1,000	Based on Neatmon
Total Site 2	\$27,000	
Total Sites 1 and 2	\$30,250	