Wagner & Bonsignore
Consulting Civil Engineers, A Corporation

Nicholas F. Bonsignore, P.E.
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Leah Orloff, Ph.D, P.E.
David H. Peterson, C.E.G., C.H.G.
Ryan E. Stolfus

July 29, 2024

Mr. Michael Conway
State Water Resources Control Board
Division of Water Rights
P.O. Box 2000
Sacramento, CA 95812-2000

Re: Application A033189 and Application A033190

Dear Mr. Conway:

On behalf of Shandon San Juan Water District, please find enclosed one hard copy of red-lined revised Application(s) A033189 and A033190 and all associated Attachments.

We have also emailed you a link to all electronic versions, as well as the digital files for the Water Availability Analysis for each Application.

We look forward to the opportunity to discuss any questions you may have and appreciate your review of the materials.

Sincerely,

Diane Wagner

cc: Mr. Steve Stinton

Very truly yours,

WAGNER & BONSIGNORE
CONSULTING CIVIL ENGINEERS

Diane Wagner

Encl. ✓
Via: Hard-Delivered/electronic submittal

2151 River Plaza Drive • Suite 100 • Sacramento, CA 95833-4133
Ph: 916-441-6850 • Fax: 916-779-3120

TYPE OR PRINT
IN BLACK INK
(For instructions, see booklet: "How to File an Application to Appropriate Water in California")

APPLICATION NO._____

California Environmental Protection Agency

State Water Resources Control Board
Division of Water Rights
P.O. Box 2000, Sacramento, CA 95812-2000
Tel: (916) 341-5300 Fax: (916) 341-5400
www.waterboards.ca.gov/waterrights

APPLICATION TO APPROPRIATE WATER

1. APPLICANT/AGENT

	APPLICANT	ASSIGNED AGENT (if any)
Name	Shandon-San Juan Water District	~~Michael Preszler~~ Diane E. Wagner
		Wagner & Bonsignore Consulting Civil Engineers
Mailing Address	P.O. Box 150	~~160 Parkshore Drive, Suite 110~~ 2151 River Plaza Drive Suite 100
City, State & Zip	Shandon, CA 93461	~~Folsom, CA 95630~~ Sacramento, CA 95833
Telephone	(805) 451-0841	~~(916) 542-7005~~ (916) 441-6850
Fax		
E-mail	wcunha@ssjwd.org	~~michael@zanjero-water.com~~ dwagner@wbecorp.com

2. OWNERSHIP INFORMATION (Please check type of ownership.)

_ Sole Owner
_ Limited Liability Company (LLC)
_ General Partnership*
_ Limited Partnership*
_ Business Trust
_ Husband/Wife Co-Ownership
_ Corporation
_ Joint Venture
x Other California Water District

*Please identify the names, addresses and phone numbers of all partners.

3. PROJECT DESCRIPTION (Provide a detailed description of your project, including, but not limited to, type of construction activity, area to be graded or excavated, and how the water will be used.) Add additional pages if needed and check box below and label as an attachment. See Attachment No. 1

~~This project is being undertaken by the Shandon-San Juan Water District. The purpose of the project is to augment groundwater supplies in the Paso Robles Area Subbasin (the "Subbasin") by transporting unappropriated water to the Subbasin that would normally pass through Santa Margarita Lake (the "Lake") during high flow events. The point of diversion would be situated in the Lake and the conveyance facility is likely to be a pipeline or canal (the "Conveyance") that Applicant plans to construct, own, operate and maintain. The water would be delivered to Groundwater recharge facilities (the "Facilities") situated within the Subbasin that Applicant will construct, own and operate. The water would be later recovered for agricultural use in the District by Applicant, its landowners and their designees. The need for the Facilities and the Conveyance is dependent on Applicant acquiring supplemental surface water supplies, and Such facilities have therefore not yet been designed or constructed.~~

x *For continuation, see Attachment No.* 1

4. PURPOSE OF USE, DIVERSION/STORAGE AMOUNT AND SEASON

a. PURPOSE OF USE (irrigation, domestic, etc.)	DIRECT DIVERSION				STORAGE		
	AMOUNT		SEASON OF DIVERSION		AMOUNT	SEASON OF COLLECTION	
	Rate (cfs or gpd)*	Acre-feet per annum	Beginning date (month & day)	Ending date (month & day)	Acre-feet per annum	Beginning date (month & day)	Ending date (month & day)
Agricultural Irrigation	~~98 cfs~~	~~14,000~~	~~Dec 1~~	~~July~~ 1	14,000	Jan 1	May 14
	Total afa	~~14,000~~		Total afa	14,000		

_ *See Attachment No.* 2 Underground Storage Supplement * If rate is less than 0.025 cubic feet per second (cfs), use gallons per day (gpd).

b. Total combined amount taken by direct diversion and storage during any one year will be 14,000 acre-feet.

c. Reservoir storage is: ___ onstream _ offstream x underground (If underground storage, attach Underground Storage Form.)

d. County in which diversion is located: San Luis Obispo

e. County in which water will be used: San Luis Obispo

5. SOURCES AND POINTS OF DIVERSION/REDIVERSION

a. Sources and Points of Diversion (POD)/Points of Rediversion (PORD):

x POD / _ PORD # 1 Santa Margarita Lake, Salinas River tributary to _____ thence to the Pacific Ocean

_ POD / x PORD # 1 Santa Margarita Reservoir Pipeline to Underground Storage tributary to Salinas River thence Pacific Ocean

_ POD / _ PORD # _____ tributary to _____ thence _____

_ POD / _ PORD # _____ tributary to _____ thence _____

If needed, attach additional pages, check box below and label attachment

~~x~~ *See Attachment No.* ~~2~~

b. State Planar and Public Land Survey Coordinate Description:

POD/ PORD #	CALIFORNIA COORDINATES (NAD 83)	ZONE	POINT IS WITHIN (40-acre subdivision)	SECTION	TOWN-SHIP	RANGE	BASE AND MERIDIAN
1	North 2,318,~~335~~ 289.27 feet East 5,815,~~085~~ 465.67 feet	5	NW ¼ of NW ¼	8	30S	14E	MD
PORD 1	North 2,319,161 feet East 5,817,170 feet	5	SW ¼ of SE ¼	5	30S	14E	MD
			¼ of ¼				
			¼ of ¼				

If needed, attach additional pages, check box below and label attachment

__ *See Attachment No.* _

c. Name of the post office most often used by those living near the proposed point(s) of diversion:

Santa Margarita Post Office

6. WATER AVAILABILITY

a. Have you attached a water availability analysis for this project? X YES x NO
If NO, provide sufficient information to demonstrate that there is reasonable likelihood that unappropriated water is available for the proposed appropriation: If needed, attach additional pages, check box below and label attachment.
~~Water availability analysis is under development. Findings of a preliminary investigation are attached.~~
x *See Attachment No. ~~3~~ 3*

b. Is your project located on a stream system declared to be fully appropriated by the State Water Resources Control Board (State Water Board) during your proposed season of diversion?
_ YES x NO

c. In an average year, does the stream dry up at any point downstream of your project? ~~x~~ YES _ NO If YES, during which months? ~~x~~ Jan _ Feb _ Mar _ Apr _ May _ Jun _ Jul _ Aug _ Sep ~~x~~ Oct ~~x~~ Nov ~~x~~ Dec Unknown, dependent on releases from storage, enviornmental flows and year type. To be evaluated during CEQA process.

d. What alternate sources of water are available if a portion of your requested diversion season must be excluded because water is not available for appropriation? (e.g., percolating groundwater, purchased water, etc.) If needed, attach additional pages, check box below and label attachment
Groundwater
_ *See Attachment No. ____*

7. PLACE OF USE

a. See attached maps

USE IS WITHIN (40-acre subdivision)	SECTION*	TOWNSHIP	RANGE	BASE & MERIDIAN	IF IRRIGATED	
					Acres	Presently cultivated?
¼ of ¼						_ YES _ NO
¼ of ¼						_ YES _ NO
¼ of ¼						_ YES _ NO
¼ of ¼						_ YES _ NO
¼ of ¼						_ YES _ NO
¼ of ¼						_ YES _ NO
¼ of ¼						_ YES _ NO
¼ of ¼						_ YES _ NO
				Total Acres:		

Please indicate if section is projected with a "(P)" following the section number.

x *See Attachment No. ~~4~~ 4* Please provide the Assessor's Parcel Number(s) for the place of use:
~~Place of use is the Shandon-San Juan Water District~~ Place of use is the Paso Robles Subbasin. (Attachment No. 4)

8. PROJECT SCHEDULE

Project is: x proposed, _ partially complete or _ complete (Year completed -_____).

Extent of completion: Project is in its planning phase.

Estimated amount of time in years it will take for construction to be completed: Seven year from issuance of permit.

Estimated amount of time in years it will take for water to be put to full beneficial use: ~~Seven years issuance of permit~~. 25 years from issuance of permit.

9. JUSTIFICATION OF AMOUNTS REQUESTED

a. x IRRIGATION: Maximum area to be irrigated in any one year: ~~26,254~~ 26,880 acres.

CROP	ACRES	METHOD OF IRRIGATION (sprinklers, flooding, etc.)	WATER USE (Acre-feet/Yr.)	SEASON OF WATER USE	
				Beginning date (month & day)	Ending date (month & day)
See attachment		Drip and Sprinkler	~~14,000~~	March 1	Nov 30

x *See Attachment No.* ~~5~~ Attachment No. 1; Table 1, Table 2

b. _ DOMESTIC: Number of residences to be served: _____ Separately owned?

_ YES _ NO Number of people to be served: _____ Estimated daily use per person is: _____ gallons per day Area of domestic lawns and gardens: _____ square feet
Incidental domestic uses:

_____
(dust control area, number and kind of domestic animals, etc.)

c. _ STOCKWATERING: Kind of stock: _____ Maximum number: _____
Describe type of operation: _____
(feedlot, dairy, range, etc.)

d. _ RECREATIONAL: Type of recreation: _ Fishing __Swimming _ Boating _ Other _____

e. __ MUNICIPAL:

POPULATION List for 5-year periods until use is completed		MAXIMUM MONTH		ANNUAL USE		
Period	Population	Average daily use (gallons per capita)	Rate of diversion (cfs)	Average daily use (gallons per capita)	Acre-foot (per capita)	Total (acre-feet)

_ *See Attachment No.* ____

Month of maximum use during year: _____
Month of minimum use during year: _____

f. _ HEAT CONTROL: Area to be heat controlled: _____ net acres
Type of crops protected: _____
Rate at which water is applied to use: _____ gpm per acre
Heat protection season will begin _____ and end _____.
(month and day) (month and day)

g. _ FROST PROTECTION: Area to be frost protected: _____ net acres
Type of crops protected: _____
Rate at which water is applied to use: _____ gpm per acre
The frost protection season will begin _____ and end _____.
(month & day) (month & day)

h. _ INDUSTRIAL: Type of industry: _____

Basis for determination of amount of water needed: _____

i. _ MINING: Name of the claim:_____D Patented D Unpatented
Nature of the mine:_____Mineral(s) to be mined: ____
_ Type of milling or processing:
_____ After use, the water will be
discharged into_____(watercourse) in
¼ of_____¼ of Section__, T_____, R_____, B. & M.

j. _ POWER: Total head to be utilized:_____feet
Maximum flow through the penstock:_____cfs Maximum theoretical horsepower capable of being generated by the works (cfs x fall ÷ 8.8): _____
Electrical capacity (hp x 0.746 x efficiency):_____kilowatts at:_____% efficiency
After use, the water will be discharged into_____(watercourse)
in_____¼ of_____¼ of Section_____, T_____, R_____,_____B&M. FERC No.:_____

k. _ FISH AND WILDLIFE PRESERVATION AND/OR ENHANCEMENT: List specific species and habitat type that will be preserved or enhanced: _____

l. _ OTHER: Describe use:_____
Basis for determination of amount of water needed: _____

10. DIVERSION AND DISTRIBUTION METHOD

a. Diversion will be by gravity by means of: ~~Inflow into the Pipeline~~ pipeline from POD to spreading.
(dam, pipe in unobstructed channel, pipe through dam, siphon, weir, gate, etc.)

b. Diversion will be by pumping from: ~~See Attachment No. 1~~
(sump, offset well, channel, reservoir, etc)
Pump discharge rate:_____ cfs or _ gpd Horsepower: _____
Pump Efficiency: _____

c. Conduit from diversion point to first lateral or to offstream storage reservoir:

CONDUIT (pipe or channel)	MATERIAL (type of pipe or channel lining; indicate if pipe is buried or not)	CROSS-SECTION (pipe diameter, or ditch depth and top and bottom width) (inches or feet)	LENGTH (feet)	TOTAL LIFT OR FALL		CAPACITY (cfs, gpd or gpm)
				feet	+ or -	

_ *See Attachment No.* 2; See Underground Storage Supplement (USS)

d. Storage reservoirs: (For underground storage, complete and attach underground storage form)

RESERVOIR NAME OR NUMBER	DAM				RESERVOIR		
	Vertical height from downstream toe of slope to spillway level (feet)	Construction material	Length (feet)	Freeboard: dam height above spillway crest (feet)	Surface area when full (acres)	Capacity (acre-feet)	Maximum water depth (feet)

x *See Attachment No.* ~~6~~ See Underground Storage Supplement (USS) Attachment No. 2

e. Outlet pipe: Complete for storage reservoirs having a capacity of 10 acre-feet or more.

RESERVOIR NAME OR NUMBER	OUTLET PIPE				
	Diameter in inches	Length in feet	Fall: Vertical distance between entrance and exit of outlet pipe in feet	Head: Vertical distance from spillway to entrance of outlet pipe in feet	Dead Storage: Storage below entrance of outlet pipe in acre-feet

_ *See Attachment No. ___*

e. If water will be stored and the reservoir is not at the point of diversion, the maximum rate of diversion to off-stream storage will be_____cfs. Diversion to offstream storage will be made by:
_ Pumping _ Gravity

11. CONSERVATION AND MONITORING

a. What methods will you use to conserve water? Explain.
The Paso Robles Basin Groundwater Sustainability Plan and other water conservation programs are in place in the District where the water will be put to consumptive use, including San Luis Obispo County's Agricultural Offset Ordinance. Typical irrigation methods used within the District include drip irrigation and water users within the District routinely monitor soil moisture content to ensure optimum crop conditions.

b. How will you monitor your diversion to be sure you are within the limits of your water right and you are not wasting water? _ Weir x Meter _ Periodic sampling _ Other (describe)
Applicant will use metering devices to measure water in the Conveyance. Applicant will install, and will require landowners and designees who recover and beneficially use for irrigation the water that is the subject of this Application to install, meters on recovery wells. All users will be required to comply with the Paso Basin GSP and applicable District rules, regulations and policies.

12. RIGHT OF ACCESS

a. Does the applicant own all the land where the water will be diverted, transported and used?
_ YES x NO
If NO, I _ do x do not have a recorded easement or written authorization allowing me access.

b. List the names and mailing addresses of all affected landowners and state what steps are being taken to obtain access:
~~Applicant will acquire fee title or easement rights for the proposed Conveyance and its groundwater recharge facilities. Water will be used by Applicant and Applicant's landowners within District boundaries.~~

x *See Attachment No.* ~~7~~ See Attachment No. 1, Section 3, Figure 2 and Exhibit 2

13. EXISTING WATER RIGHTS AND RELATED FILINGS

a. Do you claim an existing right for the use of all or part of the water sought by this application?
_ YES x NO
If YES, please specify: _ Riparian _ Pre-1914 _ Registration _ Permit _ License
_ Percolating groundwater _ Adjudicated _ Other (specify) _____

b. For each existing right claimed, state the source, year of first use, purpose, season and location of the point of diversion (to within quarter-quarter section). Include number of registration, permit, license, or statement of water diversion and use, if applicable.

_ *See Attachment No.* _

c. List any related applications, registrations, permits, or licenses located in the proposed place of use or that utilize the same point(s) of diversion.
Permit No. 005882 Application A0206901/Permit 5882

_ *See Attachment No.* _

14. OTHER SOURCES OF WATER

Are you presently using, or do you intend to use, purchased water or water supplied by contract in connection with this project? _ Yes x No If yes, please explain:

15. MAP REQUIREMENTS

The Division cannot process your application without accurate information showing the source of water and location of water use. You must include a map with this application form that clearly indicates the quarter/quarter, section, township, range, and meridian of (1) the proposed points of diversion and (2) the place of use. A copy of a U.S.G.S. quadrangle/topographic map of your project area is preferred, and can be obtained from sporting goods stores or through the Internet at http://topomaps.usgs.gov. A certified engineering map is required when (1) appropriating more than three cubic feet per second by direct diversion, (2) constructing a dam which will be under the jurisdiction of the Division of Safety of Dams, (3) creating a reservoir with a surface area in excess of ten acres or (4) appropriating more than 1,000 acre-feet per annum by underground storage. See the instruction booklet for more information.

x *See Attachment No.* ~~*No. 2 for Item 5*~~ See Attachment No. 4

ENVIRONMENTAL INFORMATION

Note: Before a water right permit may be issued for your project, the State Water Board must consider the information contained in an environmental document prepared in compliance with the California Environmental Quality Act (CEQA). This form is not a CEQA document. If a CEQA document has not yet been prepared for your project, a determination must be made of who is responsible for its preparation. If the State Water Board is determined to be responsible for preparing the CEQA document, the applicant will be required to pay all costs associated with the environmental evaluation and preparation of the required documents. Please answer the following questions to the best of your ability and submit with this application any studies that have been conducted regarding the environmental evaluation of your project.

16. COUNTY PERMITS

a. Contact your county planning or public works department and provide the following information:

Person contacted: Met with SLO County 7/18/2024 Date of contact: _____
Department: Planning and Community Development Telephone: _____
County Zoning Designation: Will follow up with county regarding permit needs as project progresses.

Are any county permits required for your project? x YES _ NO If YES, check appropriate box below:

x Grading permit x Use permit x Watercourse _ Obstruction permit _ Change of zoning
_ General plan change x Other (explain): construction of pipeline to convey water to spreading facilities.
Applicant will need to secure entitlements for the ~~Conveyance alignment, and possibly others, which District will be able to identify with particularity when the necessary permits are discerned. Applicant will provide such information as it becomes available~~.

b. Have you obtained any of the required permits described above? _ YES x NO
If YES, provide a complete copy of each permit obtained.
_ *See Attachment No.* ____

17. STATE/FEDERAL PERMITS AND REQUIREMENTS

a. Check any additional state or federal permits required for your project:
_ Federal Energy Regulatory Commission _ U.S. Forest Service _ U.S. Bureau of Land Management x U.S. Corps of Engineers _ U.S. Natural Res. Conservation Service x Calif. Dept. of Fish and Game _ State Lands Commission _ Calif. Dept. of Water Resources (Div. of Safety of Dams) _ Calif. Coastal Commission _ State Reclamation Board _ Other (specify)
x US Fish & Wildlife Service _ State Historic Preservation Office _ Regional Water Quality Control Board
~~See Attachment 8. Otherwise, none that the District has identified as of the date of filing this Application. Applicant will provide this information as the project proceeds through its planning phase.~~

b. For each agency from which a permit is required, provide the following information:

AGENCY	PERMIT TYPE	PERSON(S) CONTACTED	CONTACT DATE	TELEPHONE NO.
Project is in the planning phases; District in the process of identifying contacts for each agency.				

~~x~~ *See Attachment No.* ~~8~~

c. Does your proposed project involve any construction or grading-related activity that has significantly altered or would significantly alter the bed, bank, or riparian habitat of any stream or lake? x YES _ NO
If YES, explain:
Applicant anticipates directly diverting water from Santa Margarita Lake into the Conveyance. Applicant will provide information in response to this item as the project proceeds through its planning phase and such information becomes known and available.
The Project will alter the streambed and habitat at point of release for spreading to underground storage. Invesitigations and extent of impact and mitigation to be discussed during CEQA process.

_ *See Attachment No.* _

b. Have you contacted the California Department of Fish and Game concerning your project?
_ YES x NO If YES, name, telephone number and date of contact:

18. ENVIRONMENTAL DOCUMENT

a. Has any California public agency prepared an environmental document for your project?
_ YES x NO

b. If YES, submit a copy of the latest environmental document(s) prepared, including a copy of the notice of determination adopted by the California public agency. Public agency:

c. If NO, check the appropriate box and explain below, if necessary:
x The applicant is a California public agency and will be preparing the environmental document.*
_ I expect that the State Water Board will be preparing the environmental document.**
_ I expect that a California public agency other than the State Water Board will be preparing the environmental document.* Public agency:
_ *See Attachment No.* _

* Note: When completed, submit a copy of the final environmental document (including notice of determination) or notice of exemption to the State Water Board, Division of Water Rights and proof of payment of the State Clearinghouse filing fee. Processing of your application cannot be completed until these documents are submitted.

** Note: CEQA requires that the State Water Board, as Lead Agency, prepare the environmental document. The information contained in the environmental document must be developed by the applicant and at the applicant's expense under the direction of the State Water Board, Division of Water Rights.

19. WASTE/WASTEWATER

a. Will your project, during construction or operation, (1) generate waste or wastewater containing such things as sewage, industrial chemicals, metals, or agricultural chemicals, or (2) cause erosion, turbidity or sedimentation? x YES _ NO
If YES, or you are unsure of your answer, explain below and contact your local Regional Water Quality Control Board for the following information (See instruction booklet for address and telephone no.):
Potential for construction-related sediment might occur as a result of construction of the proposed Conveyance and recharge Facilities. Mitigation will be incorporated into the construction methods to reduce impacts. Invesitigations and extent of impact and mitigation to be discussed during CEQA process.

_ *See Attachment No.* _

b. Will a waste discharge permit be required for your project? _ YES x NO
Person contacted:_____Date of contact: _____

c. What method of treatment and disposal will be used? _____
~~Applicant is not aware of the methods and treatment of disposal, or what the extent of the nature of the waste will be. As the project progresses through the planning phase, Applicant will update this information.~~

_ *See Attachment No.* _

20. ARCHEOLOGY

a. Have any archeological reports been prepared on this project? _ YES x NO
b. Will you be preparing an archeological report to satisfy another public agency? _ YES x NO
c. Do you know of any archeological or historic sites located within the general project area?
_ YES x NO If YES, explain:
Applicant is not aware at this time of any archaeological or historical sites located within the Project area. Applicant will prepare such reports as may be necessary if archaeological or historical sites are identified. Invesitigations and extent of impact and mitigation to be discussed during CEQA process.

_ *See Attachment No.* _

21. ENVIRONMENTAL SETTING

Attach **two complete sets of color photographs**, clearly dated and labeled, showing the vegetation that exists at the following three locations:
_ Along the stream channel immediately downstream from the proposed point(s) of diversion.
_ Along the stream channel immediately upstream from the proposed point(s) of diversion.
_ At the place(s) where the water is to be used.
x *See Attachment No.* ~~9~~ See Attachment No. 5

SUBMITTAL FEES

Calculate your application filing fee using the "Water Right Fee Schedule Summary" that was enclosed in the application packet. The "Water Right Fee Schedule Summary" can also be viewed at the Division of Water Rights' website (www.waterrights.ca.gov).

A check for the application filing fee, payable to the "Division of Water Rights" and an $850 check for the Streamflow Protection Standards review fee [Pub. Resources Code § 10005(a)], payable to the "California Department of Fish and Game," must accompany this application. All applicable fees are required at the time of filing. If the application fees are not received, your application will not be accepted and will be returned to you. Please check the fee schedule for any fee changes prior to submitting the application.

DECLARATION AND SIGNATURE

I declare under penalty of perjury that all information provided is true and correct to the best of my knowledge and belief. I authorize my agent, if I have designated one above, to act on my behalf regarding this water right application.

Signature of Applicant	Title or Relationship	Date
Willy Cunha	President of Board SSTWD	1-25-2021
Signature of Co-Applicant (if any)	Title or Relationship	Date

Applications that are not completely filled out and/or do not have the appropriate fees will not be accepted. In the event that the Division has to return the application because it is incomplete, a portion of the application submittal fee will be charged for the initial review.

"APPLICATION TO APPROPRIATE WATER" CHECKLIST

Before you submit your application, be sure to:

- D **Answer each question completely.**
- D **Number, label and include all necessary attachments.**
- D **Include a legible map that meets the requirements discussed in the instruction booklet.**
- D **Include the Water Availability Analysis or sufficient information to demonstrate that there is reasonable likelihood that unappropriated water is available for the proposed appropriation.**
- D **Include two complete sets of color photographs of the project site.**
- D **Enclose a check for the required fee, payable to the Division of Water Rights.**
- D **Enclose an $850 check for the Streamflow Protection Standards review fee, payable to the Department of Fish and Game.**
- D **Sign and date the application.**

Send the original and one copy of the entire application to:

State Water Resources Control Board
Division of Water Rights
P.O. Box 2000
Sacramento, CA 95812-2000

ATTACHMENT 1
PROJECT DESCRIPTION
APPLICATION A033189

Prepared for:
Shandon-San Juan Water District
P.O. Box 150
Shandon, CA 93461

Prepared by:
Wagner & Bonsignore,
Consulting Civil Engineers
2151 River Plaza Drive, Suite 100
Sacramento, California 95833
(916) 441-6850

July 29, 2024

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1 PASO ROBLES SUBBASIN BACKGROUND AND DISTRICT VISION STATEMENT

1.1 Paso Robles Subbasin

The Paso Robles Area Subbasin of the Salinas Valley Groundwater Basin (locally referred to as the Paso Robles Subbasin) lies in northern San Luis Obispo County following boundary modifications which removed the portion in Monterey County in early 2019. The subbasin is bounded by the Santa Lucia Range on the west, the La Panza Range on the South, and the Temblor and Diablo Ranges on the east. The basin overlies approximately 436,000 acres (681 square miles).

1.2 Paso Robles Subbasin Groundwater Sustainability Plan (GSP)

A Groundwater Sustainability Plan (GSP) was prepared that fulfills the requirements of the Sustainable Groundwater Management Act (SGMA) for the Paso Robles Subbasin of the Salinas Valley Basin. The goal of the GSP is to sustainably manage the groundwater resources of the Paso Robles Subbasin for long-term community financial and environmental benefit of Subbasin users. The GSP outlines the approach to achieve a sustainable groundwater resource free of undesirable results within 20 years, while maintaining the unique cultural, community, and business aspects of the Subbasin. It is the express goal of the Groundwater Service Areas (GSAs) to balance the needs of all groundwater users in the Subbasin, within the sustainable limits of the Subbasin's resources. The GSP covers the entire Paso Robles Subbasin and was jointly developed by four Groundwater Sustainability Agencies (GSAs):

- City of Paso Robles GSA
- Paso Basin - County of San Luis Obispo GSA
- San Miguel Community Services District (CSD) GSA
- Shandon - San Juan Water District GSA

The GSAs submitted the first draft of the Paso Robles Subbasin GSP to the California Department of Water Resources (DWR) in January 2021. After a round of corrections, the GSP was resubmitted to DWR in June of 2022. In June of 2023 DWR approved the GSP[1] for the Salinas Valley Paso Robles Subbasin.

The Estrella-El Pomar-Creston Water District (EPCWD) was formed in 2017 and was indirectly involved in development of the GSP through participation in public comment. On June 6, 2023, the EPCWD officially became a GSA in the Paso Robles Subbasin. **Figure 1** shows the extent of the Paso Robles Subbasin and the location of the five GSAs.

The five GSA's collaborate and cost share under the terms of an MOA that established the Paso Basin Cooperative Committee (PBCC). To provide for consistent and effective communication among the GSAs, each GSA agreed to designate one PBCC member to conduct activities related to GSP development and SGMA implementation. Each PBCC Member represents their respective GSA in the development of a recommended GSP that will be considered for adoption by each

[1] The approved GSP can be viewed electronically via the Department of Water Resources (DWR): https://sgma.water.ca.gov/portal/gsp/preview/35

individual GSA and subsequently submitted to DWR for approval. Since approval of the GSP by DWR, the PBCC continues to work together to meet objectives outlined in the GSP. The GSA's are currently working to formalize a more permanent and centralized governance structure, that will likely be a JPA tasked with implementation of the GSP, including the collection and deployment of extraction fees.

1.3 Paso Robles Subbasin Annual Reports

Pursuant to SGMA and GSP regulations, Annual Reports have been prepared and submitted to DWR annually. The First Annual Report for the Paso Robles Area Subbasin of the Salinas Valley Groundwater Basin was filed in February 2020 for the years 2017-2019 and subsequent Annual Reports have been filed for 2020, 2021, 2022 and 2023.

The GSP Annual Reports contain information regarding the Subbasin, groundwater elevations, extractions, a summary of water use, changes in groundwater storage and present progress towards basin sustainability. Progress toward basin sustainability is dependent on GSAs implementing projects and actions.

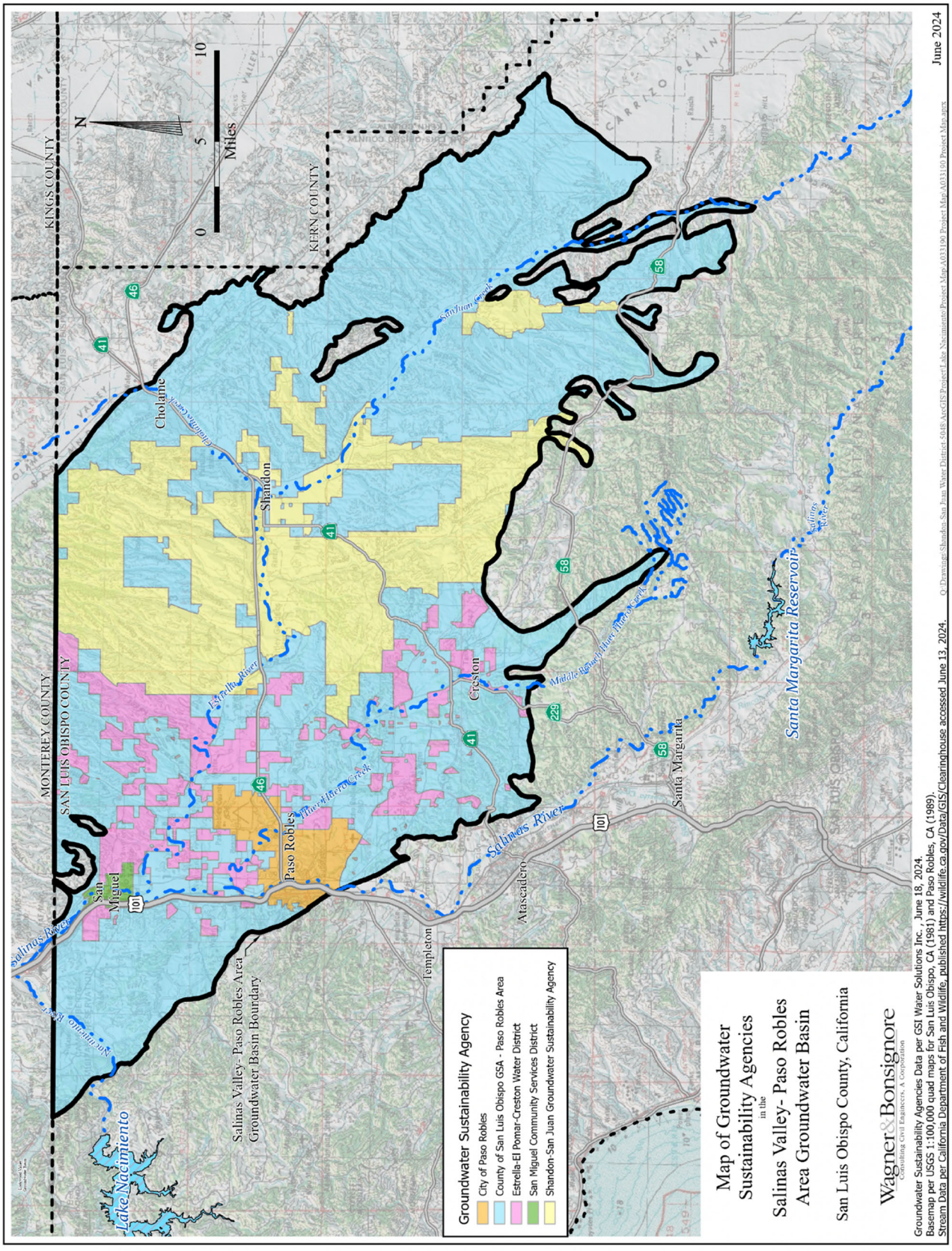


Figure 1. Map of Groundwater Sustainability Agencies

1.4 Shandon-San Juan Water District Application to Appropriate Water

To work towards achieving basin sustainability, the Shandon-San Juan Water District (SSJWD) is submitting water right Application(s) to divert unappropriated streamflow in the Salinas River Watershed for the purposes of recharging the Paso Robles Subbasin. These Application(s) are developed in an effort to create projects and meet basin wide goals pursuant to the GSP. Section(s) 9.3, *Basin-Wide Management Actions,* and Section 9.5, *Projects,* from the GSP reference the basis for these Applications.

Section 9.3 from the Paso Robles Subbasin GSP lists basin wide management actions, including promoting stormwater capture. Section 9.3.3 from the GSP describes stormwater capture in more details. Specifically, the Paso Robles Subbasin GSP states:

> *...stormwater capture activities involves recharge of unallocated storm flows. These actions require temporary diversions of storm flows from streams, and transport of those flows to recharge locations.*[2]

Section 9.5, Projects, from the Paso Robles Subbasin GSP lists projects to make new water supplies available to the Subbasin.

> *There are six potential sources of water for projects*[3]*:*
>
> 1. *Tertiary treated wastewater supplied and sold by City of Paso Robles and the San Miguel CSD to private groundwater extractors to use in lieu of groundwater. This water is commonly referred to as recycled water (RW).*
> 2. *State Water Project (SWP) water*
> 3. *Nacimiento Water Project (NWP) water*
> 4. *Salinas Dam/Santa Margarita Reservoir water*
> 5. *Local recycled water*
> 6. *Flood flows/stormwater from local rivers and streams*

On January 25, 2021 SSJWD submitted two water right Applications to the SWRCB for the purpose of capturing stormwater for groundwater recharge. Water Right Application A033189 is to divert 14,000 acre-feet per year (AFY) of unallocated Salinas River water from Santa Margarita Lake via a proposed pipeline to Huer Huero Creek for groundwater recharge and underground storage. Surface water diverted would be infiltrated to storage in the underlying Paso Robles Subbasin using the Huer Huero Creek streambed. Water stored underground would be extracted by overlying wells within the Subbasin for agricultural irrigation use within a 12-month period. A detailed description of this Project is provided below.

Water right Application A033190 is to divert 14,000 AFY of unallocated Salinas River water from Lake Nacimiento to the Nacimiento Pipeline to two proposed pipelines (Wellsona Road Pipeline and Creston Road Pipeline). Water diverted to the proposed pipelines would be conveyed to the Estrella River and Huer Huero Creek for groundwater recharge and underground storage for

[2] Paso Robles Subbasin GSP June 2022 Section 9.3.3 https://sgma.water.ca.gov/portal/gsp/preview/35
[3] Paso Robles Subbasin GSP June 2022 Section 9.5 https://sgma.water.ca.gov/portal/gsp/preview/35

agricultural irrigation use and stock watering within a 12-month period. A detailed description of this Project is included as Attachment No. 1 with Application A033190.

In summary, Salinas River watershed unallocated flood flows that normally would pass through Lake Nacimiento and Santa Margarita Lake during high flow events would be diverted and discharged into creek beds. The creek beds will act as groundwater "recharge facilities" to the underlying Paso Robles Subbasin. The recharged water would later be recovered for agricultural use in the Subbasin.

The concepts that formed the basis for the proposed Project are listed in the GSP as one of the basin wide management actions (Section 9.3) and also as a project (Section 9.5). The benefits of recharging the Paso Robles Subbasin with unallocated flood flows from this Project would be shared by all groundwater users within the Subbasin. SSJWD envisions that the remaining member GSAs will recognize the benefits of the proposed project and participate as stakeholders in developing the Project to completion.

In conjunction with the Applications to appropriate water, SSJWD submitted filing fees in the amount of $421,700.00 to the SWRCB ($210,850.00 per Application).

1.5 Shandon-San Juan Vision Statement

The Shandon-San Juan District, as a Groundwater Sustainability Agency working in partnership with the County of San Luis Obispo, City of Paso Robles, San Miguel Community Services District and the Estrella-El Pomar-Creston Water District, envisages its applications for supplemental water to play a significant role in meeting the sustainability requirements of SGMA. The District ultimately desires and intends that their water right applications benefit everyone in the Paso Robles Groundwater Subbasin. Ultimately, the construction and implementation of this recharge project will best achieve their vision if it becomes a joint project of the five GSA's, or their Joint Powers Authority, which is currently under discussion.

2 APPLICATION A033189 PROJECT DESCRIPTION

Shandon-San Juan Water District (SSJWD) is applying to divert up to 14,000 AFY of flood flows from the Salinas River in San Luis Obispo County from Santa Margarita Lake to underground storage during the period January 1 through May 14. SSJWD would divert "flood flows" or unappropriated water that otherwise would be released from Salinas Dam during high flow events. SSJWD would construct a pipeline at Santa Margarita Lake[4] whereby SSJWD conveys surface flows to underground storage from Santa Margarita Lake to Huer Huero Creek, where the water will infiltrate into the underlying Paso Robles Subbasin for groundwater storage. The diverted surface flows would recharge the underlying Paso Robles Subbasin basin via percolation in the stream channel. The region within Huer Huero Creek selected for recharge is identified as having high recharge rates, and it is in an area where the aquifer is depleted. Additional details about the groundwater storage component of the Project can be found in the Underground Storage Supplement (USS)—see Attachment 2.

A preliminary seasonal analysis of select high flow years demonstrates water is available for the Project (See Attachment 3—Water Availability Analysis (WAA)). In 1993, 1995, 1997, 1998, 2005, 2006, 2011 and 2023 the full 14,000 AF of water is potentially available seasonally for diversion to underground storage after all other senior water demands in the Salinas River below Salinas Dam have been met.

Water stored underground would be extracted by overlying permitted wells within the Subbasin for agricultural irrigation use within a 12-month period for the purposes of meeting agricultural irrigation demands. Table 1 shows groundwater extractions by water use sector for the Paso Robles Subbasin for the period 2017 through 2023. Agricultural groundwater use within the subbasin exceeds the proposed maximum amount of water that would be diverted to underground storage in a season.

[4] Maps displaying the contour and area capacity curve for Santa Margarita Reservoir (Salinas Dam) are on file with the SWRCB- Division of Water Rights under application number A010216.

Table 1. Groundwater Extractions from Paso Robles Subbasin
Water Year 2023 Annual Report

Water Year	Groundwater Extractions by Water Use Sector			Total (AF)
	Municipal PWS (AF)	Small PWS, Golf and Rural Domestic (AF)	Agriculture (AF)	
2017	1,626	3,313	65,300	70,200
2018	1,677	4,445	80,200	86,300
2019	1,729	3,553	68,800	74,100
2020	1,509	4,477	72,600	78,600
2021	1,553	5,052	74,800	81,400
2022	1,982	4,332	76,900	83,200
2023	1,134	3,053	59,600	63,800
Method of Measure:	Metered	2016 Groundwater Model, varied by water year type	OpenET	–
Level of Accuracy:	high	low-medium	medium	–

Notes

– = not applicable

AF = acre-feet

PWS = public water system

Source:
Table ES-1 from FINAL Paso Robles Subbasin Water Year 2023 Annual Report (GSI Water Solutions, Inc. 2024) https://www.slocounty.ca.gov/departments/groundwater-sustainability/forms-documents/paso-robles-groundwater-basin/annual-reports/wy-2023-gsp-annual-report/final-annual-report-dwr-submittal/paso-subbasin-wy-2023-ar_final_complete

SSJWD relies solely on groundwater to meet its irrigation demands. An estimate of annual agricultural water demands by crop type and sub area are summarized in **Table 2.** SSJWD annual water demands exceed the proposed maximum amount of water that would be diverted to underground storage in a season.

Table 2. Annual SSJWD Agricultural Water Demands

Subbasin	Crop	Acres	Crop Duty (AFA)	Water Demand (AFY)	Irrigation Method
San Juan	alfalfa	465	4.5	2,092.5	sprinkler
	citrus	8	2.3	18.4	drip
	pasture	562	4.8	2,697.6	sprinkler
	vegetables	717	2.5	1,792.5	sprinkler
	wine grapes	3,597	1.5	5,395.5	drip
San Juan Total		**5,349**		**11,996.5**	
Shandon	alfalfa	139	4.5	625.5	sprinkler
	citrus	19	2.3	43.7	drip
	deciduous	2	3.5	7.0	drip
	nursery	44	2.5	110.0	drip
	pasture	144	4.8	691.2	sprinkler
	table grapes	1,114	3.5	3,899.0	drip
	vegetables	796	2.5	1,990.0	sprinkler
	wine grapes	5,011	1.5	7,516.5	drip
Shandon Total		**7,269**		**14,882.9**	
Shandon San Juan Total		**12,618**		**26,879.4**	

Source: SSJWD

3 RIGHT OF ACCESS

SSJWD does not own any of the land where water will be diverted, transported or recharged. The following elements of the Project will require access.

3.1 Santa Margarita Reservoir and Salinas Dam

Salinas Dam is owned by the United States Army Corps of Engineers (USACE), which jointly holds Santa Margarita Reservoir water rights permits with the City of San Luis Obispo (City of SLO). The USACE leases the dam to the San Luis Obispo Flood Control District, who oversees its operation and maintenance, including water delivery to the City of SLO (Paso Robles Subbasin WY 2023 Annual Report, GSI Water Solutions). To construct the facilities needed to divert excess flows from Santa Margarita Reservoir to a nearby site for groundwater recharge, access would need to be obtained from USACE and possibly San Luis Obispo Flood Control District. SSJWD Board Members Matthew Turrentine and Steve Sinton are conducting outreach with San Luis Obispo County Board of Supervisors and the Flood Control District. The project description and details are being conveyed to local decision makers. **See Exhibit 1** *SSJWD Letter to SWRCB re: Application A033189 and Application A033190.*

3.2 Santa Margarita Reservoir Pipeline & Huer Huero Creek Recharge Facilities

In order to construct a pipeline from Santa Margarita Reservoir to the proposed Huer Huero Creek recharge site, SSJWD will need to gain right of access or easements from all land owners whose parcels are potentially affected by the proposed pipeline and groundwater recharge site.

Figure 2, *Map of Impacted Parcels,* shows the proposed pipeline alignment and all parcels potentially affected. **Exhibit 2,** *Potentially Impacted Parcels,* is a detailed summary of all potentially affected landowners including their APNs, and mailing information. SSJWD will take the following steps to gain right of access or easements to the parcels:

1. Notify landowner via certified mail to negotiate right of access.
2. SSJWD intends to agendize regular board meetings to discuss potential pipeline alignments to minimize landowner impacts, garner support and to minimize potential landowner impacts from proposed pipeline alignment, installation and operations.

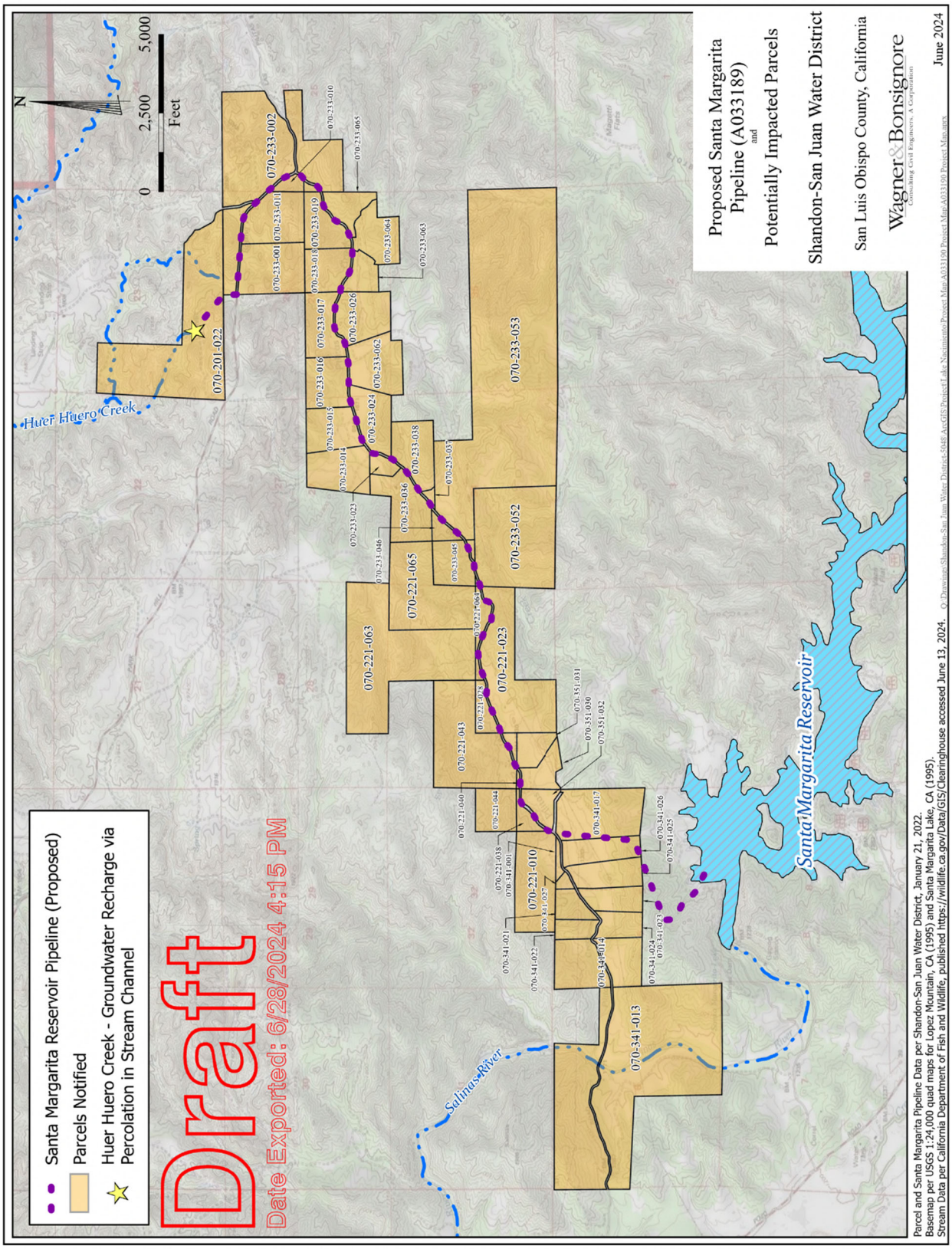


Figure 2. Map of Impacted Parcels

Exhibit 1. SSJWD Letter to SWRCB re: Application A033189 and Application A033190

SHANDON-SAN JUAN WATER DISTRICT
SHANDON-SAN JUAN GSA

July 24, 2024

Mr. Greg Brown
Mr. Mike Conway
State Water Resources Control Board
Division of Water Rights
P.O. Box 2000, Sacramento, CA 95812-2000
(Sent electronically)

SUBJECT: Application A033189 and Application A033190

Dear Mr. Brown and Mr. Conway:

The Shandon San Juan Water District (District) provides the following information and updates in response to your review of the District's above referenced application wherein you stated that our District needs to provide written documentation regarding steps the District is taking to show we are working on obtaining access to the facilities where we are proposing to divert water to underground storage. The District has identified the following agencies associated with the Salinas Dam: United States Army Corps of Engineers (Corps), the City of San Luis Obispo (City) and the San Luis Obispo County Flood Control and Water Conservation District (County). Representative Board Members from the District have been conducting outreach to these agencies with the goal of reaching formal agreements granting access to the facilities. A list of steps the District has undertaken is outlined below.

1. District Resolution in Support of Underground Storage Project and Water Right Applications

On July 24, 2024 Shandon San Juan Water District approved a formal resolution in support of taking all necessary steps to secure access to facilities needed to support and complete its recharge projects in the Paso Robles Subbasin in an effort to meet the goals and objectives of the Groundwater Sustainability Plan.

2. District outreach with Public Agencies

a. July 9, 2024 meeting with City of San Luis Obispo

At a July 9 meeting with two District Board members and staff from the City of San Luis Obispo regarding the District's application for water from the Salinas at the Salinas Dam, City staff expressed appreciation for the clarification provided on the project. City Staff emphasized that their primary concern is that the District's

project not impair the City's prior water rights in any way, such as reducing late season surface flows in the Salinas between the dam and the confluence with the Nacimiento. While none of us could identify how this might be possible, we agreed this issue could probably only be resolved to the satisfaction of the City through a study. It was also discussed that if the District's application resulted in more water in the Paso Basin, the draw of water away from the Salinas surface flow might be reduced, thereby extending the period of time when the City could store water. This possibility would logically be addressed in the same study, which the District will pursue.

The Corps has leased operation of the dam to the County for the benefit of the City. The City has existing water rights for 45,000 acre-feet of storage (the Salinas Dam currently only stores under 24,000 acre-feet). The Salinas Dam is not a designated flood control facility and the Corps is currently investigating the feasibility of transferring ownership to the City or County, both of which are investigating the installation of spillway gates in increase the capacity of the dam to about 45,000 acre-feet and a dam retrofit to meet seismic safety requirements.

At the July 9th meeting, the City staff specifically expressed their desire to be collaborative with regard to water management throughout the County, recognizing its significant role in the Paso Basin's efforts to achieve sustainability. However, City staff stated that they were not comfortable with the legal risks associated with making any public statements in the near future regarding the District's application.

b. July 18, 2024 meeting with San Luis Obispo County Supervisors and Staff

On July 18, 2024, two board members of the Shandon-San Juan Water District (District) met with two County Supervisors and six County staff members invited by those supervisors to review and discuss the District's two water rights applications. After the District representatives explained the history of making the applications and the intent that the supplemental water help address the need to bring the Paso Basin into sustainability under SGMA, there were questions for clarification. Following that, County staff expressed its feeling that the City of San Luis Obispo was a key interested party and that the County would need to include the City in all its decision making. Notwithstanding that, County staff also expressed the opinion that supplemental water from the District's applications would benefit the Paso Basin and help meet the requirements of SGMA.

One Supervisor expressed the opinion that these applications were consistent with the blended treated wastewater reuse projects of the cities of Paso Robles and San Luis Obispo that were to help meet the local Groundwater Sustainability Plans and "needed to happen". Both the Supervisors and staff expressed a desire that the County, City and District schedule a joint meeting with the State Water Resources Control Board staff to explain concerns and make sure State staff thoroughly understood what each party's issues were in order for the District's applications to ultimately be approved.

County staff reported at the July 18th meeting that the Corps has repeatedly expressed a strong desire for the Salinas Dam to be transferred to a local governmental entity, presumably the County or the County Flood Control and Water Conservation District (governed by the Supervisors). The County met with the Corps in March of 2024 and described the meeting as "positive" and "fruitful" for the transfer of ownership but following that the Corps was unresponsive to further County inquiries. Staff changes at the Corps were believed to be a major reason for the lack of responses, but County staff remain confident that the transfer will eventually go through.

Another issue raised by one Supervisor at the July 18th meeting was the concern about who might retain ownership of the supplemental water. The District explained that the applications intend that the water diverted would be the first water extracted, so while there is no intent to relinquish rights to return flows there would be no water from the applications remaining in the Paso Basin at the end of a year. This appeared to satisfy the Supervisor, subject to confirmation at a later date.

At the end of the July 18th meeting with the County, it was agreed that the County would next work to set up a meeting with the District and City officials to continue this dialog. That would then be followed by a request to meet with SWRCB staff. The Supervisors appeared willing to revisit the County's letter of opposition to the District's applications in the near future, as the Board membership has changed since the letter was adopted. One Supervisor stated that the District's applications needed "to go through" at this point in order to provide adequate time for the key parties, including all the GSAs, to collaboratively work through the applications and other opportunities for supplemental water, included treated wastewater, State Water Project water and expanding the Salinas Dam.

3. District Outreach with Landowners

The District has conducted some outreach with local landowners and received a letter of support from a local landowner whose property is adjacent to one of the sites that has been identified for groundwater recharge associated with Application A033190. The owner has provided a letter of support as well as stated he is willing to enter into an agreement with the District granting access to his right-of-way as well as his property for purposes of constructing necessary facilities to divert storm flows for recharge. While this agreement is specific to A033190 the District is committed to reaching similar agreements with landowners and other interested parties to seek consensus and cooperation with its efforts to secure supplemental water for the Paso Robles Subbasin.

4. Legal Options to Obtain Access

If cooperation does not eventually result in permissive access, our Board will rely upon the letter dated July 2, 2024 from our legal counsel regarding authority to access to Nacimiento Reservoir and Pipeline, including Regulation § 775 (Right of Access Over Lands Not Owned by Applicant) provides that, "When the owner will not consent, the board may require satisfactory evidence of the applicant's ability through condemnation proceedings or otherwise to secure the necessary right of access before the application will be approved."

Since the Corps does not operate the Salinas Dam and does not have retained flood control authority, and since the authority over the dam is reasonably expected to be transferred to local authority, the District does not need to exercise powers of condemnation against the Corps.

The Shandon-San Juan Water District is a California Water District (Water Code Sections 34000 *et seq*.) and as such has the ability through condemnation proceedings to secure the necessary right of access. Under section 35407, a District may commence and maintain any actions and proceedings to carry out its purposes or protect its interests and may defend any action or proceeding brought against it. That includes, under sections 35600 and 35627, actions to condemn interest in real property using the

District's power of eminent domain. The District has the authority to condemn property even if it is already dedicated to a public use. (CCP § 1240.510).

Furthermore, under California Water Code section 1810 et seq., commonly referred to as the Wheeling Statutes, public agencies are prohibited from making unused capacity within their conveyance systems unavailable to others, subject to payment of fair compensation of such use. Conveyance systems include facilities that provide for temporary storage of the water to be conveyed. Therefore, pursuant to the Wheeling Statutes, the County and City would be required by California law to accommodate the District's need to move water through Salinas Dam facilities to transfer the water that is the subject of the District's permit.

Based on the foregoing the District has the ability to secure the necessary right of access as required by Regulation §775. Notwithstanding the legal authorities outlined above that would compel access to the Salinas Dam facilities, the District is committed to acquiring access through outreach and negotiations. Also, notwithstanding the County's letter of opposition, the District believes that changes in the members of the Board of Supervisors will eventually result in the withdrawal of that opposition. That opinion is based on earlier meetings of District Board members with each of the current Supervisors. The District believes that there will be opportunities for the District, County and City to work together to improve facilities and share expenses to their mutual benefit. In that same spirit of cooperation, both the City and County have expressed interest in the District eventually participating financially in the installation of the Salinas Dam gates and sharing in the increased availability of stored water.

While the deadline for acceptance of the District's applications is less than a week away, we conclude that all parties are now committed to continue working together on a variety of solutions to the Paso Robles Groundwater Basin sustainability issues, including our efforts to secure unappropriated water from the Salinas and Nacimiento watersheds.

Sincerely,

Willy Cunha
Chairman

Attachments: July 24, 2024 Shandon-San Juan Water District Resolution 24-002
July 2, 2024 Letter from SSJWD Legal Counsel, Young Wooldridge
July 9, 2024 Letter from Jon & Samantha Cagliero
Map – Cagliero Property, Cagliero Easement-Welsona Road

Cc: Diane Wagner, Wagner & Bonsignore
Alan Doud, Young Wooldridge

SHANDON-SAN JUAN WATER DISTRICT
SHANDON-SAN JUAN GROUNDWATER SUSTAINABILITY AGENCY

RESOLUTION 24-002
SECURING ACCESS FROM PROPERTY OWNERS AT ALL LOCATIONS WHERE DISTRICT INFRASTRUCTURE IS NEEDED
WATER RIGHTS APPLICATIONS A331189 and A331190

RECITALS:

1. The Shandon-San Juan Water District has applied for water rights on the Nacimiento and Salinas Rivers.
2. In order to secure access to the water for which the District has applied, it will be necessary to first secure access from the owners of the property and facilities at all locations where District infrastructure is required.

NOW, THEREFORE, THE BOARD OF DIRECTORS OF SHANDON-SAN JUAN WATER DISTRICT does hereby resolve, declare and order as follows:

1. The District is committed to engage with landowners and owners of facilities to cooperatively obtain access to all locations necessary to implement the projects contemplated under water rights applications A331189 and A331190.
2. To improve communications with landowners, facility owners and the public, the District will share all relevant information and plans related to its water rights applications with the public, San Luis Obispo County, Monterey County, City of San Luis Obispo and its partner GSAs.
3. The District will take all steps necessary to secure access to facilities needed to support and complete its recharge projects in the Paso Robles Groundwater subbasin and support and engage in other recharge projects that will help meet the goals and objectives of the Groundwater Sustainability Plan.

All the foregoing being on motion of Director Sinton, seconded by Director Shady, and authorized by the following vote, to wit:

AYES: 5

NOES: 0

ABSTAIN: 0

ABSENT: 0

I HEREBY CERTIFY that the foregoing resolution is the resolution of said District as duly passed and adopted by said Board of Directors on July 24, 2024.

WITNESS my hand of said Board of Directors, July 24, 2024.

S. Bertoux

Stephanie Bertoux
Secretary of the Board of Directors

THE LAW OFFICES OF

Young Wooldridge

A Limited Liability Partnership • Est. 1939

July 2, 2024

Via email to: ssinton@ssjwd.org

Mr. Steve Sinton
Director
Shandon-San Juan Water District

Re: Authority to Access Nacimiento Reservoir and Pipeline

Dear Mr. Sinton:

This responds to your request for information concerning the Shandon-San Juan Water District's ability to secure access to the Nacimiento Pipeline and use available capacity in the Pipeline and the Nacimiento Reservoir. This information is needed in connection with the District's Water Right Application A033190.

The District is informed that its application includes as a deficiency that the District has not provided in writing that it has secure the access rights required under 23 CCR § 775. Specifically, the District is instructed to obtain and provide written documentation from the Monterey County Water Resources Agency (MCWRA) of its willingness to engage in access negotiations.

You have informed us that MCRWA has made it abundantly clear that if any unappropriated water exists in the Nacimiento watershed that it wants that water for itself. You have also informed us that while the District has had discussions with some of MCWRA's board members and staff, as well as a Monterey County Supervisor, and is committed to continue to engage in discussions regarding the unappropriated water that is the subject of the District's application, it is apparent that the MCWRA is not going to make written commitment to allow the District to use its facilities.

23 CCR § 775 provides that, "When the owner will not consent, the board may require satisfactory evidence of the applicant's ability through condemnation proceedings or otherwise to secure the necessary right of access before the application will be approved."

The District is a California Water District for and existing pursuant to Water Code Section 34000 *et seq*. As such, the District has the ability through condemnation proceedings to secure the necessary right of access.

Under section 35407, a District may commence and maintain any actions and proceedings to carry out its purposes or protect its interests and may defend any action or proceeding brought against it. That includes, under sections 35600 and 35627, actions to condemn interest in real property using the District's power of eminent domain. The District can attempt to condemn property even if it is already dedicated to a public use. (CCP § 1240.510).

Further, under California Water Code section 1810 *et seq*., commonly referred to as the Wheeling Statutes, public agencies are prohibited from making unused capacity within their conveyance systems unavailable to others, subject to payment of fair compensation of such use. Conveyance systems include facilities that provide for temporary storage of the water to be conveyed. Therefore, the Wheeling Statutes could be invoked to accommodate the District's need to move water through MCWRA's facilities to transfer the water that is the subject of the District's application. These same legal authorities are applicable to the owners and operators of the Nacimiento Pipeline, which include the Nacimiento Project Commission, governed by the San Luis Obispo County Flood Control and Water Conservation District, City of Paso Robles, Templeton Community Services District, Atascadero Mutual Water Company and City of San Luis Obispo.

The foregoing present options for securing necessary access rights to the District as required by 23 CCR §775. Notwithstanding the legal authorities outlined above that could compel access to the Nacimiento facilities, we are informed that the District is committed to acquiring access through outreach and negotiations, and that the District intends for there to be opportunities for the District and MCWRA to work together to improve facilities and share expenses to their mutual benefit. We remain available to assist the District in these discussions.

Very truly yours,

Alan F. Doud

Cagliero Vineyards, Inc. &
Cagliero Ranches, Inc
8625 North River Road
Paso Robles, CA 93446

To: Shandon-San Juan Water District

My name is Jon Cagliero and I own ranch and farming property within the Paso Robles Groundwater Basin (the Basin). I am familiar with the efforts of the Shandon-San Juan Water District (District) to secure supplemental water for the Basin from the Nacimiento and Salinas rivers and understand that one identified potential recharge site lies within the boundaries of my property. I support the efforts of the District to recharge the basin and am willing to work with the District to complete facilities needed to implement its recharge efforts.

I own a 60' right of way from Wellsona Road (a San Luis Obispo County road) to my ranch. Wellsona Road, which used to cross the Salinas River, currently goes east from North River Road (which runs along the east side of the Salinas River) for about 2.4 miles to Airport Road. My right of way begins approximately .9 miles east of North River Road (at 35° 41'44.8"; 120° 39'53") and goes north for about ½ mile (to 35° 42'12"; 120° 39'53") to the ranch. From there, my ranch goes continuously north and east and crosses the Estrella River. I have included a map of my ranch and easement for your reference.

I am interested in allowing the Shandon-San Juan Water District to use this right of way as well as to cross my property to reach the Estrella River recharge area Site #1 with a pipeline or other appropriate conveyance facility. I believe this recharge project will benefit me personally and all the water users of the Basin in general.

Sincerely,

Jon Cagliero DATE: July 9, 2024

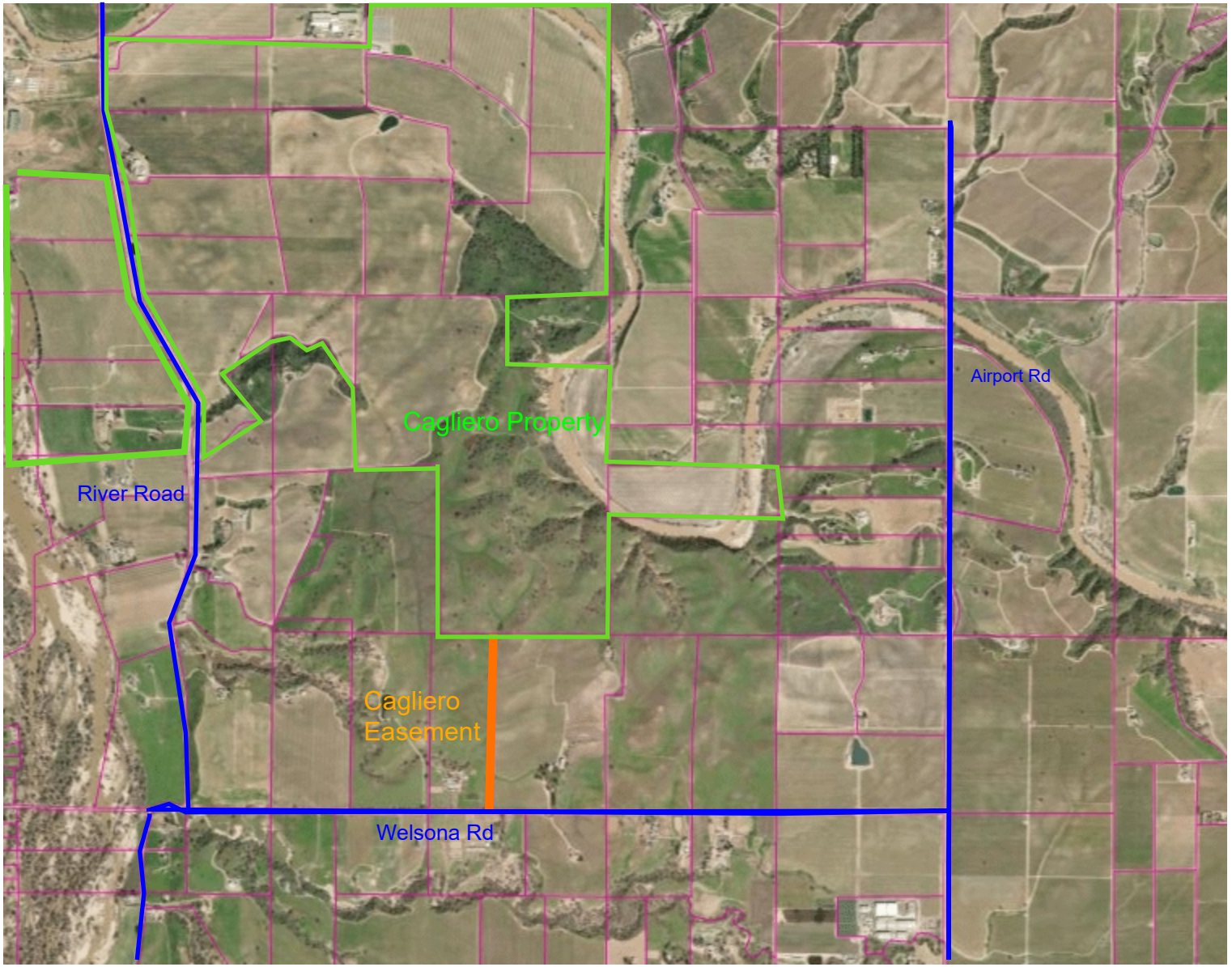
Jon Cagliero

Samantha Cagliero DATE: July 9, 2024

Samantha Cagliero

Department of Planning & Building

Interactive Data Viewer



Legend

- SLO County Parcels
- City Limits
- SLO County Boundary

-6,018.65 0 3,009.33 6,018.65 Feet 1: 36,112

WGS_1984_Web_Mercator_Auxiliary_Sphere

Exhibit 2. Potentially Impacted Parcels

Potentially Impacted Parcels for Application A033189
Santa Margarita Pipeline

List Number	Assessor Parcel Number (APN)	Parcel Size (Acres)	Owner Name	Property Address	Mailing Address
1	070-221-063	204.55	USTIN ERIK FK	None	2301 SHIRE LN, DAVIS, CA 95616
2	070-221-038	9.75	ANSLEY SANDRA L	4550 LAS PILITAS RD, SANTA MARGARITA, CA 93453	4550 LAS PILITAS RD, SANTA MARGARITA, CA 93453
3	070-341-014	79.17	DEERING JANAE	4922 LAS PILITAS RD, SANTA MARGARITA, CA 93453	PO BOX 426, SANTA MARGARITA, CA 93453
4	070-341-014	79.17	DEERING JANAE	4922 LAS PILITAS RD, SANTA MARGARITA, CA 93453	PO BOX 426, SANTA MARGARITA, CA 93453
5	070-351-031	20.9	TREISE J CARL	4555 LAS PILITAS RD, SANTA MARGARITA, CA 93453	PO BOX 1492, SLO, CA 93406
6	070-201-022	215.74	JH PRESLEY CO GENERAL CONTRS	3610 PARKHILL RD, SANTA MARGARITA, CA 93453	STAR RT BOX 24 B, SANTA MARGARITA, CA 93453
7	070-233-015	40.77	SEVERTSON PAUL & SUSAN SCHAFER 2018 TRUST	3560 LAS PILITAS RD, SANTA MARGARITA, CA 93453	3570 LAS PILITAS RD, SANTA MARGARITA, CA 93453
8	070-351-030	22.76	TREISE CARL J	None	PO BOX 1492, SLO, CA 93406
9	070-221-044	33.23	WENDORFF TIMOTHY J TRE ETAL	4490 LAS PILITAS RD, SANTA MARGARITA, CA 93453	8570 CASANOVA, ATASCADERO, CA 93422
10	070-233-019	33.61	HEWITT-TURNER TRUST	3040 LAS PILITAS RD, SANTA MARGARITA, CA 93453	114 S FREMONT ST, SAN MATEO, CA 94401
11	070-221-010	78.24	PARSONS BERENICE TRUST	4680 LAS PILITAS RD, SANTA MARGARITA, CA 93453	PO BOX 238, SANTA MARGARITA, CA 93453
12	070-233-014	49.26	PARSONS FAMILY TRUST - SURVIVORS TRUST	3610 LAS PILITAS RD, SANTA MARGARITA, CA 93453	3610 LAS PILITAS RD, SANTA MARGARITA, CA 93453
13	070-233-024	39.73	HUNTER SHARON A	3595 LAS PILITAS RD, SANTA MARGARITA, CA 93453	3595 LAS PILITAS, SANTA MARGARITA, CA 93453
14	070-221-064	13.27	USTIN ERIK FK	4044 LAS PILITAS RD, SANTA MARGARITA, CA 93453	2301 SHIRE LN, DAVIS, CA 95616
15	070-233-046	8.98	THOMPSON BEVERLY L LIVING TRUST	None	3700 LAS PILITAS RD, SANTA MARGARITA, CA 93453
16	070-221-023	116.43	KAHLER ALBERT & MARGARET FAMILY TRUST	4230 LAS PILITAS RD, SANTA MARGARITA, CA 93453	6629 N FERGER AVE, FRESNO, CA 93704
17	070-233-045	34.59	USTIN ERIK FK	None	2301 SHIRE LN, DAVIS, CA 95616

Potentially Impacted Parcels for Application A033189
Santa Margarita Pipeline

List Number	Assessor Parcel Number (APN)	Parcel Size (Acres)	Owner Name	Property Address	Mailing Address
18	070-233-045	34.59	USTIN ERIK FK	None	2301 SHIRE LN, DAVIS, CA 95616
19	070-351-032	18.85	TREISE CARL J	4550 VISTA DEL LAGO PL, SANTA MARGARITA, CA 93453	PO BOX 1492, SLO, CA 93406
20	070-221-028	15.02	DECOU BABETTE C	4382 LAS PILITAS RD, SANTA MARGARITA, CA 93453	6705 SANTA LUCIA RD, ATASCADERO, CA 93422
21	070-341-026	35.21	LOPEZ DONALD	4749 LAS PILITAS RD, SANTA MARGARITA, CA 93453	4749 LAS PILITAS RD, SANTA MARGARITA, CA 93453
22	070-233-052	154	PARSONS FAMILY TRUST-SURVIVORS TRUST	3993 LAS PILITAS RD, SANTA MARGARITA, CA 93453	3610 LAS PILITAS RD, SANTA MARGARITA, CA 93453
23	070-233-052	154	PARSONS FAMILY TRUST-SURVIVORS TRUST	3993 LAS PILITAS RD, SANTA MARGARITA, CA 93453	3610 LAS PILITAS RD, SANTA MARGARITA, CA 93453
24	070-221-043	126.67	YANT VIRGINIA L REVOCABLE LIVING TRUST	4420 LAS PILITAS RD, SANTA MARGARITA, CA 93453	4440 LAS PILITAS RD, SANTA MARGARITA, CA 93453
25	070-221-043	126.67	YANT VIRGINIA L REVOCABLE LIVING TRUST	4420 LAS PILITAS RD, SANTA MARGARITA, CA 93453	4440 LAS PILITAS RD, SANTA MARGARITA, CA 93453
26	070-233-023	9.48	THOMPSON BEVERLY L LIVING TRUST	3700 LAS PILITAS RD, SANTA MARGARITA, CA 93453	3700 LAS PILITAS RD, SANTA MARGARITA, CA 93453
27	070-233-062	52.89	JOHN GEORGETTE A	3285 LAS PILITAS RD, SANTA MARGARITA, CA 93453	3333 LAS PILITAS RD, SANTA MARGARITA, CA 93453
28	070-233-011	53.35	HAYES DANIEL G	3151 PARKHILL RD, SANTA MARGARITA, CA 93453	914 CENTRAL AVE, ALAMEDA, CA 94501
29	070-341-017	79.3	ZEM LLC A CA LLC	4635 LAS PILITAS RD, SANTA MARGARITA, CA 93453	304 DORSEY CT, PASO ROBLES, CA 93446
30	070-233-017	39.97	WILSON BERT A & CELESTE F REV LVG TR-EXEMPTION TR	3232 LAS PILITAS RD, SANTA MARGARITA, CA 93453	3232 LAS PILITAS RD, SANTA MARGARITA, CA 93453
31	070-341-023	26.41	LARSEN PILITAS TRUST	4785 LAS PILITAS RD, SANTA MARGARITA, CA 93453	4785 LAS PILITAS RD, SANTA MARGARITA, CA 93453
32	070-233-038	45.33	TREJO STEVAN J	3651 LAS PILITAS RD, SANTA MARGARITA, CA 93453	3651 LAS PILITAS RD, SANTA MARGARITA, CA 93453
33	070-233-002	182.13	BUNDY CARL A TRUST	2880 PARKHILL RD, SANTA MARGARITA, CA 93453	2880 PARKHILL RD, SANTA MARGARITA, CA 93453
34	070-233-002	182.13	BUNDY CARL A TRUST	2880 PARKHILL RD, SANTA MARGARITA, CA 93453	2880 PARKHILL RD, SANTA MARGARITA, CA 93453

Potentially Impacted Parcels for Application A033189
Santa Margarita Pipeline

List Number	Assessor Parcel Number (APN)	Parcel Size (Acres)	Owner Name	Property Address	Mailing Address
35	070-233-002	182.13	BUNDY CARL A TRUST	2880 PARKHILL RD, SANTA MARGARITA, CA 93453	2880 PARKHILL RD, SANTA MARGARITA, CA 93453
36	070-233-018	34.73	HETRICK GERALDINE J LIVING TRUST	3130 LAS PILITAS RD, SANTA MARGARITA, CA 93453	3130 LAS PILITAS RD, SANTA MARGARITA, CA 93453
37	070-233-065	24.14	HOLT ELIZABETH S	3055 LAS PILITAS RD, SANTA MARGARITA, CA 93453	PO BOX 900, SANTA MARGARITA, CA 93453
38	070-341-024	21.84	GEARHART RICHARD & LINDA FAMILY TRUST	4825 LAS PILITAS RD, SANTA MARGARITA, CA 93453	4825 LAS PILITAS RD, SANTA MARGARITA, CA 93453
39	070-221-040	1.04	YANT VIRGINIA L REVOCABLE LIVING TRUST	4440 LAS PILITAS RD, SANTA MARGARITA, CA 93453	4440 LAS PILITAS RD, SANTA MARGARITA, CA 93453
40	070-341-027	4.01	HORNER JOHN R	4730 LAS PILITAS RD, SANTA MARGARITA, CA 93453	4730 LAS PILITAS RD, SANTA MARGARITA, CA 93453
41	070-233-036	52.96	THOMPSON BEVERLY L LIVING TRUST	3700 LAS PILITAS RD, SANTA MARGARITA, CA 93453	3700 LAS PILITAS RD, SANTA MARGARITA, CA 93453
42	070-233-064	40.01	HOLT ELIZABETH S	3075 LAS PILITAS RD, SANTA MARGARITA, CA 93453	PO BOX 900, SANTA MARGARITA, CA 93453
43	070-341-001	3.96	PARSONS BERENICE TRUST	4670 LAS PILITAS RD, SANTA MARGARITA, CA 93453	PO BOX 238, SANTA MARGARITA, CA 93453
44	070-233-001	89.33	PECK & ANDREWS FAMILY TRUST	3130 PARKHILL RD, SANTA MARGARITA, CA 93453	2490 W POZO RD, SANTA MARGARITA, CA 93453
45	070-233-001	89.33	PECK & ANDREWS FAMILY TRUST	3130 PARKHILL RD, SANTA MARGARITA, CA 93453	2490 W POZO RD, SANTA MARGARITA, CA 93453
46	070-233-016	40.15	JACKSON ERIC L	3540 LAS PILITAS RD, SANTA MARGARITA, CA 93453	2819 WEDGWOOD DR, PASO ROBLES, CA 93446
47	070-341-013	428.41	HOBSON BROTHERS PACKING COMPANY LLC	5020 LAS PILITAS RD, SANTA MARGARITA, CA 93453	PO BOX 25010, VENTURA, CA 93002
48	070-341-013	428.41	HOBSON BROTHERS PACKING COMPANY LLC	5020 LAS PILITAS RD, SANTA MARGARITA, CA 93453	PO BOX 25010, VENTURA, CA 93002
49	070-233-063	20.72	HOLT ELIZABETH S	3085 LAS PILITAS RD, SANTA MARGARITA, CA 93453	PO BOX 900, SANTA MARGARITA, CA 93453
50	070-233-037	2.58	WAGNER RICHARD & AUDIE	None	870 MORNINGSIDE DR #G221, FULLERTON, CA 92835
51	070-341-025	35.59	BORBA ROBERT J & VERONICA J FAMILY REVOCABLE TRUST	4755 LAS PILITAS RD, SANTA MARGARITA, CA 93453	4755 LAS PILITAS RD, SANTA MARGARITA, CA 93453

Potentially Impacted Parcels for Application A033189
Santa Margarita Pipeline

List Number	Assessor Parcel Number (APN)	Parcel Size (Acres)	Owner Name	Property Address	Mailing Address
52	070-341-021	17.71	HUDSON CYRIL S JR & CYNTHIA L REVOCABLE LIVING TR	4770 LAS PILITAS RD, SANTA MARGARITA, CA 93453	4770 LAS PILITAS RD, SANTA MARGARITA, CA 93453
53	070-233-010	7.6	CLARK BROOK	3095 PARKHILL RD, SANTA MARGARITA, CA 93453	3130 LAS PILITAS RD, SANTA MARGARITA, CA 93453
54	070-233-026	47.28	WILSON BERT A & CELESTE F REVOC LVG TR-SURVIVORS T	3253 LAS PILITAS RD, SANTA MARGARITA, CA 93453	3232 LAS PILITAS RD, SANTA MARGARITA, CA 93453
55	070-233-053	557.52	WAGNER RICHARD E	3851 LAS PILITAS RD, SANTA MARGARITA, CA 93453	870 MORNINGSIDE DR #G221, FULLERTON, CA 92835
56	070-221-065	107.63	USTIN ERIK FK	None	2301 SHIRE LN, DAVIS, CA 95616
57	070-341-022	15.05	LUNDBERG JOHN E III	4830 LAS PILITAS RD, SANTA MARGARITA, CA 93453	PO BOX 622, SANTA MARGARITA, CA 93453

Linda S. Adams
Acting Secretary for
Environmental Protection

State Water Resources Control Board

Division of Water Rights

1001 I Street • Sacramento, California 95814• (916) 341-5300
Mailing Address: P.O. Box 2000 • Sacramento, California • 95812-2000
FAX (916) 341-5400 • http://www.waterboards.ca.gov/waterrights

Edmund G. Brown Jr.
Governor

APPLICATION NO. _____
(Leave blank)

UNDERGROUND STORAGE SUPPLEMENT TO APPLICATION TO APPROPRIATE WATER BY PERMIT

1. State amount of water to be diverted to underground storage from each point of diversion in item 3b of form APP.

a. Maximum Rate of diversions (1) 98 cfs (2)_____(3)_____cfs
b. Maximum Annual Amount (1) 14,000 (2)_____(3)_____acre-feet

2. Describe any works used to divert to offstream spreading grounds or injection wells not identified in item 7 of form APP.

[redacted] see attached write-up for A033189 USS

3. Describe spreading grounds and identify its location and number of acres or location of upstream and downstream limits if onstream.

[redacted] see attached write-up for A033189 USS

4. State depth of groundwater table in spreading grounds or immediate vicinity:
____ feet below ground surface on_____ measured at a point located within the__¼ of_____¼ of Section___, T___, R_____,____B&M **(see attached)**

5. Give any historic maximum and or minimum depths to the groundwater table in the area.

Location__#1__Maximum____feet below ground surface on_____ (date) **(see attached)**
Location__#2__Maximum____feet below ground surface on_____(date) **(see attached)**

6. Describe proposed spreading operation.
See attached

7. Describe location, capacity and features of proposed pretreatment facilities and/or injected wells.

see attached write-up for A033189 USS

8. Reference any available engineering reports, studies, or data on the aquifer involved.

see attached write-up for A033189 USS

9. Describe underground reservoir and attach a map or sketch of its location.

see attached write-up for A033189 USS

10. State estimated storage capacity of underground reservoir.

see attached write-up for A033189 USS

11. Describe existing use of the underground storage reservoir and any proposed change in its use.

see attached write-up for A033189 USS

12. Describe the proposed method and location of measurement of water placed into and withdrawn from underground storage.

see attached write-up for A033189 USS

Additional copies of this form and water right information can be obtained at www.waterrights.ca.gov.

ATTACHMENT 2
UNDERGROUND STORAGE SUPPLEMENT
APPLICATION A033189

Prepared for:
Shandon San Juan Water District
P.O. Box 150
Shandon, CA 93461

Prepared by:
GSI Water Solutions, Inc.
800 Quintana Road Suite #2C
Morro Bay, CA 93442
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July 29, 2024

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Exhibits

A033189 USS ITEM 2: Describe any works used to divert to offstream spreading grounds or injection wells not identified in item 7 of form APP.

Shandon-San Juan Water District Groundwater Sustainability Agency[1] (GSA) has commissioned a conceptual conveyance analysis that details the physical works proposed to divert, convey, and transmit surface water to in-stream recharge in the Huer Huero Creek streambed in the Paso Basin. The conceptual conveyance analysis, dated May 2021, describes the diversion works as a 7,970-horsepower pump station (Pump Station 1) at Santa Margarita Reservoir, consisting of 4 pumps with a maximum design flow rate of 98 cubic feet per second (cfs) and a total dynamic head of 456 feet. Pump Station 1 would be the first in a series of up to three pump stations and two tanks located along a 48-inch diameter, approximately 5.4-mile-long pipeline. The pipeline would terminate in the Middle Branch of Huer Huero Creek where the water would be transmitted to the creek and allowed to flow approximately 9 miles downstream over and through thin alluvial materials underlain by impermeable bedrock into the Paso Basin where it would recharge the Basin via percolation through the stream bed. The conceptual conveyance analysis prepared by John R. Hollenbeck, P.E. is attached (**see Exhibit 1**).

Assumption: it is assumed that the bedrock underlying the portion of Middle Branch of Huer Huero creek upstream of the Paso Basin is effectively impermeable throughout its approximately 9-mile length.

A033189 USS ITEM 3: Describe spreading grounds and identify its location and number of acres or location of upstream and downstream limits if onstream.

The proposed in-stream recharge area is the Recharge Target Area 5 detailed in the 2020 Paso Robles Subbasin Stormwater Capture and Recharge Feasibility Study (GSI, 2020) and is located within the Salinas Valley – Paso Robles Area (3-004.06) groundwater basin[2] (Paso Basin) as defined in Bulletin 118. The Paso Basin is designated as a high priority – critically overdrafted basin and as such is required to have a Groundwater Sustainability Plan[3] (GSP) per the Sustainable Groundwater Management Act (SGMA). The proposed recharge project is not an identified project in the Paso Basin GSP[4].

The proposed recharge area includes approximately 56 acres of streambed within the Recharge Target Area 5. The proposed recharge area has optimal soil hydraulic conductivity recharge potential and high aquifer hydraulic conductivity recharge potential (GSI, 2020). Because the pipeline that would convey the diverted water terminates in the Middle Branch of Huer Huero Creek outside of the Paso Basin in a reach that overlies impermeable bedrock the streambed itself would be used to convey the diverted water the remaining approximately 9 miles downstream to where it enters the Basin. The distance from where the Middle Branch of Huer Huero Creek enters the Basin downstream to Recharge Target Area 5 is approximately 3.5 river miles. It is expected that the diverted water will infiltrate into the underlying aquifer materials all along the stretch of the creek from the Basin boundary to the Recharge Target Area 5, and potentially also further downstream depending on streamflow conditions. The upstream limit for recharge is the Basin

[1] Satisfies USS online form 14.4 (2f and 2h)
[2] Satisfies USS online form 14.4 (2c)
[3] Satisfies USS online form 14.4 (2d and e)
[4] Satisfies USS online form 14.4 (2g)

boundary (35.478249°N, -120.524466° E) and the downstream limit is the confluence of Huer Huero Creek and the Salinas River (35.674971° N, -120.687287° E). There are no proposed modifications to the streambed in the proposed in-stream recharge area.

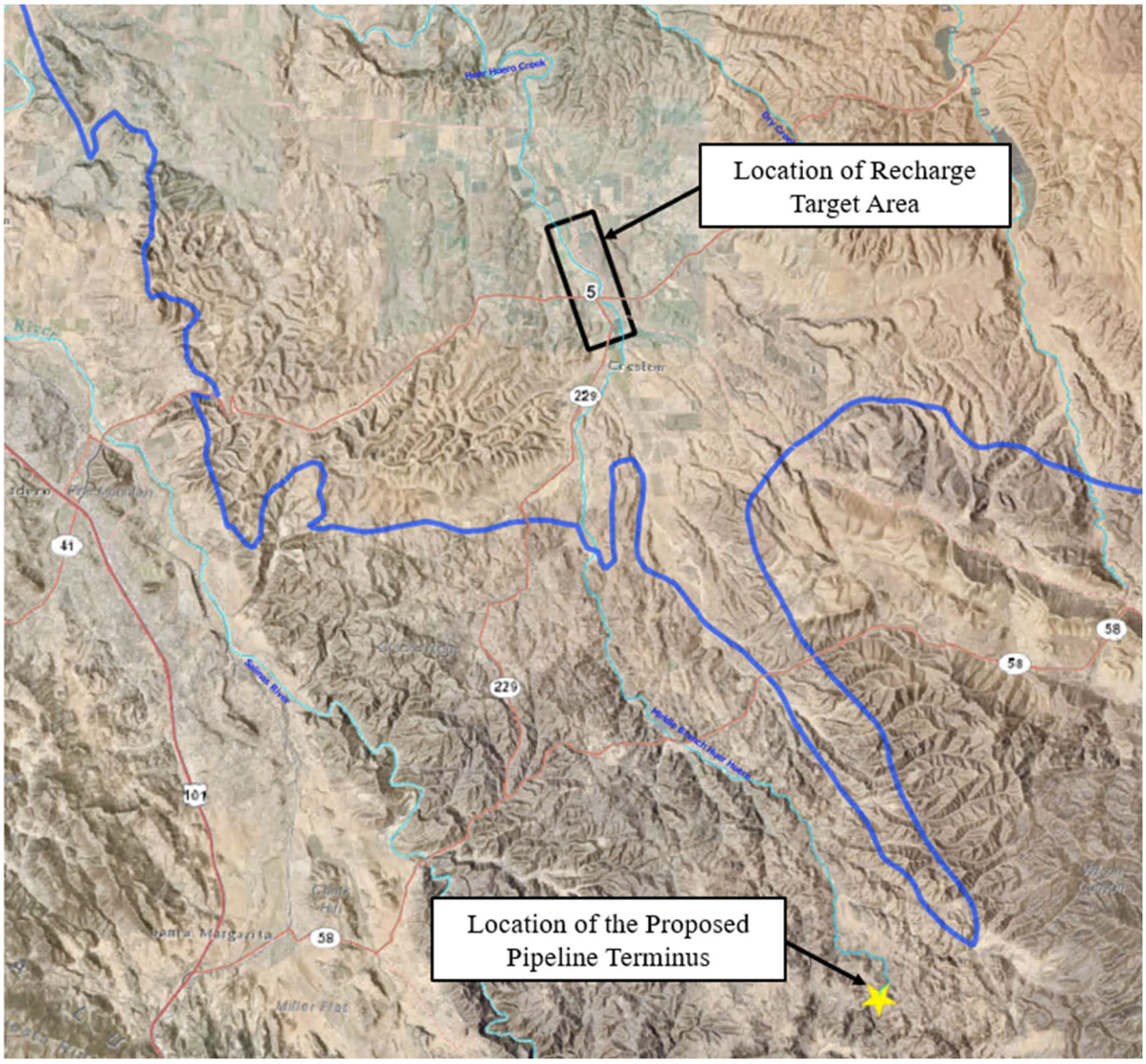

Figure 1. Location of Recharge Target Area 5 (GSI, 2020)

Note:
Approximate location of the proposed pipeline terminus (yellow star). Generally, the diverted water would flow from the pipeline terminus down the Middle Branch of Huer Huero Creek overlying impermeable bedrock until it enters the Basin (blue line), where it would infiltrate into and recharge the underlying aquifer.

A033189 USS ITEMS 4 AND 5: State depth of groundwater table in spreading grounds or immediate vicinity… Give any historic maximum and or minimum depth to the groundwater table in the area.

There are two monitoring wells in the County monitoring program located within the Recharge Target Area 5 (27S/13E-36R01 and 28S/13E-01B01). Water levels in these wells track each other closely. The maximum depth to water in each well is approximately 90 feet (October 2022) and the minimum depth to water since 2013 in each well is approximately 40 feet (April 2024). Another

well located further upstream towards the Basin boundary (28S/13E-12M01) has a maximum recorded depth to water of approximately 70 feet (October 2022) and a minimum depth to water since 2013 of approximately 11 feet (April 2023). The most recent (April 2024) depths to groundwater recorded in each of these 3 wells are generally equivalent to their historical minimum values. Hydrographs for these three wells are presented below and their locations are shown in the figure below.

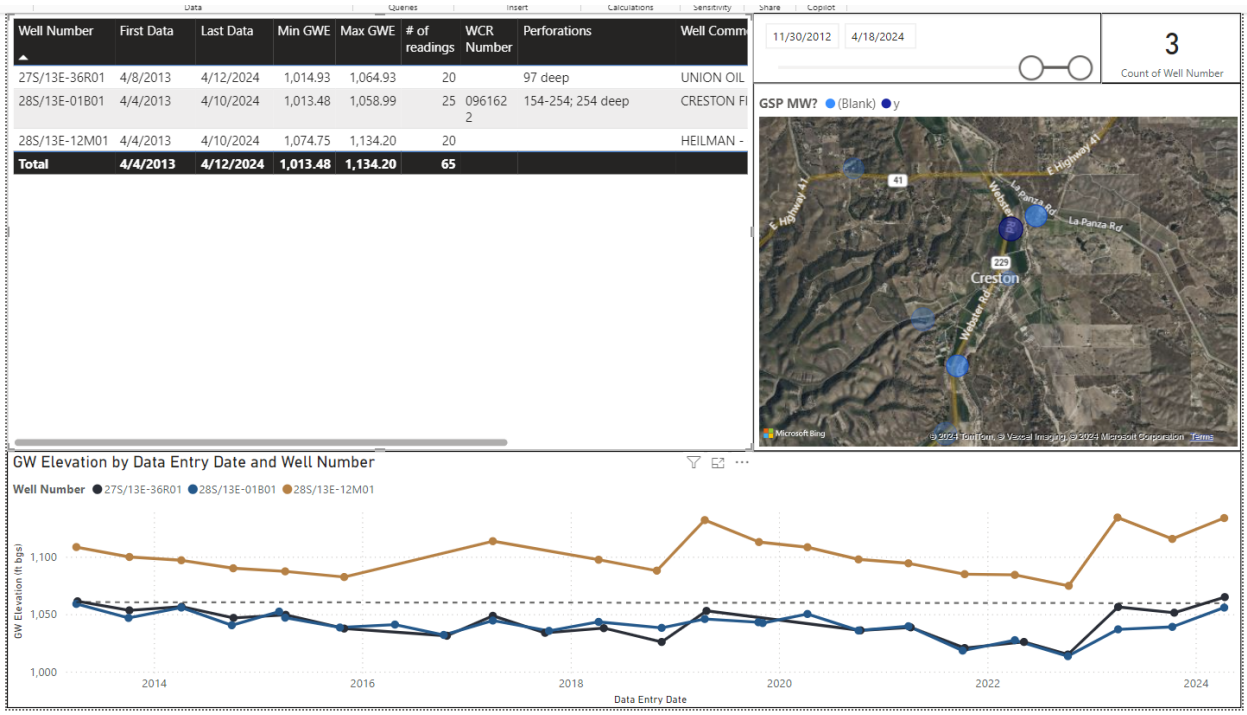

Figure 2. Hydrographs for wells in area of proposed recharge.

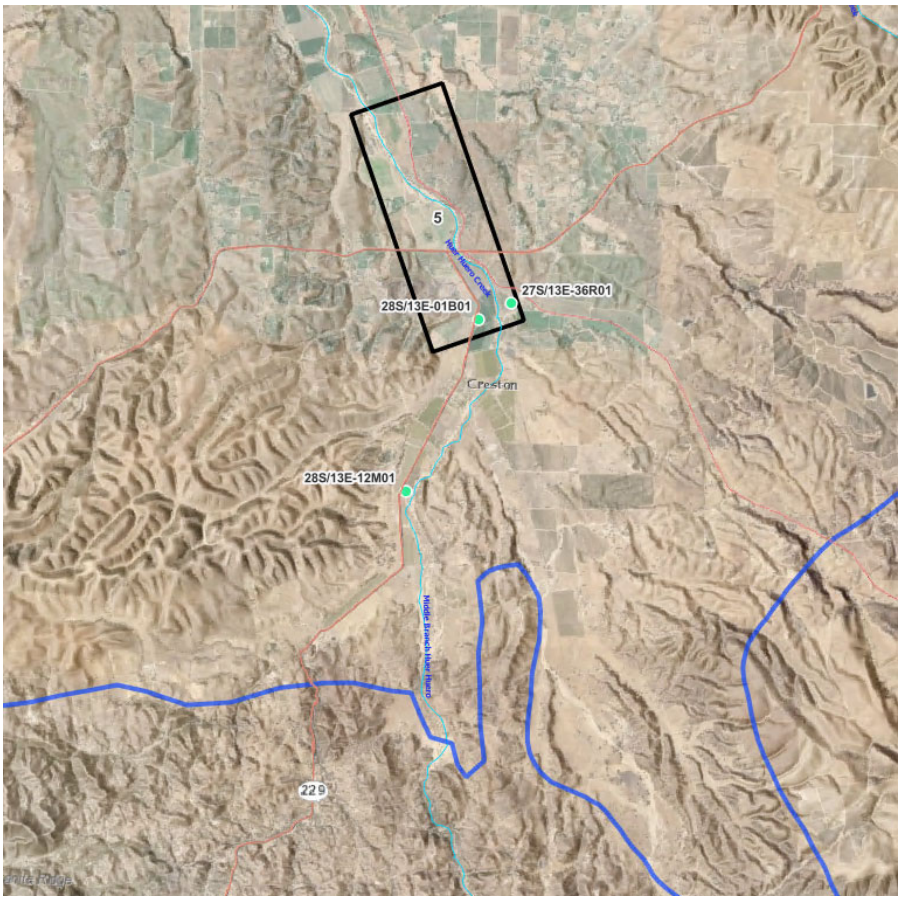

Figure 3. Location of nearby wells

A033189 USS ITEM 6: Describe proposed spreading operation

The concept of the proposed spreading operation is that water will be diverted from Santa Margarita Reservoir via a physical works consisting of pump stations and conveyed via additional pump station(s), tanks, and a pipeline (see Item 2) to a location near the headwaters of Middle Branch of Huer Huero Creek. At this location the pipeline will terminate into a settling basin to allow any suspended solids to drop out before the water is decanted into the Middle Branch of Huer Huero Creek to continue its conveyance downstream over and through thin alluvial materials underlain by impermeable bedrock into the Paso Basin where it would recharge the Basin via percolation through the stream bed, as described in Item 3.

There is potential for water losses[5] to occur via evaporation and transpiration during conveyance of the water through the stream bed portion underlain by impermeable bedrock. However, it is anticipated that the atmospheric conditions that would produce conditions during which water would be available to divert (i.e. water spilling at Salinas Dam) would also have pre-saturated the thin alluvial materials overlying the impermeable bedrock thereby satisfying any evapotranspiration demand along that stretch and allowing the diverted water to pass through largely undiminished in volume. Evapotranspiration losses along the stream channel underlain by bedrock may become more significant as the winter wet season transitions to spring and baseflow

[5] Discussion of potential losses satisfies portion of USS online form 14.3 (3)

conditions in Middle Branch of Huer Huero Creek potentially dry up before the availability of spill water from Santa Margarita Reservoir ends. Conversely, it is possible that Huer Huero Creek may be flowing well into the Basin or even all the way through to its confluence with the Salinas River during portions of the period of available spill water from Santa Margarita Reservoir. In this case there may be additional losses of diverted water to evapotranspiration as the diverted water passes through the Basin. Adaptive management practices would be implemented to avoid potential losses of diverted water due to flow exiting the Basin into the downstream groundwater basin. The significance or likelihood of these potential losses is difficult to quantify without further study. Note that in water years 2023 and 2024 the Salinas Dam was spilling for periods beginning in January (2023) or February (2024) and extending into May (2023) or June (2024). A synoptic streamflow survey completed on April 3 and 4, 2023, only days after the last large precipitation event of the year, confirmed that Huer Huero Creek had continuous flow at the time of survey through to its confluence with the Salinas River. However, anecdotally it was observed that streamflow in Huer Huero Creek dried up within several days of that survey. Results from the synoptic streamflow survey showed that even while Huer Huero Creek was flowing it was losing significant volumes of streamflow to percolation along most of the surveyed reaches within the Basin, including Recharge Target Area 5. These observations are presented to illustrate that even during very wet years there is likely to be a substantial period of time during which spill water is available from the Salinas Dam and the Huer Huero Creek streambed is capable of infiltrating recharge water.

A033189 USS ITEM 7: Describe location, capacity and features of proposed pretreatment facilities and/or injected wells

The design for the proposed suspended sediment settling pond at the pipeline terminus has not yet been completed. It is anticipated that the settling pond will be located off-channel and will be large enough to handle an instantaneous maximum flow rate of 98 cfs and accommodate a full season's worth of accumulated sediment that may result from the maximum total annual diversion of 14,000 AF. Annual clean-out and maintenance of the settling pond would be completed during the dry season. It is expected that the diversion headworks will be designed to minimize sediment uptake into the pipeline.

A033189 USS ITEM 8: Reference any available engineering reports, studies, and data on the aquifer involved[6]

The 2020 Paso Robles Subbasin Stormwater Capture and Recharge Feasibility Study (GSI, 2020) presents a desktop study of the Recharge Target Area 5 based on overlay analysis of topographic slope, soil type, saturated soil hydraulic conductivity, and aquifer hydraulic conductivity. The results of this overlay analysis show that the Recharge Target Area 5 has "the best physical conditions to recharge stormwater" out of the 5 target areas presented in the study. The Recharge Target Area 5 consists of NRCS Hydrologic Soil Group A with an estimated recharge rate of 2.41 inches per hour (or 4.8 feet per day). Empirical data from studies completed on full scale constructed recharge pond operations in nearby Atascadero and Templeton, California show that actual recharge rates can be as high as 8 to 12 feet per day in similar alluvial materials as exist in the Huer Huero Creek drainage. If 14,000 AF are to be recharged between January 1 and May 14 at a rate of 4.8 feet per day, it would require only approximately 22 acres of in-stream recharge

[6] Satisfies portion of USS online form 14.3 (3)

area. Once in the alluvial aquifer, it is estimated that the percolated water would travel quickly away from the point of recharge both initially downstream parallel to Huer Huero Creek as underflow and also as percolating groundwater into the underlying Paso Robles Formation Aquifer. Vertical leakage from the slug of recharge water traveling as underflow in the alluvial aquifer would continue to recharge the underlying Paso Robles Formation Aquifer in the downstream direction. The 2020 Paso Robles Subbasin Stormwater Capture and Recharge Feasibility Study is attached (see **Exhibit 2**).

A033189 USS ITEM 9: Describe underground reservoir and attach a map or sketch of its location

The "underground reservoir" consists of two principal aquifers in the Paso Basin, including the Alluvial Aquifer and the Paso Robles Formation Aquifer. The Alluvial Aquifer is the youngest aquifer. It is unconfined and consists of predominantly coarse-grained sediments (sand and gravel) deposited along the Salinas River, Estrella River, Huer Huero Creek, and San Juan Creek. The Alluvial Aquifer varies in thickness but may be up to 100 feet thick along the channels. Much of the Alluvial Aquifer is characterized by relatively high transmissivity that may exceed 100,000 gallons per day per foot (gpd/ft). Wells screened in the Alluvial Aquifer can be very productive and may yield more than 1,000 gallons per minute (gpm).

The Paso Robles Formation Aquifer underlies the Alluvial Aquifer and outcrops in the Subbasin everywhere outside of the Holocene stream channels. The Paso Robles Formation represents the largest volume of sediments in the Subbasin, with a total thickness up to 3,000 feet in the northern Estrella area and up to 2,000 feet in the Shandon area. The Paso Robles Formation has a thickness of 700 to 1,200 feet throughout most of the Subbasin. It is generally characterized by interbedded, discontinuous lenses of sand and gravel that comprise the most productive strata within the aquifer, separated vertically by comparatively thick zones of fine-grained sediments (silts and clays). Well depths generally range from approximately 200 to 1,000 feet or more. As described in the GSP (M&A, 2020), reported aquifer transmissivity estimates in the Paso Robles Formation range from approximately 1,000 to 9,000 gpd/ft, and well yields generally range from approximately 150 to 850 gpm. Wells in certain parts of the Subbasin have been reported to be more productive (yielding upwards of 3,000 gpm).

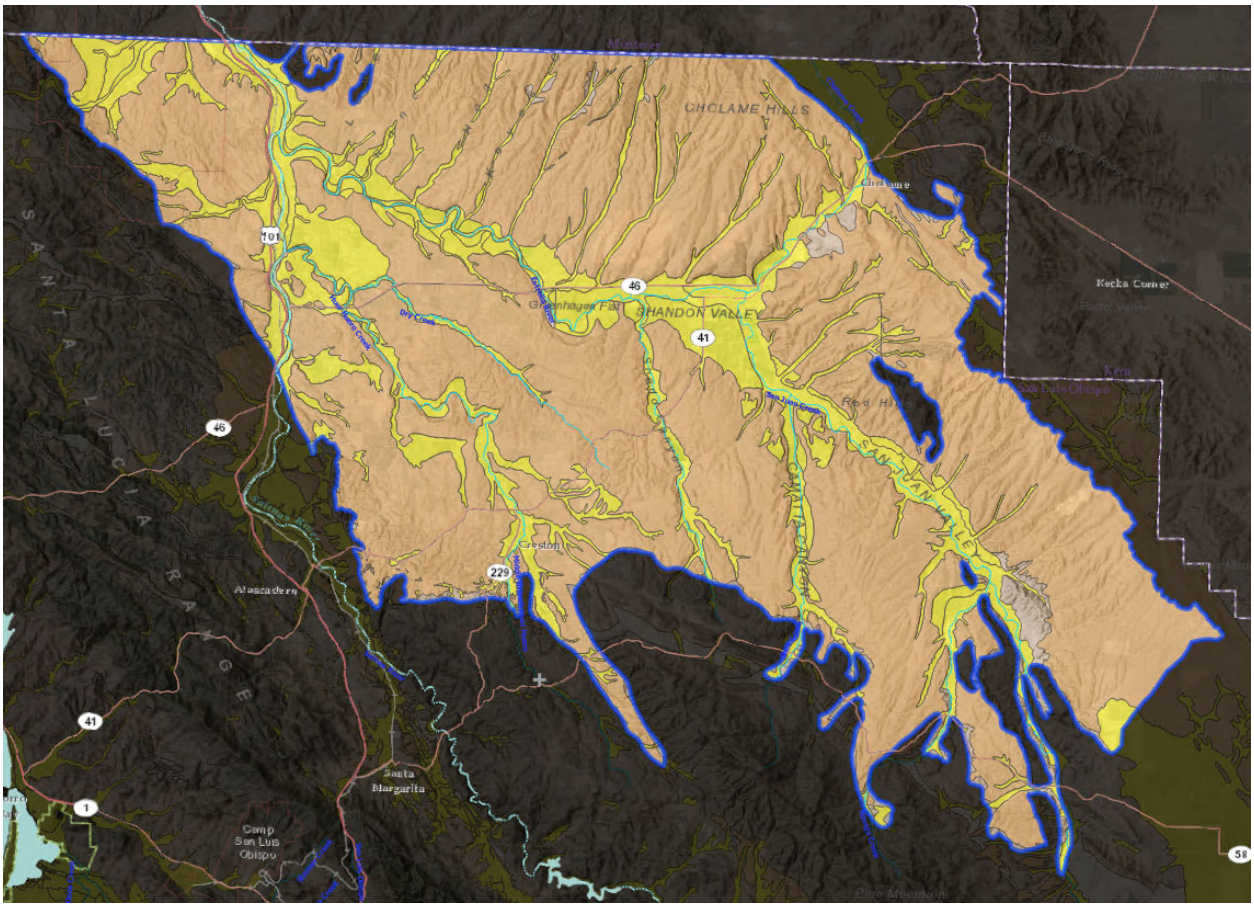

Figure 4. Map of Paso Basin Aquifers. Alluvial Aquifer (yellow), Paso Robles Formation Aquifer (orange-brown)

A033189 USS ITEM 10: State estimated storage capacity of underground reservoir

As calculated from the base of permeable sediments presented in the 2002 Paso Robles Groundwater Basin Study (Fugro, 2002), fall 2023 water level data, and an estimated average storativity value of 0.07 there was a total of 20,700,000 AF of groundwater stored in the Basin as of Fall 2023. The Paso Robles Subbasin Water Year 2023 Annual Report shows that the Paso Robles Formation Aquifer has lost an estimated 700,000 AF in groundwater storage since 1981, indicating that Basin-wide there is room to accommodate at least 700,000 AF of recharge water. Therefore, the total storage capacity of the Paso Robles Formation Aquifer (the primary aquifer in the Basin) is estimated to be at least 21,400,000 AF.

A033189 USS ITEM 11: Describe existing use of the underground storage reservoir and any proposed change in its use

According to the Paso Robles Subbasin Water Year 2023 Annual Report groundwater produced from the Basin aquifers is used for agricultural irrigation, rural domestic use, golf course irrigation, and municipal and other small public water systems use. Agricultural water use generally makes up >90% of total groundwater use each year. The Sustainable Groundwater Management Act (SGMA) requires that the Paso Basin be brought into sustainable management by the year 2040. The Groundwater Sustainability Plan presents various projects and management actions to achieve

this goal. It is expected that either a reduction in groundwater use or an increase in importation of water or some combination of the two will have to occur to bring the Basin into groundwater sustainability. This proposed diversion of excess flood water from Santa Margarita Reservoir to recharge Paso Basin aquifers is an example of a water importation project.

A033189 USS ITEM 12: Describe the proposed method and location of measurement of water placed into and withdrawn from underground storage[7]

The method of measurement for the diverted water from Santa Margarita Reservoir via the proposed diversion structure and pipeline is metering. The assumed location for measurement of the diverted water via metering would be at the diversion structure and/or at the pipeline terminus. It is assumed that stream gages would be established in at least two locations within the reach of Middle Branch Huer Huero Creek that is underlain by impermeable bedrock. These stream gage locations would be used to determine the volume of any potential losses of diverted water to evapotranspiration before entering the Basin. Once in the Basin it is assumed that the diverted water will generally percolate into the underlying Basin aquifers without significant losses to evapotranspiration or potential flow-through to the downstream groundwater basin.

For the purpose of Annual Reporting for SGMA the following methods have been developed for estimating groundwater extractions for each water use sector:

- Municipal public water systems (PWS): metering,
- Small PWS, golf course irrigation, and rural domestic: 2016 Groundwater Model varied by water year type, and
- Irrigated Agriculture: estimation of groundwater extractions based on satellite–based ET

These same methods would be used to quantify extractions of the diverted water placed into underground storage, including those made by Shandon-San Juan Water District members and other groundwater extractors in the Basin. Far more groundwater is used each year (ranging from 64,000 AF to 86,000 AF basin wide since 2017) than will be recharged via diverted water. Therefore, we assume that the entire amount of recharged water will be used within the year following diversion from Santa Margarita Reservoir.

Changes in groundwater in storage in the Paso Robles Formation Aquifer are also included in Annual Reporting for SGMA. The method used is multiplying the total volume change derived from water levels by the estimated average storativity of the aquifer (0.07).

[7] Also incorporating elements requested in USS online form 14.5

Exhibit 1. Conceptual Conveyance Analysis

Shandon-San Juan Water District — by: John R. Hollenbeck, P.E.
Salinas (Santa Margarita) Reservoir Delivery Systems - Conceptual Evaluation — Date: May-21

14,000 AFY via new conveyance from Salinas Reservoir to Three Watersheds in Paso Robles Basin (Figure SR-1)

Assumed Deliveries:	Middle Huerhuero Ck =	4,000	AFY	Reaches 1, 2 and 3. Turnout flow = 28 cfs
	Indian Ck =	5,000	AFY	Reaches 4 and 4W. Turnout flow = 35 cfs
	Shell Ck =	5,000	AFY	Reaches 4 and 4E. Turnout flow = 35 cfs

Hydraulic System - Salinas Reservoir to Tank #2
Reach 1 - Lake to Tank #1
Reach 2 - Tank #1 to Pump Station #2
Reach 3 - Pump Station #2 to Tank #2

Max Annual Delivery =	14,000	AFY		
Maximim Design Flow =	98	cfs (from Santa Margarita Application)		
Pipe Diameter Reaches 1, 2 and 3 =	48	inches		
Minimum Lake Level to Pump Station #1 =	1,301	feet		
HGL @ Tank #1 =	1,750	feet		
HGL @ Tank #2 =	2,050	feet		
Tank Volume =	TBD Later, Unimportant at this conceptual level			
Pipe Length from Lake to Tank#1 =	0.4	miles, or	2,112	feet
Pipe Length from Tank #1 to P.S. #2 =	3.15	miles, or	16,632	feet, most within Las Pilitas Road
Pipe Length from P.S. #2 to Tank #2 =	1.85	miles, or	9,768	feet, within Las Pilitas Road

SSJWD Pump Station #1 @ Salinas Reservoir

Total Dynamic Head =	456	feet
Pump Break Horsepower =	7,243	BHP
Motor Hp (assume 1.10 Serv Factor) =	7,970	hp
Est'd No. Pumps =	4	
Est'd Operating Voltage =	4,160	V

SSJWD Pump Station #2 (Booster between Tank#1 and Tank#2) on Las Pilitas Road

Total Dynamic Head =	388	feet
Pump Break Horsepower =	6,163	BHP
Motor Hp (assume 1.10 Serv Factor) =	6,780	hp
Est'd No. Pumps =	4	
Est'd Operating Voltage =	4,160	V

Hydraulic System - Reach 4: Tank #2 to "wye", then Reach 4E to Shell Creek and Reach 4W Indian Creek

Max Annual Delivery =	10,000	AFY		
Maximim Design Flow Reach 4 to "wye" =	70	cfs		
Pipe Diameter Reach 4 to "wye" of 4E & 4W =	48	inches		
Design Flow Reach 4E to Shell Ck =	35	cfs, or	5,000	AFY
Pipe Diameter 4E to Shell Ck Discharge =	36	inches		
HGL of Discharge to Shell Ck =	2,820	feet		
Design Flow Reach 4W to Indian Ck =	35	cfs, or	5,000	AFY
Pipe Diameter 4W to Indian Ck Discharge =	18	inches		
HGL of Discharge to Indian Creek =	2,700	feet		
HGL @ "wye" =	2,824	feet		
Pipe Length from Tank #2 to P.S #3 =	0.75	miles, or	3,960	feet
Pipe Length P.S. #3 to "wye" =	3.2	miles, or	16,896	feet, most within Las Pilitas Road
Pipe Length of both 4E and 4W =	0.4	miles, or	2,112	feet, within Las Pilitas Road

SSJWD Pump Station #3 (from Tank #3 to Indian and Shell Creeks)

Total Dynamic Head =	810	feet
Pump Break Horsepower =	9,190	BHP
Motor Hp (assume 1.10 Serv Factor) =	10,110	hp
Est'd No. Pumps =	4	
Est'd Operating Voltage =	4,160	V

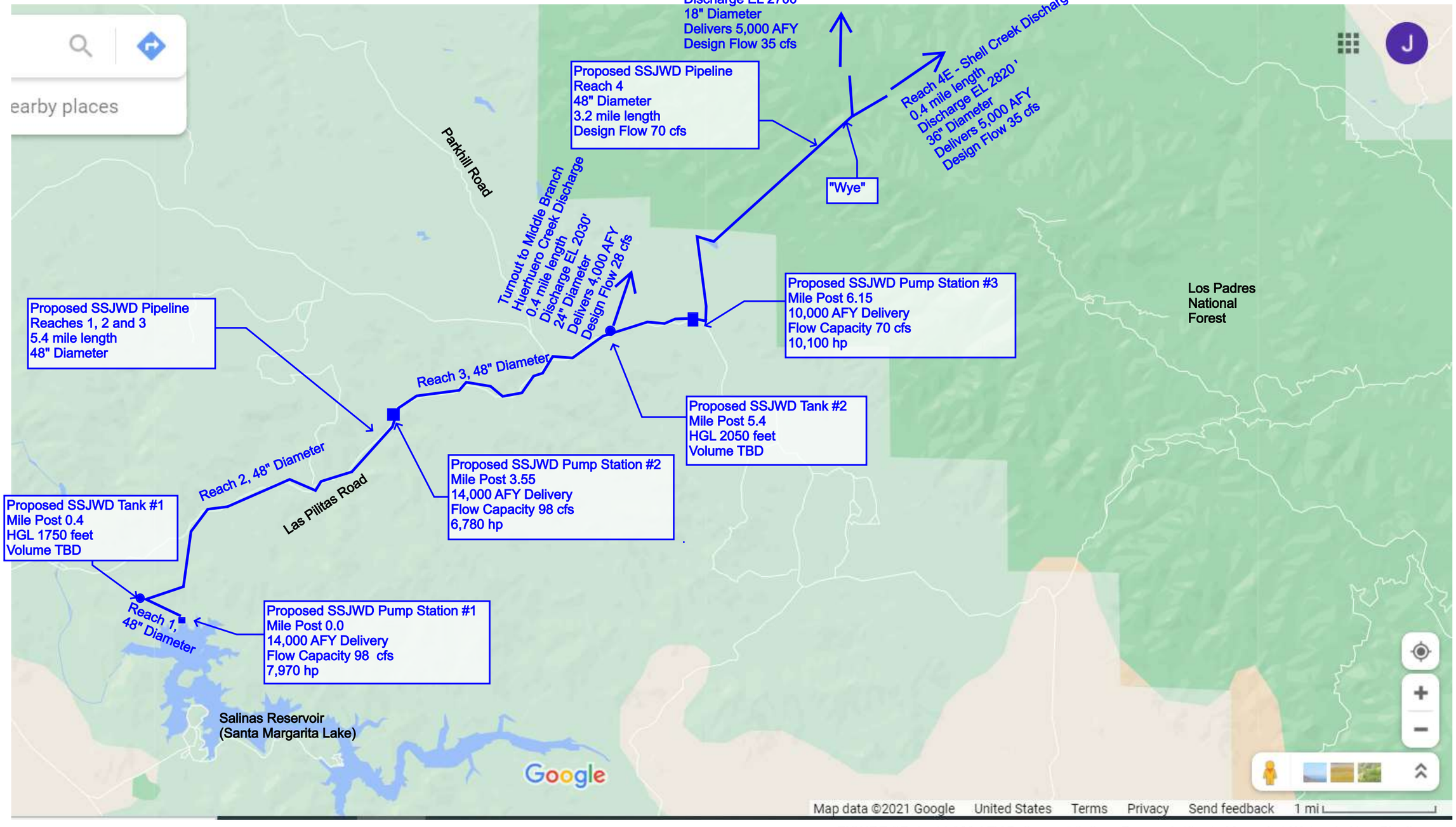

FIGURE SR-1 - 14,000 AFY Delivery of Salinas Reservoir (Santa Margarita) Water via New Pipeline from Salinas Reservoir to Three Watersheds of the Paso Robles Basin: Huerhuero Creek, Indian Creek and Shell Creek

Exhibit 2. 2020 Paso Robles Subbasin Stormwater Capture and Recharge Feasibility Study

FINAL

Shandon-San Juan Water District and
Estrella-El Pomar-Creston Water District

Paso Robles Subbasin Stormwater Capture and Recharge Feasibility Study

December 30, 2020

Prepared by:
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GSI Water Solutions, Inc.

TECHNICAL MEMORANDUM

Paso Robles Subbasin Stormwater Capture and Recharge Feasibility Study

To: Willy Cunha, Board of Directors, Shandon-San Juan Water District
Dana Merrill, Board of Directors, Estrella-El Pomar-Creston Water District

From: Jeff Barry, Principal Hydrogeologist
Ailco Wolf, Supervising Hydrogeologist
Paul Sorensen, Principal Hydrogeologist

Date: December 30, 2020

Introduction

Stormwater capture and recharge is an approach used elsewhere in the State for augmenting natural recharge to a groundwater basin and thus improving groundwater levels. The concept involves building diversion structures (or canals) to divert storm flows from a stream above a certain allowed volume, capture those flows by diverting to nearby fields or undeveloped areas, and inundating the fields to allow for passive infiltration. This technical memorandum presents screening level feasibility study results for locating sites where stormwater (flood) flow can be captured and used to recharge aquifers within the Paso Robles Area Subbasin of the Salinas Valley Groundwater Basin (Paso Robles Subbasin or Subbasin). This study identifies areas with favorable soil, topography, and aquifer characteristics and estimates the stormwater amount from the tributary watersheds contributing to the surface flows in the Salinas and Estrella rivers and San Juan and Huer Huero creeks within the Paso Robles Subbasin, as shown on Figure 1. The Paso Robles Subbasin, as defined in the Groundwater Sustainability Plan (GSP), is the study area for this scope of work. Of particular interest are areas where the recharge water would migrate directly into the underlying Paso Robles Formation aquifer, the principal aquifer serving most irrigation demands in the basin. The feasibility study was conducted in accordance with the authorized scope of work prepared for the Shandon-San Juan Water District (SSJWD) and Estrella-El Pomar-Creston Water District (EPCWD). The scope proposed for the study, including this technical memorandum, comprises two main tasks, namely:

- Task 1 - Identify optimum target areas for stormwater recharge
- Task 2 - Quantify availability of stormwater for capture

To locate potential target areas with optimum recharge conditions for Task 1, the comparative distribution modeling method was used. A comparative distribution model takes into consideration the spatial distribution of multiple components that have an impact on recharge potential and creates a gridded weighted average index map of these components to elucidate preferred recharge areas within the study area.

In order to quantify the available stormwater for potential capture in Task 2, the modeled surface flows from the calibrated HSPF watershed model[1] used for the GSP were extracted for the study area tributary watersheds. The Paso Robles Subbasin HSPF watershed model is one of the components of the GSP model as described in the GSP (Montgomery, 2020a).

Comparative Distribution Modeling of Recharge Potential

Successful artificial recharge of surface water depends on a high rate of transmission through the soil profile into the unconfined aquifer below. The receiving aquifer should be permeable enough to allow for the infiltrating recharged water to move laterally away from the recharge site without causing excessive mounding, which would limit subsequent recharge. Because the majority of groundwater users pump from the Paso Robles Formation that underlies alluvium, it is also important to identify potential recharge areas that allow for direct communication with the deeper aquifer, thus providing maximum benefit to basin groundwater users. This is especially pertinent for stormwater that is only available within a narrow time frame during the rainy season. Additionally, the bulk of stormwater are available for recharge during an occasional wet year only. Comparative distribution modeling is used to determine areas that meet the conditions described above and are therefore best suited to receive stormwater recharge.

The comparative distribution modeling method (i.e., building models that combine the distributions of different components that affect recharge) was used to create a Recharge Potential Index Map for the study area. The distributed components used to construct a Recharge Potential Index Map include topography, saturated soil hydraulic properties, and aquifer hydraulic properties. Subsequent to the construction of the Recharge Potential Index Map, groundwater elevations and land use factors that could have a negative impact on recharge were also considered to refine the selection of the most promising recharge target areas.

An overview of key spatially distributed information and considerations used for the delineation of recharge target areas are as follows:

Recharge Potential Index Map:

- Topography
- Surficial soil hydraulic properties
- Aquifer hydraulic properties

Additional Land Use Considerations:

- Surficial geology
- Groundwater occurrence and depth
- Proximity to a 100-year flood zone area
- Proximity to water treatment plants
- Proximity to septic tanks
- Proximity to wells

[1] The Hydrological Simulation Program – FORTRAN model was developed by the U.S. Environmental Protection Agency (EPA) in the 1980s. More information on the HSPF watershed model is available at the EPA website: https://19january2017snapshot.epa.gov/sites/production/files/2016-08/documents/flyer_webinar_9-hspf.pdf (accessed May 1, 2020).

- Agricultural crop coverages

Construction of Recharge Potential Index Map

A spatially comparative gridded Recharge Potential Index Map for the study area was built inside a geographic information system (GIS) environment that shows the distribution of potentially promising recharge areas. The individual factors are summarized in the following sections.

Topography

Topography or slope affects the ability to recharge natural and/or captured stormwater. A shallow slope is more conducive to recharge. Relatively level topography is better suited to hold water, allow infiltration to occur over larger areas, and minimize engineering needs to contain the recharge water. The slope percentages for the study area were calculated from the U.S. Geological Survey (USGS) 10-meter Digital Elevation Model (DEM).

Ranges in slope percent were used to categorize soils into seven slope classes with rankings as shown in Table 1.

Table 1 - Topographic Slope Recharge Potential Index Map Rankings

% Slope	Recharge Ranking	
0 – 5	10	Very high
5 – 10	8	High
10 – 15	6	Medium high
15 – 20	4	Medium
20 – 25	3	Medium low
25 – 30	2	Low
30 – 70	1	Very low

The distribution of topographic slope percentages with the corresponding recharge rankings from Table 1 are shown in Figure 2.

Soil Vertical Hydraulic Conductivity

The surficial saturated soil hydraulic conductivities (or permeability) are indicators of infiltration or recharge rate. Greater saturated soil hydraulic conductivities are conducive to greater recharge. For this study, the National Resource Conservation Service (NRCS) Gridded National Soil Survey Geographic Database (gNATSGO) was used to determine the study area's saturated soil hydraulic conductivities.

Ranges in saturated soil hydraulic conductivities were used to categorize soils into six infiltration classes with rankings as shown in Table 2.

Table 2 – Saturated Soil Hydraulic Conductivity Recharge Potential Index Map Rankings		
Soil Hydraulic Conductivity (inches/hour)	**Recharge Ranking**	
>4	10	Very high
3 – 4	8	High
Unknown	7	Medium high
2 – 3	6	Medium
1 – 2	4	Medium low
<1	2	Low

The distribution of mean saturated hydraulic conductivity with the corresponding recharge rankings shown in Table 2 are shown in Figure 3.

Aquifer Hydraulic Conductivity

The horizontal aquifer hydraulic conductivities are indicators of the degree that infiltrated recharged water can laterally move away from the recharge site, thus reducing mounding and allowing for greater volumes to be recharged and to migrate into aquifer production zones. Greater horizontal aquifer hydraulic conductivities are conducive to greater recharge. For this study, the modeled hydraulic conductivity values of the groundwater component of the GSP model were used to estimate horizontal aquifer hydraulic conductivity (Geoscience, 2015).

Ranges in horizontal aquifer hydraulic conductivities were used to categorize soils into six classes with rankings as shown in Table 3.

Table 3 – Aquifer Hydraulic Conductivity Recharge Potential Index Map Rankings		
Aquifer Hydraulic Conductivity (ft/day)	**Recharge Ranking**	
> 20	10	Very high
15 – 20	9	High
10 – 15	7	Medium
5 – 10	5	Medium low
2 – 5	3	Low
0 – 2	1	Very low

The distribution of horizontal aquifer hydraulic conductivity with the corresponding recharge rankings shown in Table 3 are shown in Figure 4.

Paso Robles Basin Recharge Index Map

A final Recharge Potential Index Map was developed as a weighted average of the ranked distribution maps of slope, soil hydraulic conductivity, and aquifer horizontal hydraulic conductivity (Figures 2, 3, and 4). Using a

general approach derived from similar studies (Todd, 2018; Sesser et al., 2011; Muir and Johnson, 1979; Aller et al., 1987), the following weights were assigned:

- Slope Distribution– 20 percent
- Saturated Soil Hydraulic Conductivity Distribution – 50 percent
- Aquifer Horizontal Hydraulic Conductivity Distribution – 30 percent

The final Recharge Potential Index Map values were calculated using the weighted average percentages (Figure 5). Index values are ranked from 1 (low potential index) to 10 (high potential index); higher index values are represented by the darker map colors, indicating the preferred recharge locations. In general, the higher-scoring (preferred) recharge areas occur in the river and stream valleys with shallow slopes and higher soil hydraulic conductivities, and are in the more upstream regions of the watershed where higher aquifer hydraulic conductivities occur.

Additional Considerations for Potential Stormwater Recharge Target Areas

Favorable physical recharge conditions are not the only considerations for selecting potential recharge target areas. Geology, groundwater occurrence, and anthropogenic land uses must also be evaluated.

Surficial Geology and Lithology

The Paso Robles Subbasin GSP provides a detailed description of geologic control of hydrologic conditions in the Paso Robles Subbasin (Montgomery, 2020). The sediments of both the alluvial aquifer and Paso Robles Formation aquifer are from erosion of the surrounding mountains. These erosional sediments are generally coarser near the source mountain and finer towards the center of the basin. The alluvium overlying the Paso Robles Formation occurs beneath the flood plains of the rivers and creeks and is typically no more than 100 feet thick. The Paso Robles Formation ranges from 700 to 1,200 feet in thickness throughout most of the study area and generally has lower permeability than the overlying alluvium.

In the floodplain areas, groundwater elevations tend to be higher in the alluvium than in the Paso Robles Formation, which induces downward flow from the alluvium to the Paso Robles Formation (Fugro, 2005). It has been observed that, in the Shandon area along the San Juan Creek, lithological well log data show limited fine-grained sediments (fines; silt and clays) compared with well logs in the Estrella area (unpublished report by GSI for Shandon Water Users). Similarly, lithological well logs show that the Creston area has less fines than the Estrella area. The lithological data suggest that recharged water will migrate more quickly from the alluvium into the Paso Robles Formation in the upstream areas of the San Juan Creek and Huer Huero Creek, because these areas have less fines and greater permeability. In the alluvium of the Estrella River floodplains, recharged water will percolate more slowly and have less of an immediate impact on water levels than in the Paso Robles Formation due to greater presence of fines.

San Luis Obispo County conducted an aerial geophysical survey (SkyTEM) of a large portion of the basin. That study provides important information about subsurface conditions (geology down to 800 feet) that could be beneficial to this project. The results of that study were not available for this stormwater capture and recharge feasibility project; however, review of early results indicate that it could be very beneficial. The results of the SkyTEM survey are expected to be released early 2021.

Groundwater Occurrence and Potential for Mounding

In general, groundwater in the Paso Robles Subbasin consists of a shallow alluvial aquifer and the deeper Paso Robles Formation aquifer. Groundwater generally flows from southeast to northwest across the subbasin. Depth to water is an important consideration as it can limit artificial recharge. If depth to

groundwater is too shallow, it facilitates groundwater mounding under the recharge site, which will impede infiltration of water. On the other hand, groundwater elevations that are excessively deep will have increased travel time to the water table and can significantly delay the benefits of recharge with a slow response in water level increases. The depths to groundwater in this feasibility study are described for the selected target recharge areas for both wet and dry conditions. The determination of how the depth to groundwater may affect potential recharge, however, has not been evaluated quantitatively for this screening level study. This would require a more detailed investigation and further local testing of selected target areas.

Land Use Factors

Anthropogenic land uses were superimposed on the Recharge Potential Index Map to select the recharge target areas that avoid potential negative impacts from certain land use features. The following land use conditions were considered:

- Proximity to 100-year flood zone areas (closer areas are preferred)
- Proximity to wastewater treatment plant effluent percolation ponds (potential for mounding)
- Proximity to septic tank locations (potential for contamination)
- Proximity to wells (potential to capture recharge water without benefiting aquifer)
- Agricultural crop coverages (some crop types cannot handle inundation)

The Federal Emergency Management Authority (FEMA) delineated 100-year flood zone areas in the basin that are susceptible to flooding and will likely not be developed due to zoning laws (Figure 6). The 100-year flood zone areas are located within preferred areas of the Recharge Potential Index Map along the alluvial channels of the rivers and streams that receive stormwater runoff that can be diverted without large engineering efforts. Therefore, target areas within the 100-year flood zone are considered to be beneficial.

Existing or proposed wastewater treatment facilities add treated water to the streamflow, thereby artificially recharging the nearby groundwater and potentially creating high groundwater conditions that can impede recharge. Based on the GSP model, depth to water is about 10 feet (ft) below ground surface (bgs) near existing wastewater treatment plants and is therefore not considered to be beneficial for additional stormwater recharge.

Septic tank discharges are undesirable for artificial recharge projects and should be avoided to protect the water quality. Physical addresses outside municipalities are assumed to have a septic system as shown on Figure 6. Areas with high distribution of septic tanks were avoided in selecting recharge target areas.

Location of active nearby groundwater wells were taken into account for the selection of the recharge target areas. Both active private and public well locations were assumed to have a negative effect on increasing aquifer storage from stormwater recharge. Due to the confidentiality of the well locations, none are shown in the figures; however, the quantity of wells inside the selected recharge target areas are considered in this analysis.

Aquifer recharge from agricultural land is a potential option, as indicated for State of California by the Soil Agricultural Groundwater Banking Index (SAGBI) map (O'Geen et al., 2015). The SAGBI is a comparative distribution model, similar to this feasibility study, showing distributed factors pertaining to the aquifer recharge potential from agricultural crop areas on a statewide scale. This study shows that vineyards have much greater tolerance for saturated conditions compared with most other crops.[2] Hence, nearby vineyards

[2] Vineyards can tolerate saturated conditions for approximately 2 to 4 weeks (O'Geen et al., 2015).

are considered to be potentially beneficial for artificial recharge and were considered in the selection of target recharge areas (see Figure 7).

Average Stormwater Available for Capture and Recharge

For cost-effective artificial recharge, a local source of water, such as stormwater, is preferred. The results of the existing HSPF watershed model, which is a component of the Paso Robles Basin GSP model, were used to assess and quantify stormwater availability.

Simulated HSPF Surface Water and Streambed Percolation in Sub-Watersheds

The GSP model consists of three parts; the HSPF watershed model, a soil-water balance model, and a groundwater model. This three-part model is calibrated to gaged streamflow and groundwater elevations measured in wells to within industry standards and provides a reasonable approach to quantify streamflow and diversion potential for this feasibility study. The accuracy of modeled quantities from the GSP model varies spatially and temporally within the model domain and, as such, the quantified results used in this study should be viewed in a relative rather than an absolute sense.

Results from the existing updated HSPF watershed model (Montgomery, 2020b) were exported at a sub-watershed scale for the available model period from 2001 through 2016. The sub-watershed scale of the HSPF model is shown in Figure 8, along with the model reaches along which the surface water inflows and outflows and streambed percolations are quantified. Modeled streamflow and streambed percolation are important parameters because they indicate locations along the river and stream valleys that either have good recharge potential and/or have available capturable stormwater.

The HSPF watershed model results were used to estimate potential diversion volumes at the sub-watershed scale for the target areas. The State Water Resources Control Board will permit diversion of stormflows that are 20 percent of the 90 percent exceedance flows, which occur, on average, 10 percent of the time. The estimated diversion estimates are based the USGS daily statistics for the Salinas River near Paso Robles, at USGS gage 111475000. USGS used the period of record from 1944 through 2019 to calculate the average daily flow percentiles for the Salinas River near Paso Robles. These statistics were applied to the observed daily Salinas River flows and, if these flows exceeded the USGS calculated 90 percent flow, then 20 percent of that exceedance is calculated as the diversion potential. The diversion potential as a percent of the total flow was calculated from 2001 through 2016 to coincide with the period of record of the HSPF watershed model on a monthly basis to match the monthly output of the model. The calculated monthly diversion percentages from the Salinas River were then applied to the HSPF model flow results, as an estimate of the diversion potential at the sub-watershed scale (see Figure 8).

Streambed percolation is estimated by the HSPF watershed model within each of the reaches of the sub-watersheds. Streambed percolation, at the sub-watershed scale, is an indication of a relative recharge rate along the river valleys. The HSPF watershed model streambed recharge rates are derived from the Green-Ampt infiltration equation (Green, et al., 1911) for a Hydrologic Soil Group as defined by the NRCS and possibly further refined through model calibration. In addition to the modeled HSPF model streambed percolation, estimated recharge rates from the NRCS Hydrologic Soil Groups are calculated. Based on the NRCS Soil Survey Hydrologic Soil Group and estimated soil water properties by Rawls et al. (1982) the following infiltration rate table was used for this study to estimate infiltration rates in the target areas.

Table 4 – NRCS Soils Data Infiltration Rates		
Soil Texture Class	**NRCS Hydrologic Soil Group**	**Infiltration Rate (Inches/Hour)**
Sand	A	8.27
Loamy Sand	A	2.41
Sandy Loam	B	1.02
Loam	B	0.52
Silt Loam	C	0.27
Sandy Clay Loam	C	0.17

Identification of Target Areas for Potential Stormwater Recharge

To select potential recharge target areas and incorporate all the considerations described in previous sections, information was compiled into a GIS environment overlaying a current areal image of the Paso Robles Subbasin to ensure that no impervious structures would interfere with the potential recharge. The selection of target areas considered the topography, soil and aquifer conditions, and land use environments that have the most beneficial effect on the potential artificial recharge of stormwater.

GSI selected five preliminary target areas that meet the range of conditions for recharge and available stormflow (Target Areas 1 through 5). Two of the selected target areas are along the Estrella River, two more along the San Juan Creek and one near the Huer Huero Creek (see Figure 9). Other locations could be considered if there is local knowledge indicating stormwater recharge could be feasible. The estimated average annual quantities of surface water flow, diversion potential, streambed percolation, and depth to groundwater all were derived from either the HSPF watershed model or MODFLOW groundwater model parts of the GSP model. A soil infiltration rate was also estimated from the dominant NRCS Hydrologic Soil Group present in the target areas. The dominant Hydrologic Soil Group in all target areas is A, loamy sand, with a published infiltration rate of 2.41 inches per hour. A loamy sand consists of approximately 80 percent sand with 20 percent fines, such as silt and clay.

To determine the average, wet, and dry conditions in the limited period of record of the HSPF model (2001 through 2016), observed annual streamflow data from 1941 through 2019 of the USGS Salinas River gage near Paso Robles was used. The annual average flow from 1941 through 2019 in the Salinas River is 97.7 cubic feet per second (cfs), which is close to the 2001 annual flow of 98.4 cfs. Similarly, flows in the lowest quartile (or less than the 25 percentile flows of 10 cfs) were considered as dry conditions, and flows in the highest quartile (or greater than the 75 percentile flows of 135 cfs) were considered as wet conditions. From this Salinas River flow analysis, it was determined that annual HSPF model results for water years 2001, 2005, and 2014 are representative of average, wet, and dry hydrologic conditions, respectively.

Target Area 1. Alongside the Estrella River, recharge Target Area 1 has the most estimated stormwater available compared with other target areas, as it is the most downstream location with the largest contributing watershed area (Figure 9). Target Area 1 has on average, for water years 2001 through 2016, an estimated surface water flow of 16,150 acre-feet per year (AFY), diversion potential of 1,890 AFY, streambed percolation of 160 AFY, and a depth to water of 40 ft bgs in 2005 (wet conditions) and 50 ft bgs in 2014 (dry conditions) (see Figures 9 and 10). The target area's approximate average potential recharge index is 6.5 (see Figure 5).

The target areas consist of NRCS Hydrologic Soil Group A with an estimated recharge rate 2.41 inches per hour (see Table 4) or 4.8 acre-ft/day per acre. The estimated annual potential diversions from 2001 through 2016 are shown in Figure 11, where most of the divertible flow is available during very wet years and no divertible flows are available in dry years. The HSPF modeled annual average diversion potentials are 280 AFY, 20,500 AFY, and 0 AFY for average (2001), wet (2005) and dry (2014) hydrologic years, respectively. In Target Area 1 there are no active non-confidential private or public wells. Stormwater recharge in this area probably has the least benefit to the overall groundwater basin because it is downgradient of the areas that are affected by chronic lowering of groundwater levels.

Target Area 2. Target Area 2 is upstream and to the east of Target Area 1 and has an estimated surface water flow of 15,360 AFY, diversion potential of 1,800 AFY, streambed percolation of 530 AFY, and a depth to water of 15 ft bgs in 2005 (wet conditions) and 25 ft bgs in 2014 (dry conditions) (see Figures 9 and 10). The target area's approximate average potential recharge index is 6.5 (see Figure 5). The target area consists of the NRCS Hydrologic Soil Group A with an estimated recharge rate 2.41 inches per hour (see Table 4) or 4.8 acre-ft/day per acre. The estimated annual potential diversions from 2001 through 2016 are shown in Figure 12, where most of the divertible flow is available during very wet years and no divertible flows are available in dry years. The HSPF modeled annual average diversion potentials are 250 AFY, 19,800 AFY, and 0 AFY for average (2001), wet (2005), and dry (2014) hydrologic years, respectively. In Target Area 2 there are no active non-confidential private or public wells. Again, this area is downgradient and does not substantially benefit the majority of the basin.

Target Area 3. Along the San Juan Creek, Target Area 3 has significantly less surface water flows compared with the more downstream Target Areas 1 and 2; however, as expected due to coarser aquifer material, Target Area 3 has greater streambed recharge. Target Area 3 has on average, for water year 2001 through 2016, an estimated surface water flow of 5,030 AFY, diversion potential of 590 AFY, streambed percolation of 1,160 AFY, and a depth to water of 60 ft bgs in 2005 (wet conditions) and 70 ft bgs in 2014 (dry conditions) (see Figures 9 and 13). The target area's approximate average potential recharge index is 7.5 (see Figure 5). The target area consists of NRCS Hydrologic Soil Group A with an estimated recharge rate 2.41 inches per hour (see Table 4) or 4.8 acre-ft/day per acre. The estimated annual potential diversions from 2001 through 2016 are shown in Figure 14, where most of the divertible flow is available during very wet years and no divertible flows are available in dry years. The HSPF modeled annual average diversion potentials are 15 AFY, 6,800 AFY, and 0 AFY for average (2001), wet (2005) and dry (2014) hydrologic years, respectively. In Target Area 3 there are no active non-confidential private or public wells. Recharge in this part of the basin would benefit a larger portion of the basin because it is located upgradient of the areas that are affected by chronic lowering of groundwater levels and because more water would move into the Paso Robles Formation.

Target Area 4. Target Area 4, also along the San Juan Creek, has on average for water year 2001 through 2016, an estimated surface water flow of 4,950 AFY, diversion potential of 580 AFY, streambed percolation of 580 AFY, and a depth to water of 100 ft bgs in 2005 (wet conditions) and 120 ft bgs in 2014 (dry conditions) (see Figures 9 and 13). The target area's approximate average potential recharge index is 7.0 (see Figure 5). The target area consists of NRCS Hydrologic Soil Group A with an estimated recharge rate 2.41 inches per hour (see Table 4) or 4.8 acre-ft/day per acre. The estimated annual potential diversions from 2001 through 2016 are shown in Figure 15, where most of the divertible flow is available during very wet years and no divertible flows are available in dry years. The HSPF modeled annual average diversion potentials are 0 AFY, 6,200 AFY, and 0 AFY for average (2001), wet (2005) and dry (2014) hydrologic years, respectively. Inside Target Area 4 there is one active private non-confidential well. Recharge in this part of the basin would benefit

a larger portion of the basin because it is located upgradient of the areas that are affected by chronic lowering of groundwater levels and because more water would move into the Paso Robles Formation.

Target Area 5. Target Area 5, in the upstream reaches of the Huer Huero Creek, has the best physical conditions to recharge stormwater. Because of this recharge potential, the natural flows occurring in Huer Huero Creek are already being recharged, leaving negligible additional naturally available stormwater. Although Target Area 5 is ideal for artificial recharge, the water source must be imported due to lack of natural flows. Target Area 5 has on average, for water year 2001 through 2016, an estimated surface water flow of 1,030 AFY, diversion potential of 60 AFY, streambed percolation of 1,220 AFY, and a depth to water of 70 ft bgs in 2005 (wet conditions) and 90 ft bgs in 2014 (dry conditions) (see Figures 9 and 16). The target area consists of NRCS Hydrologic Soil Group A with an estimated recharge rate 2.41 inches per hour (see Table 4) or 4.8 acre-ft/day per acre. The estimated annual potential diversions from 2001 through 2016 are shown in Figure 17, where most of the divertible flow is available during very wet years and no divertible flows are available in dry years. The HSPF modeled annual average diversion potential are 0 AFY, 630 AFY, and 0 AFY for average (2001), wet (2005), and dry (2014) hydrologic years, respectively. Inside Target Area 5 there is one active confidential private well and one active non-confidential public well. Recharge in this part of the basin would benefit a larger portion of the basin because it is located upgradient of the areas that are affected by chronic lowering of groundwater levels and because more water would move into the Paso Robles Formation. However, there is an insufficient quantity of natural stormwater flow. This area would be ideal for recharge if an imported source of water were available.

Conclusions

Based on comparative distribution modeling to determine the optimum recharge locations, considering land use, and quantifying the available stormwater in the Paso Robles Subbasin using the GSP model, the following conclusions can be drawn:

- The comparative distribution modeling of topographic slope, soil, and aquifer hydraulic conductivities, in general, delineates that the optimum recharge areas are located near river and creek drainages and toward the higher elevations in the eastern part of the basin, due to greater aquifer hydraulic conductivity.
- Based on the calibrated surface/groundwater GSP model results, capturable stormwater volumes increase in the downstream direction of the San Juan Creek and Estrella River, as the contributing watershed areas become larger. However, stormwater recharge at downgradient locations offer the least benefit to the rest of the basin.
- The areas along the more upstream locations of Huer Huero Creek have the best physical recharge properties in the Paso Robles Subbasin but with limited stormwater flows, since most of the existing surface water percolates into permeable soils connected to the underlying Alluvial Aquifer. It is therefore better suited for recharge of imported water.
- All of the five selected recharge target areas have soils classified as NRCS Hydrologic Soil Group A. NRCS A- soils are the most conducive soils for recharge with an estimated approximate infiltration rate of 2.41 inches/hour or 4.8 acre-ft/day per acre.
- Target Area 1 and 2 have the most available stormwater but lesser physical capacity to percolate water compared to the other target areas.
- Target Areas 3 and 4 have lesser available stormwater but have greater physical capacity to percolate water compared to Areas 1 and 2. The inverse is true compared to Target Area 5.

- Target Area 5 has very little available stormwater flow but has the greater physical capacity to percolate water compared to the other target areas.
- Stormwater is only available during wet periods and the return frequencies of these hydrologic conditions are on the scale of many years, during which no divertible storm water would be available for artificial recharge. While it may be feasible to capture and divert storm water, the cost of improvements and monitoring relative to the benefit of the recharge water to the basin is questionable and will have to be determined with additional evaluations.

Recommended Next Steps

This screening level feasibility study evaluated the five most promising recharge target areas in the Paso Robles Subbasin based on readily available regional data in the study area. Unfortunately, the analysis indicates that the capturable flows are only available for 2 or 3 years out of every 10-15 years and the quantities of flow that could be diverted are likely not large enough to make the cost versus benefit favorable. Rather than proceed with the original planned Phase 2 scope of work, a modified Phase 2 scope of work is suggested that will focus efforts and funds on developing one or more favorable sites where land owners are willing to participate in this program.

Site Specific Project Development

Task 3 – Identify Alternative Recharge Locations

The purpose of this task is to identify new locations where stormwater recharge would directly benefit the area of severe water level decline identified by the County of San Luis Obispo Department of Planning and Building and areas within the Shandon-San Juan Water District. Potential areas that have been suggested previously include parcels along the Estrella River west of Shandon and parcels along San Juan Creek. Based on present knowledge of hydrogeological conditions, recharge on parcels located along San Juan Creek would be less likely to benefit the area of severe decline observed to the west within a reasonable timeframe because of limited connectivity; however, recharge in the San Juan Creek area would infiltrate relatively quickly and may help maintain water levels in that area.

In this task, the results of the SkyTEM geophysical study (to be released by the County in early 2021) will be used to further identify favorable areas that lack significant clay layers and that have connectivity with the deeper Paso Robles Formation in the area of severe decline. These data will be integrated with the Phase 1 GIS recharge criteria layers to identify parcels that have the highest potential for recharging the largest amount of water into the area of severe decline.

Task 4 – Site Specific Project Investigation

The purpose of this task is to obtain site specific information about infiltration rates and potential recharge volumes at the preferred locations identified in Task 3. This would better define the project, quantify the actual recharge potential, and determine what approach is needed to capture the stormwater at a specific location. Subtasks include:

- Work with landowners identified in Task 3 to map out where the project(s) would be sited.
- Assess river morphology to determine the best method for diverting stormwater into an area to be flooded.
- Develop contractor cost estimates once a site is selected.
- Drill a borehole and collect soil samples to assess the depth to the Paso Robles Formation and presence of clay layers that may impede downward movement of recharge water.

- Perform soil textural analysis using test pits and submit samples to a soils lab for measurement of grain size distribution and permeability.
- Perform infiltration testing in test pits to measure near surface infiltration rates.
- Perform a surface geophysical survey to identify the most suitable areas for recharge and estimate infiltration characteristics.

Task 5- Permitting and Regulatory Requirements

This task includes review of applicable County and State of California permitting and approval requirements pertaining to siting and operating stormwater capture and recharge projects. These approvals and permits may include land use approval from the County, stream diversion permit from the State Water Resources Control Board (SWRCB) or the Department of Water Resources (DWR), CEQA environmental review, and grading and building permits from the County.

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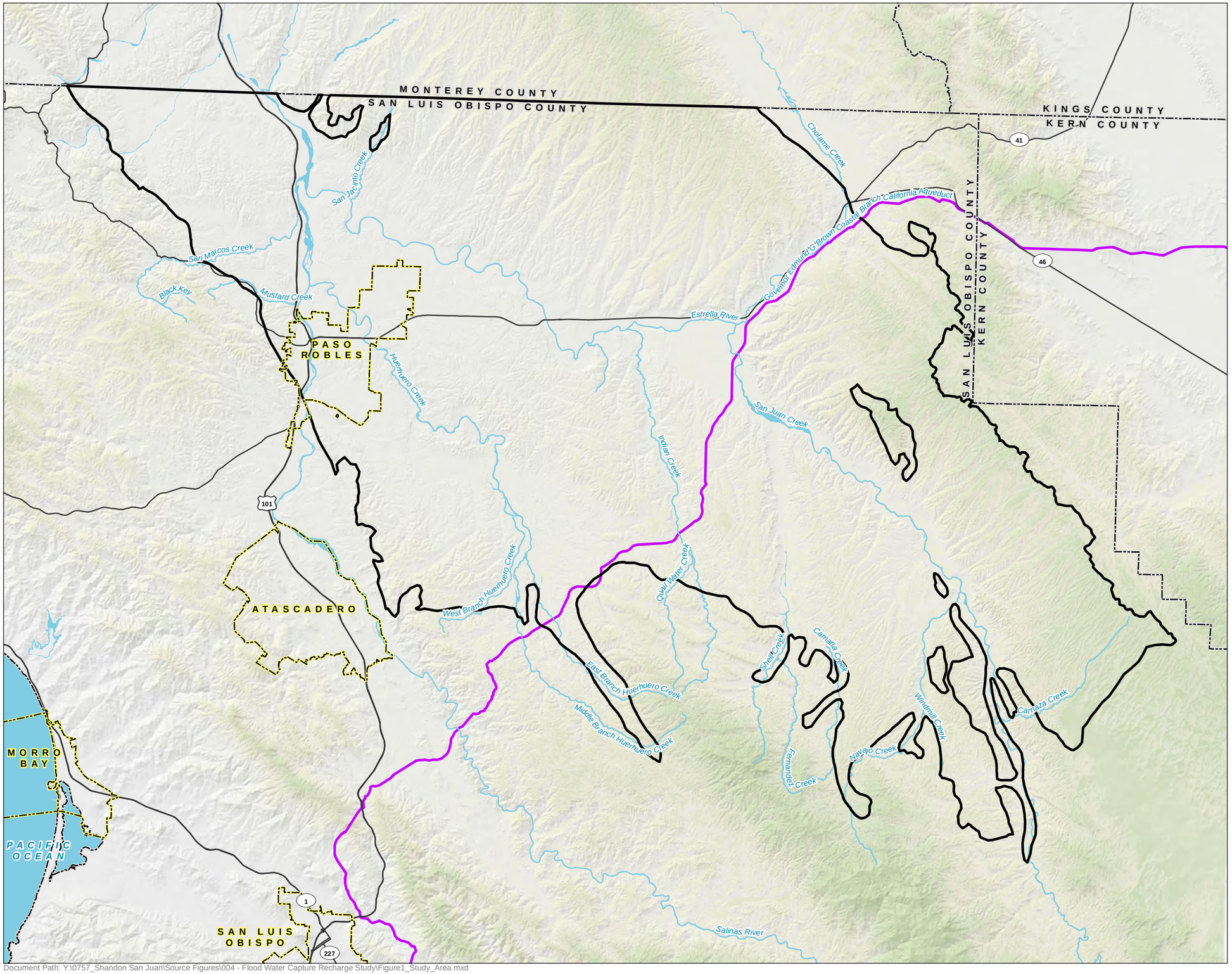
FIGURES

FIGURE 1

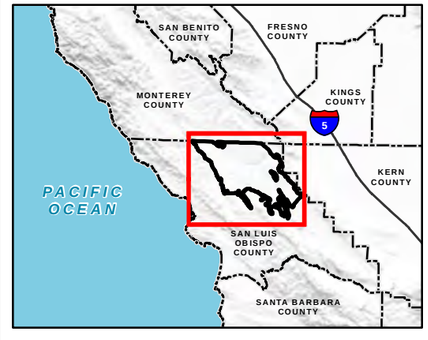
Study Area

Paso Robles Subbasin



LEGEND

- Major Watercourse
- Coastal Branch California Aqueduct
- Major Road
- Salinas Valley Groundwater Basin - Paso Robles Area
- City Boundary
- County Boundary



N

0 2 4 6

Miles

Date: May 8, 2020
Data Sources: USGS, ESRI, SLO Co., CA DWR

GSI Water Solutions, Inc.

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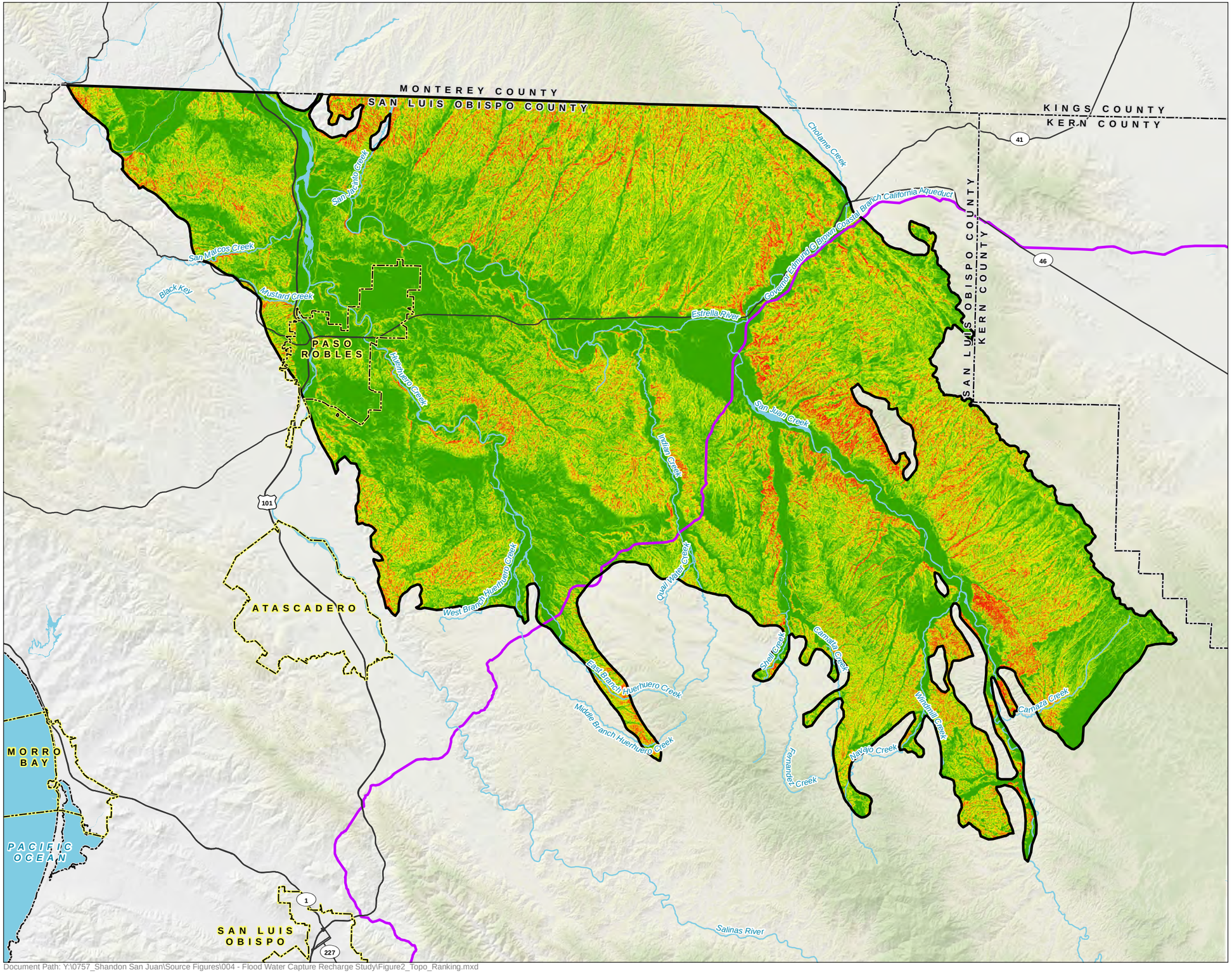
FIGURE 2

Topographic Slope Recharge Potential Index Ranking

Paso Robles Subbasin



LEGEND

Topographic Slope Recharge Potential Index Ranking

- 1: Very Low
- 2: Low
- 3: Medium Low
- 4: Medium
- 6: Medium High
- 8: High
- 10: Very High

All Other Features

- Major Watercourse
- Coastal Branch California Aqueduct
- Major Road
- Salinas Valley Groundwater Basin - Paso Robles Area
- City Boundary
- County Boundary

N

0 2 4 6

Miles

Date: May 8, 2020
Data Sources: USGS, ESRI, SLO Co., CA DWR

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FIGURE 3

Saturated Soil Hydraulic Conductivity Recharge Potential Index Ranking

Paso Robles Subbasin

MONTEREY COUNTY
SAN LUIS OBISPO COUNTY
KINGS COUNTY
KERN COUNTY
SAN LUIS OBISPO COUNTY
KERN COUNTY
PASO ROBLES
ATASCADERO
MORRO BAY
SAN LUIS OBISPO
PACIFIC OCEAN
Cholame Creek
San Juan Creek
San Marcos Creek
Black Key
Mustard Creek
Huerhuero Creek
Estrella River
Governor Edmund G. Brown Coastal Branch California Aqueduct
Indian Creek
West Branch Huerhuero Creek
Quail Water Creek
Shell Creek
Camatta Creek
East Branch Huerhuero Creek
Middle Branch Huerhuero Creek
Fernandez Creek
Navajo Creek
Windmill Creek
Carnazza Creek
Salinas River
41
46
101
1
227

LEGEND

Saturated Soil Hydraulic Conductivity Recharge Potential Index Ranking

- 2: Low
- 4: Medium Low
- 6: Medium
- 8: High
- 10: Very High

All Other Features

- Major Watercourse
- Coastal Branch California Aqueduct
- Major Road
- Salinas Valley Groundwater Basin - Paso Robles Area
- City Boundary

N

0 2 4 6
Miles

Date: May 8, 2020
Data Sources: USGS, ESRI, SLO Co., CA DWR

GSI Water Solutions, Inc.

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FIGURE 4

Aquifer Hydraulic Conductivity Recharge Potential Index Ranking

Paso Robles Subbasin

MONTEREY COUNTY
SAN LUIS OBISPO COUNTY
KINGS COUNTY
KERN COUNTY
SAN LUIS OBISPO COUNTY
KERN COUNTY
PASO ROBLES
ATASCADERO
MORRO BAY
PACIFIC OCEAN
SAN LUIS OBISPO
Cholame Creek
San Juanito Creek
San Marcos Creek
Black Key
Mustard Creek
Huerhuero Creek
Estrella River
Governor Edmund G. Brown Coastal Branch California Aqueduct
San Juan Creek
Indian Creek
Quail Water Creek
West Branch Huerhuero Creek
East Branch Huerhuero Creek
Middle Branch Huerhuero Creek
Shell Creek
Camatta Creek
Fernandez Creek
Navajo Creek
Windmill Creek
Carnaza Creek
Salinas River
41
46
101
1
227

LEGEND

Aquifer Hydraulic Conductivity Recharge Potential Index Ranking

- 1: Very Low
- 3: Low
- 5: Medium Low
- 7: Medium
- 9: High
- 10: Very High

All Other Features

- Major Watercourse
- Coastal Branch California Aqueduct
- Major Road
- Salinas Valley Groundwater Basin - Paso Robles Area
- City Boundary
- County Boundary

N

0 2 4 6
Miles

Date: May 8, 2020
Data Sources: USGS, ESRI, SLO Co., CA DWR

GSI Water Solutions, Inc.

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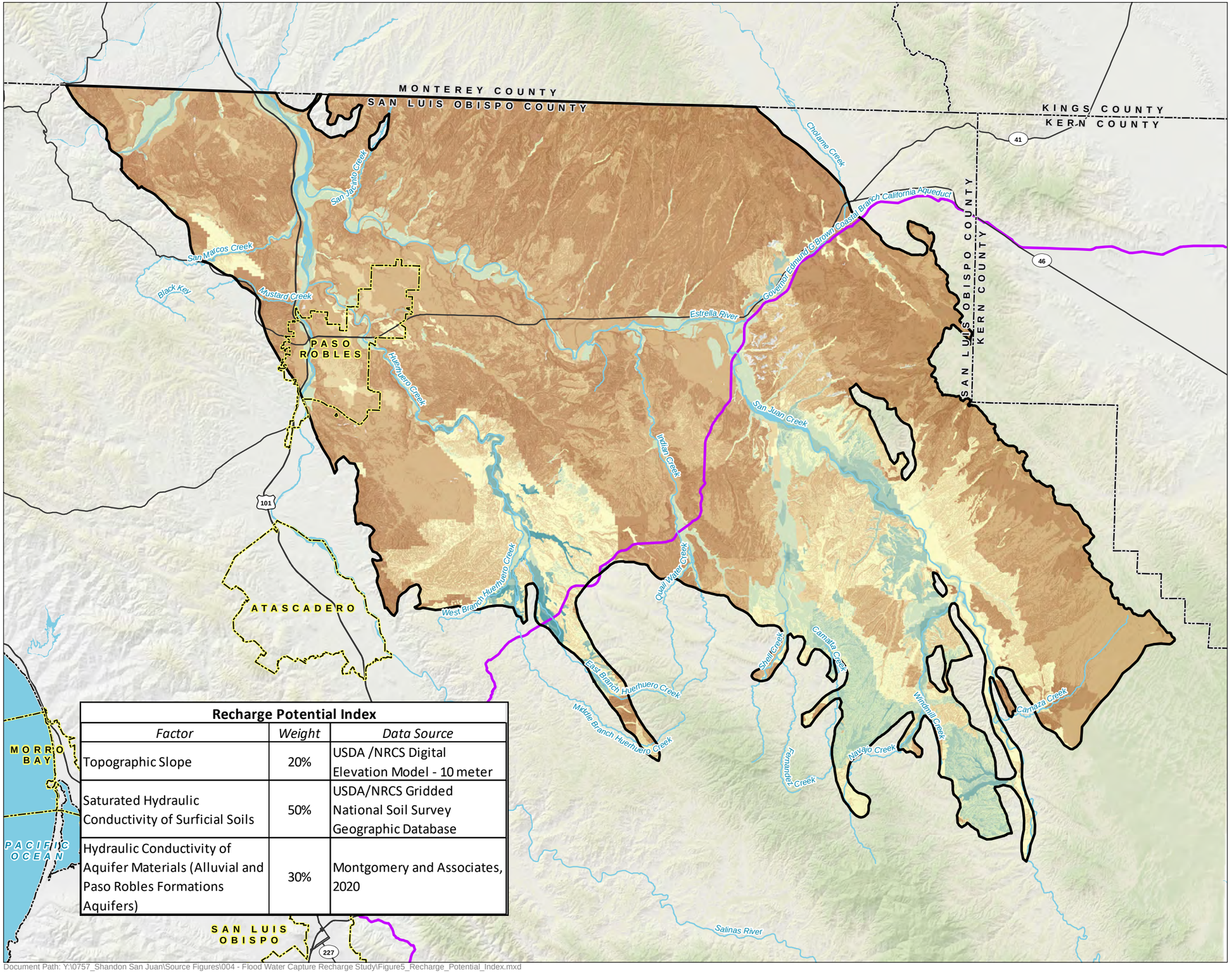
FIGURE 5

Recharge Potential Index Map

Paso Robles Subbasin



Recharge Potential Index		
Factor	*Weight*	*Data Source*
Topographic Slope	20%	USDA /NRCS Digital Elevation Model - 10 meter
Saturated Hydraulic Conductivity of Surficial Soils	50%	USDA/NRCS Gridded National Soil Survey Geographic Database
Hydraulic Conductivity of Aquifer Materials (Alluvial and Paso Robles Formations Aquifers)	30%	Montgomery and Associates, 2020

LEGEND

Recharge Potential Index

- 0 - 2 (Low)
- 2 - 3
- 3 - 4
- 4 - 5
- 5 - 6
- 6 - 7
- 7 - 8
- 8 - 9
- 9 - 10 (High)

All Other Features

- Major Watercourse
- Coastal Branch California Aqueduct
- Major Road
- Salinas Valley Groundwater Basin - Paso Robles Area
- City Boundary
- County Boundary

N

0 2 4 6

Miles

Date: May 8, 2020
Data Sources: USGS, ESRI, SLO Co., CA DWR

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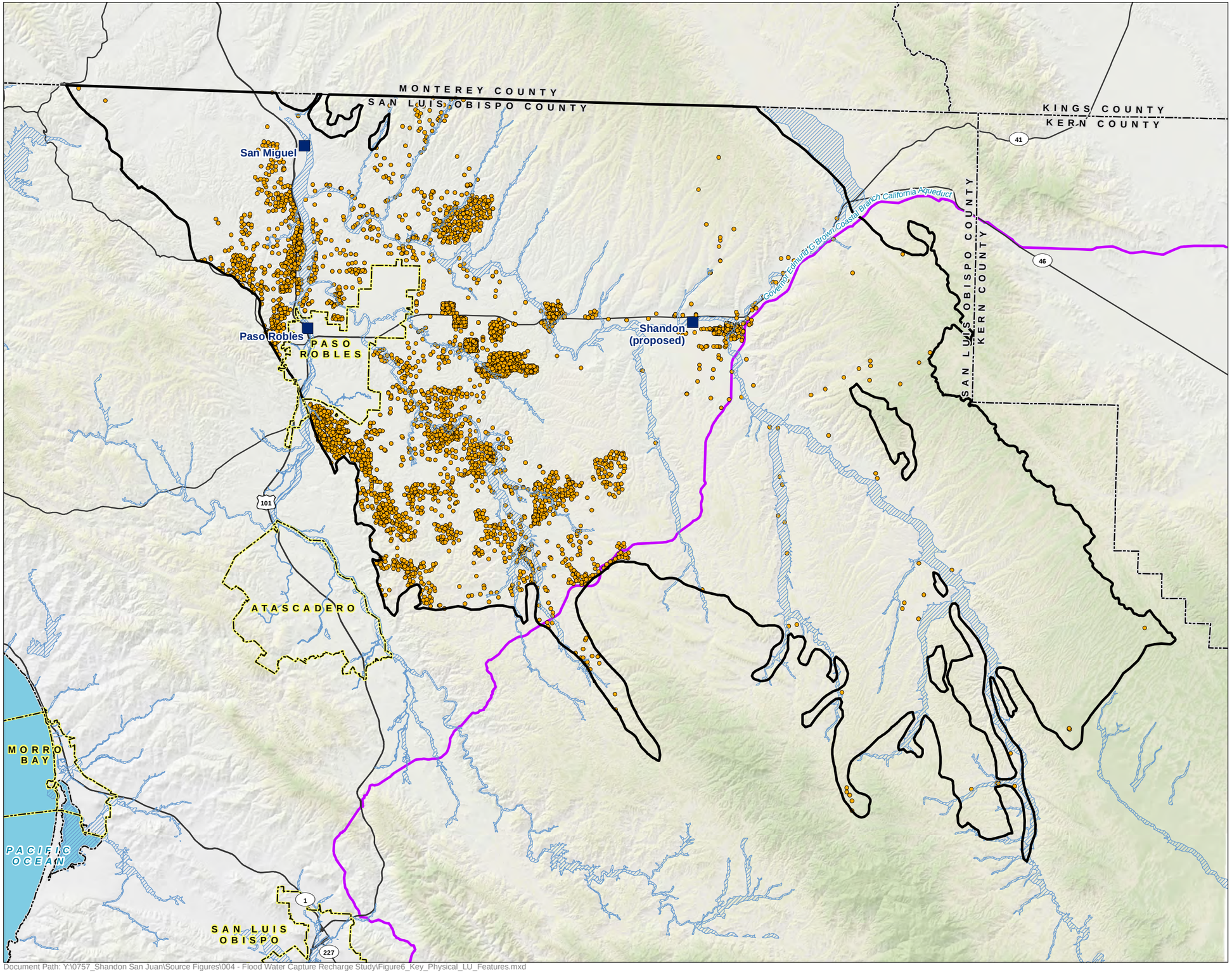
FIGURE 6

Key Physical Land Use Features

Paso Robles Subbasin



LEGEND

- Assumed Septic Tank Location (any address location outside of San Miguel or Paso Robles Service Area)
- Wastewater Treatment Facility
- 100-year Flood Zone
- Coastal Branch California Aqueduct

All Other Features

- Major Road
- Salinas Valley Groundwater Basin - Paso Robles Area
- City Boundary
- County Boundary

N

0 2 4 6

Miles

Date: May 8, 2020
Data Sources: USGS, ESRI, SLO Co., CA DWR

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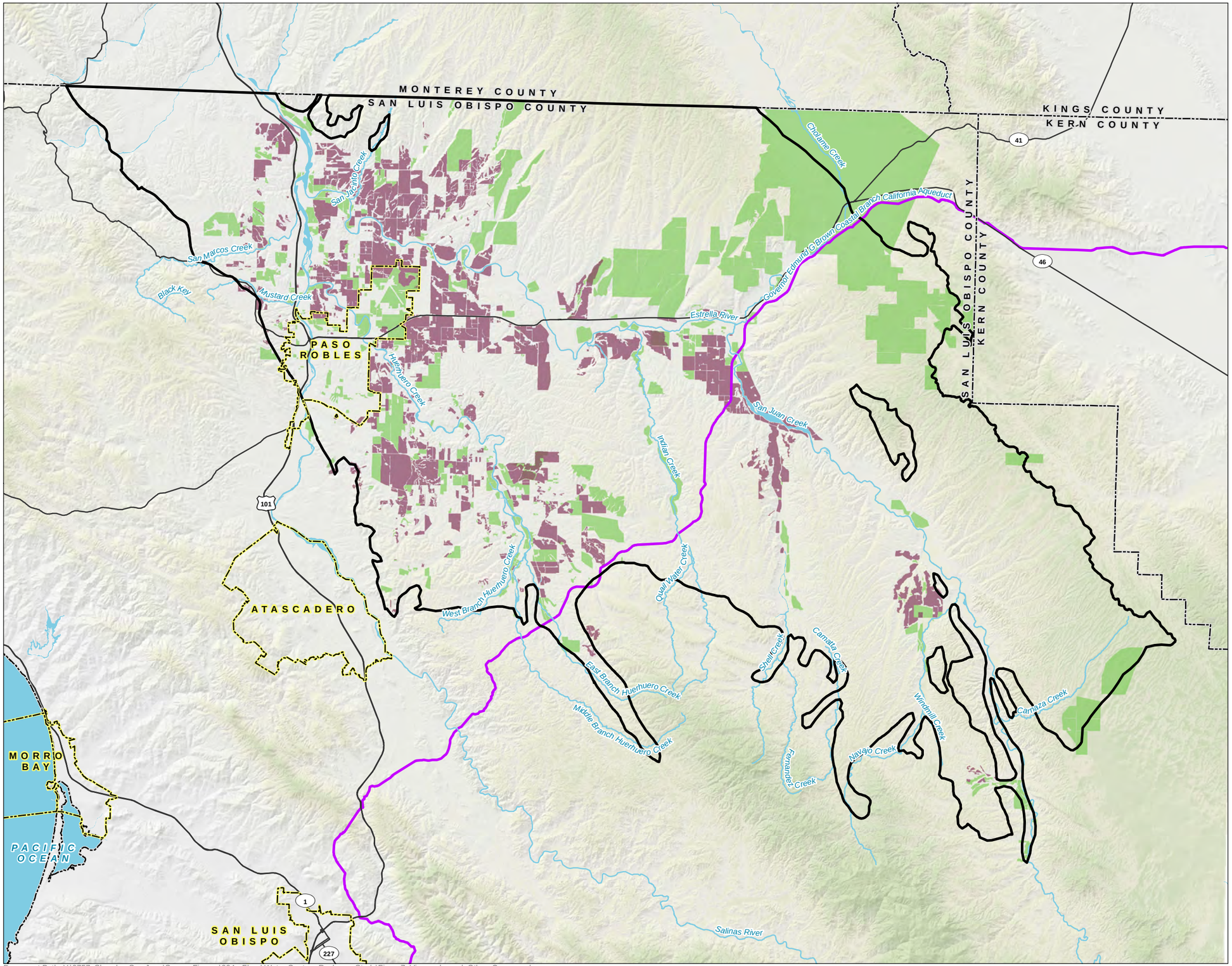
FIGURE 7

Agricultural Distribution of Vineyards Compared with Other Crop Types

Paso Robles Subbasin



LEGEND

Crop Type

- Vineyard
- Non-Vineyard

All Other Features

- Major Watercourse
- Coastal Branch California Aqueduct
- Major Road
- Salinas Valley Groundwater Basin - Paso Robles Area
- City Boundary
- County Boundary

N

0 2 4 6

Miles

Date: May 8, 2020
Data Sources: USGS, ESRI, SLO Co., CA DWR

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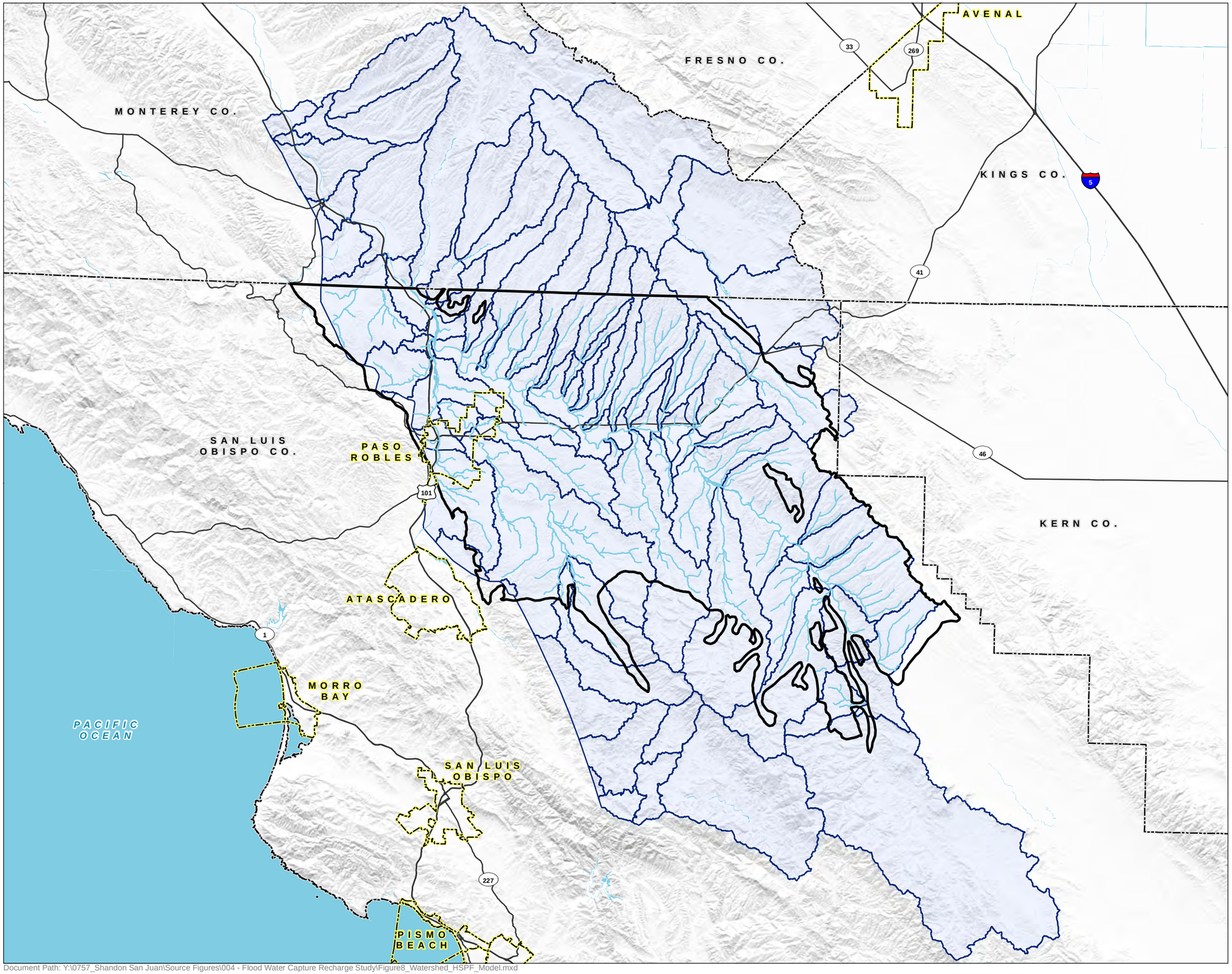

FIGURE 8

HSPF Watershed Model Sub-Watersheds

Paso Robles Subbasin

LEGEND

- HSPF Model Reach
- HSPF Model Sub-Watershed Boundary

All Other Features

- Major Road
- Salinas Valley Groundwater Basin - Paso Robles Area
- City Boundary
- County Boundary

NOTE

HSPF: Hydrologic Simulation Program - Fortran

N

0 3 6 9

Miles

Date: May 8, 2020

Data Sources: USGS, ESRI, CA DWR

GSI Water Solutions, Inc.

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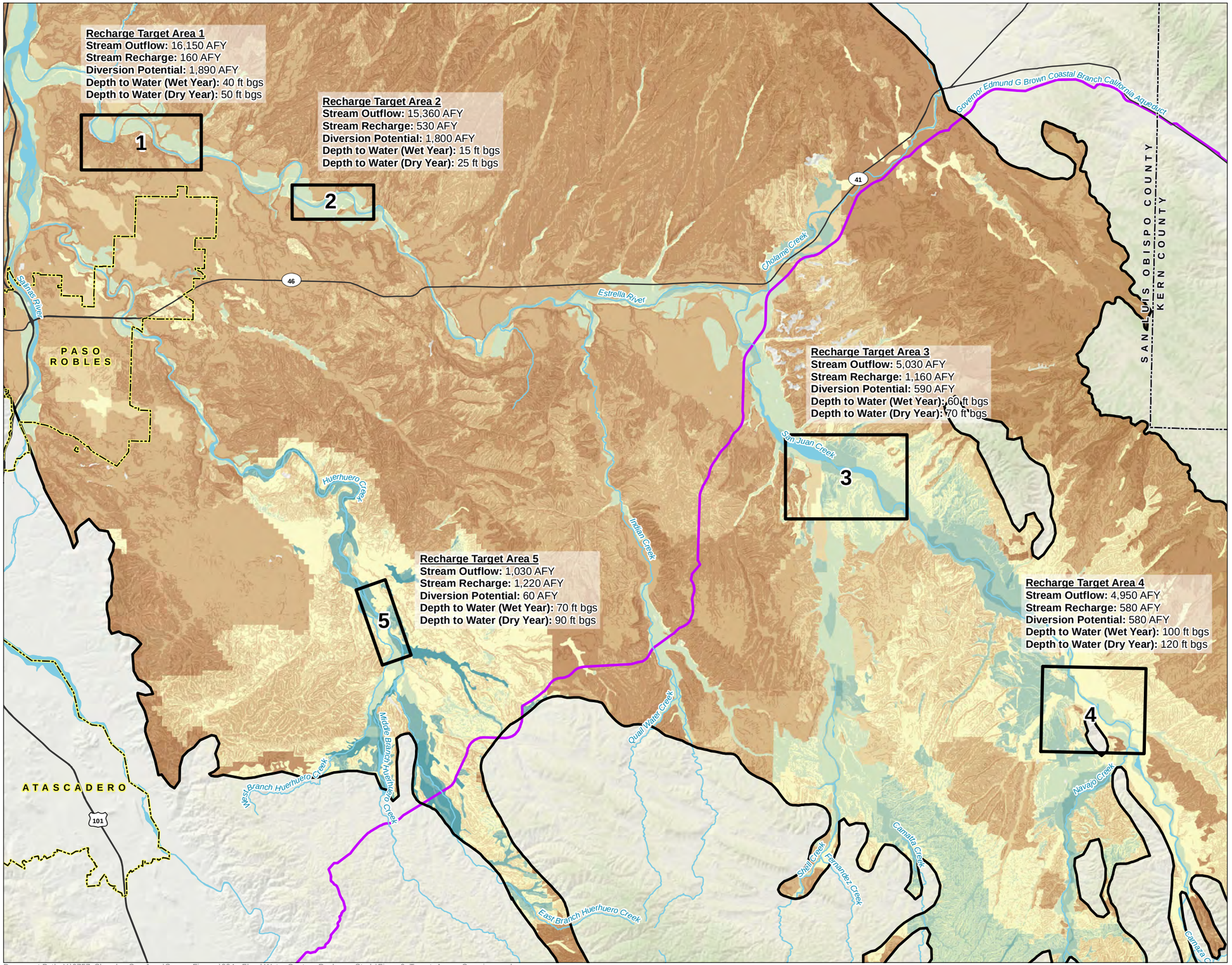

FIGURE 9

Selected Recharge Target Areas

Paso Robles Subbasin

LEGEND

- Target Area
- **Recharge Potential Index**
  - 0 - 2 (Low)
  - 2 - 3
  - 3 - 4
  - 4 - 5
  - 5 - 6
  - 6 - 7
  - 7 - 8
  - 8 - 9
  - 9 - 10 (High)
- **All Other Features**
  - Major Watercourse
  - Coastal Branch California Aqueduct
  - Major Road
  - Salinas Valley Groundwater Basin - Paso Robles Area
  - City Boundary
  - County Boundary

NOTES

AFY: Acre Feet per Year
bgs: below ground surface

N

0 1 2 3
Miles

Date: May 8, 2020
Data Sources: USGS, ESRI, SLO Co., CA DWR

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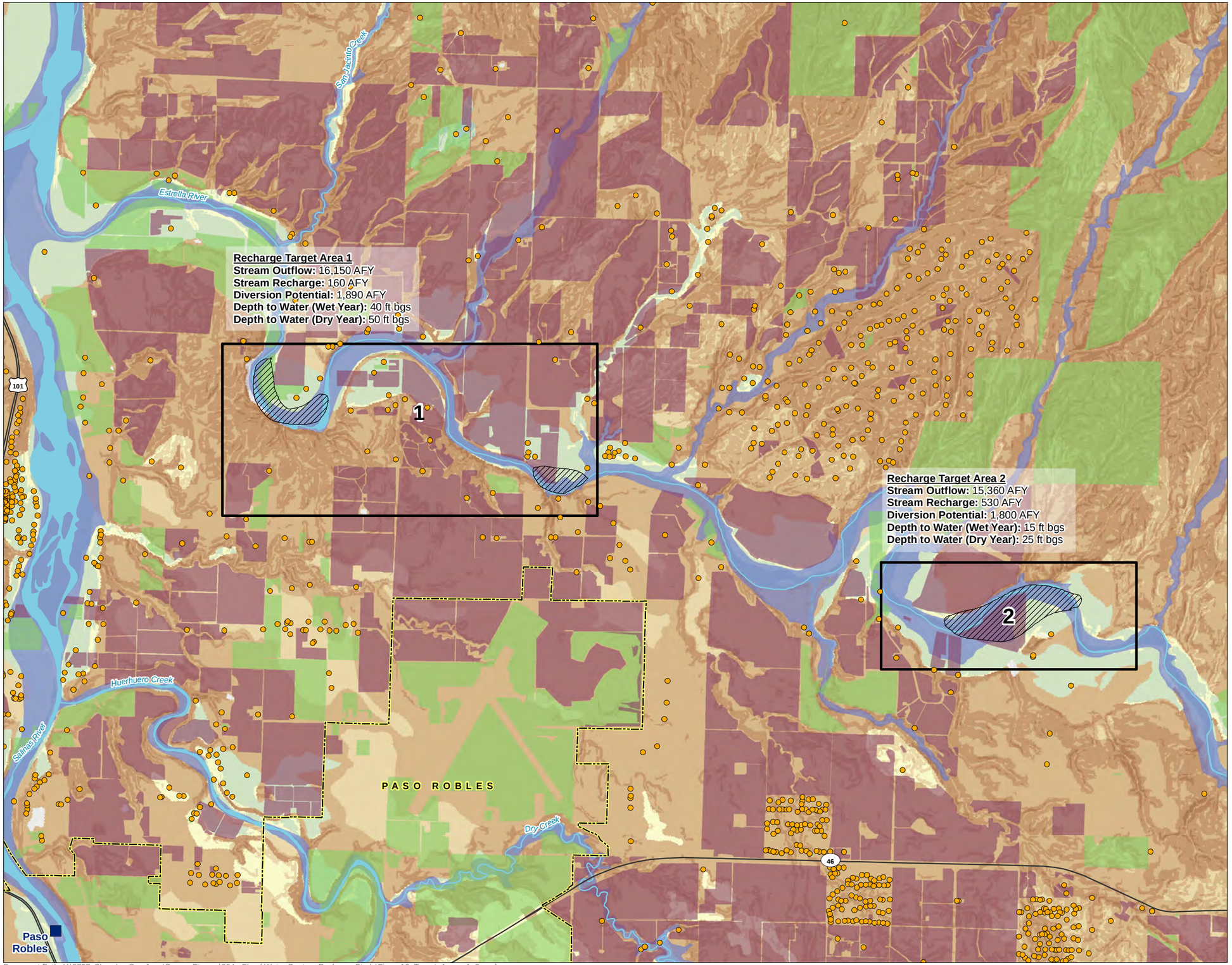
Document Path: Y:\0757_Shandon San Juan\Source Figures\004 - Flood Water Capture Recharge Study\Figure9_Target_Areas_Overview.mxd

FIGURE 10

Selected Target Areas 1 and 2 Along the Estrella River

Paso Robles Subbasin



LEGEND

- Assumed Septic Tank Location (any address location outside of San Miguel or Paso Robles Service Area)
- Wastewater Treatment Facility
- Potential Recharge
- 1 Target Area

Crop Type

- Vineyard
- Non-Vineyard

Recharge Potential Index

- 0 - 2 (Low)
- 2 - 3
- 3 - 4
- 4 - 5
- 5 - 6
- 6 - 7
- 7 - 8
- 8 - 9
- 9 - 10 (High)

All Other Features

- Watercourse
- Major Road
- Salinas Valley Groundwater Basin - Paso Robles Area
- 100-year Flood Zone
- City Boundary
- County Boundary

NOTE

bgs: below ground surface

N

0 2,000 4,000 6,000

Feet

Date: May 8, 2020
Data Sources: USGS, ESRI, SLO Co., CA DWR

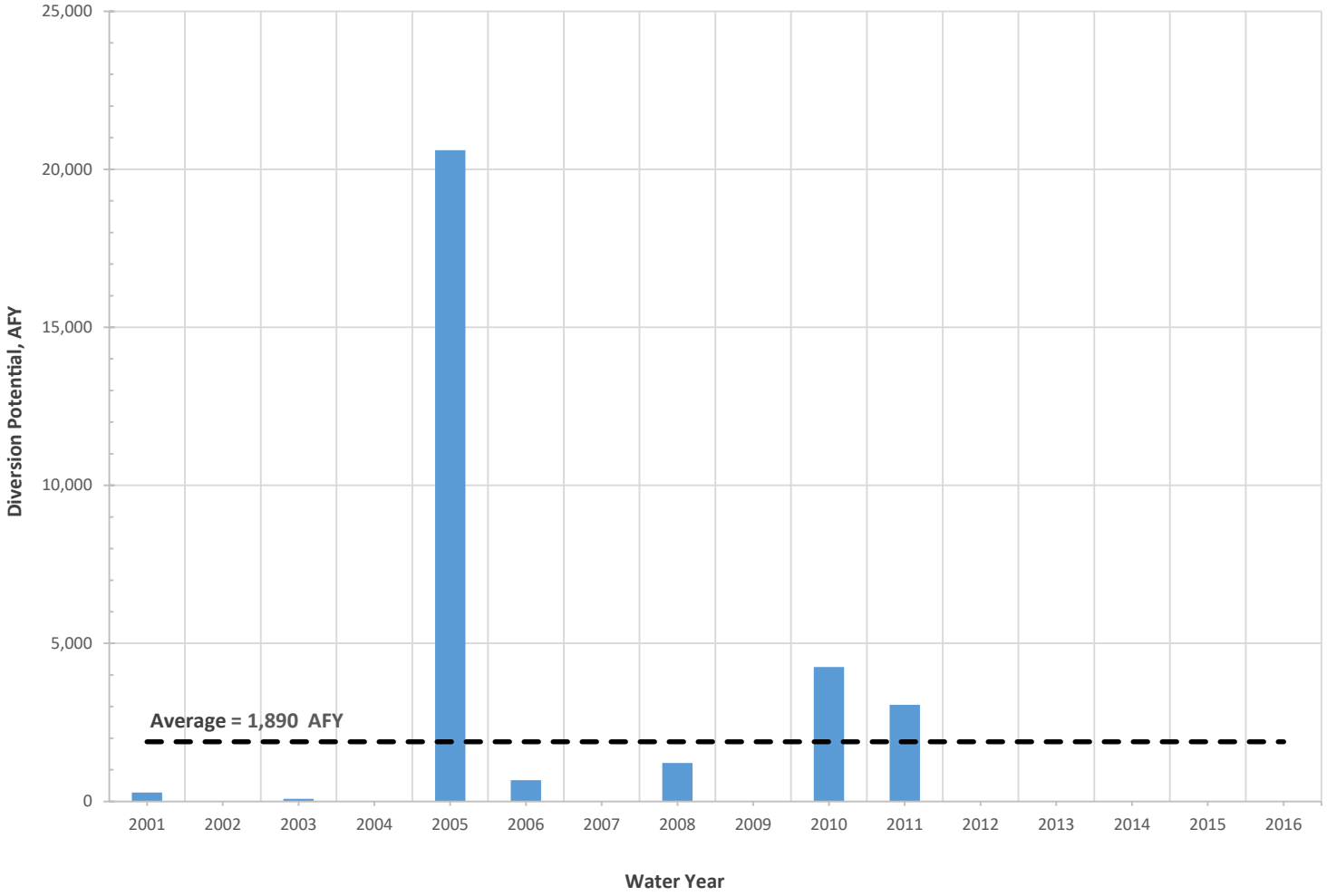
GSI Water Solutions, Inc.

Document Path: Y:\0757_Shandon San Juan\Source Figures\004 - Flood Water Capture Recharge Study\Figure10_Target_Areas_1_2.mxd

FIGURE 11

Annual Diversion Potential for Recharge Target Area 1 - Estrella River

Paso Robles Subbasin



LEGEND

- Diversion Potential
- Average Diversion Potential

NOTES

AFY: Acre Feet per Year

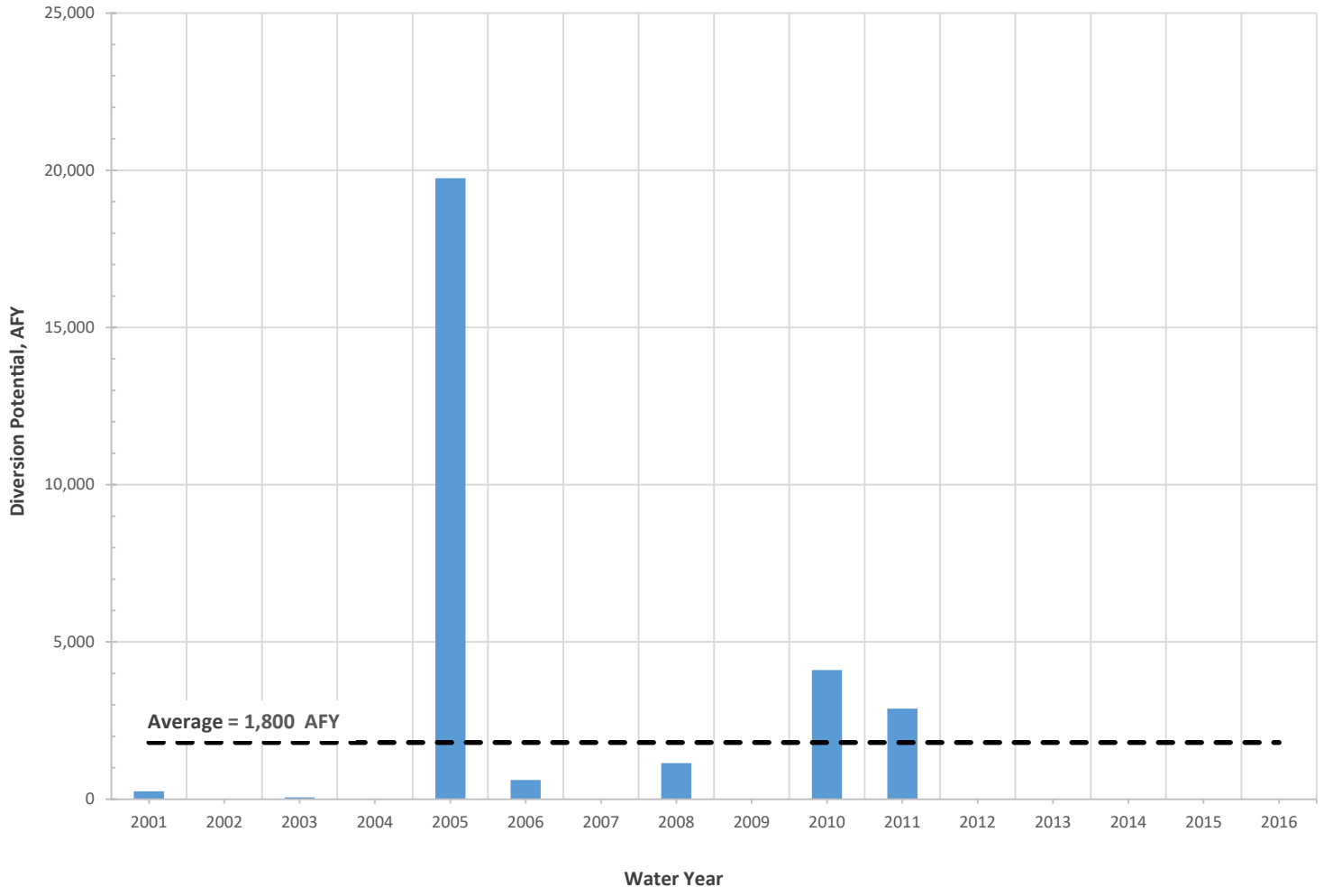
GSI Water Solutions, Inc.

Y:\0757_Shandon San Juan\Source Figures\004 - Flood Water Capture Recharge Study

FIGURE 12

Annual Diversion Potential for Recharge Target Area 2 - Estrella River

Paso Robles Subbasin



LEGEND

- Diversion Potential
- Average Diversion Potential

NOTES

AFY: Acre Feet per Year

GSI Water Solutions, Inc.

Y:\0757_Shandon San Juan\Source Figures\004 - Flood Water Capture Recharge Study

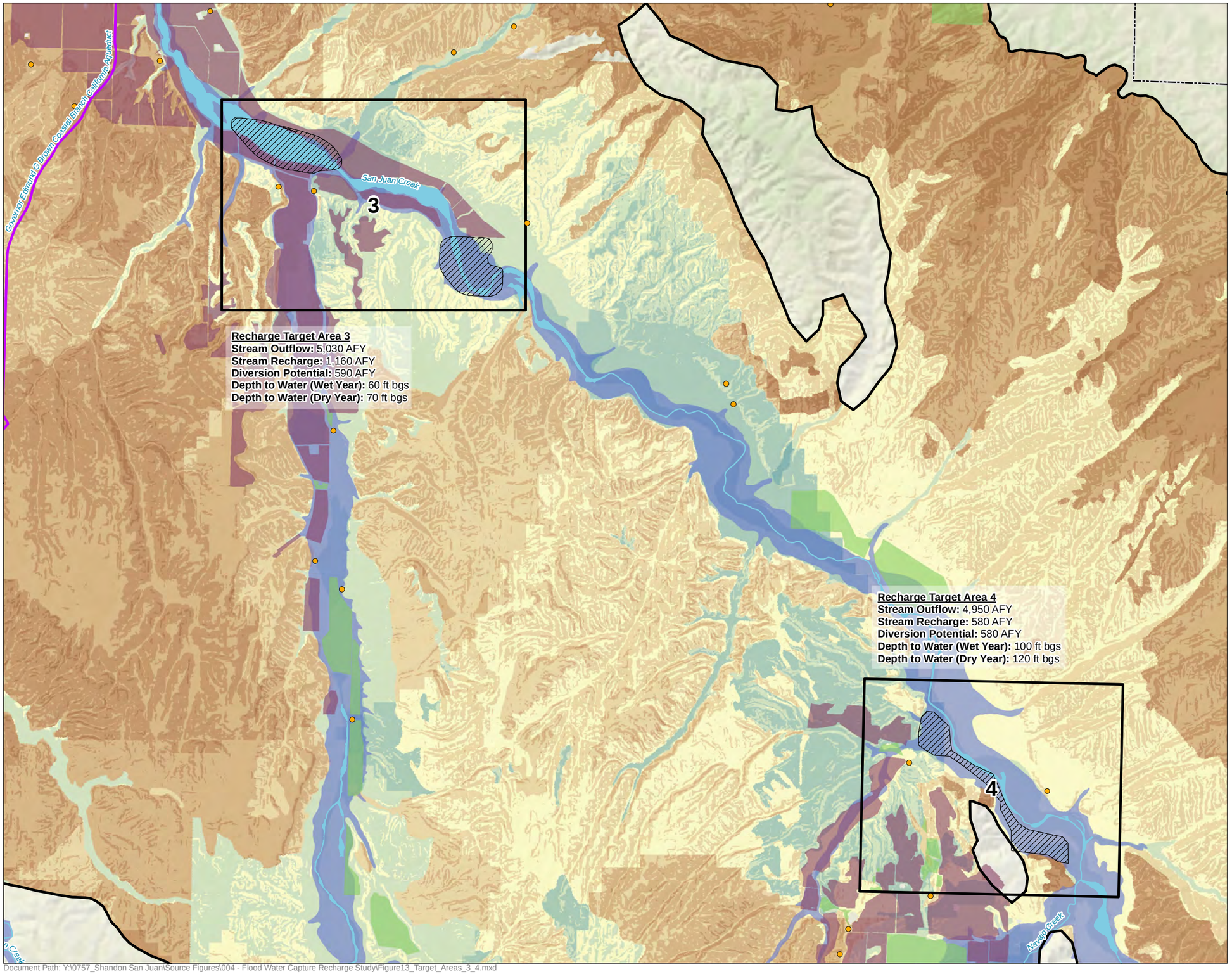


FIGURE 13

Selected Target Areas 3 and 4 Along San Juan Creek

Paso Robles Subbasin

LEGEND

- Assumed Septic Tank Location (any address location outside of San Miguel or Paso Robles Service Area)
- Wastewater Treatment Facility
- Potential Recharge Area
- Target Area

Crop Type

- Vineyard
- Non-Vineyard

Recharge Potential Index

- 0 - 2 (Low)
- 2 - 3
- 3 - 4
- 4 - 5
- 5 - 6
- 6 - 7
- 7 - 8
- 8 - 9
- 9 - 10 (High)

All Other Features

- Watercourse
- Coastal Branch California Aqueduct
- Major Road
- Salinas Valley Groundwater Basin - Paso Robles Area
- 100-year Flood Zone
- City Boundary
- County Boundary

N

0 2,500 5,000 7,500

Feet

Date: May 8, 2020
Data Sources: USGS, ESRI, SLO Co., CA DWR

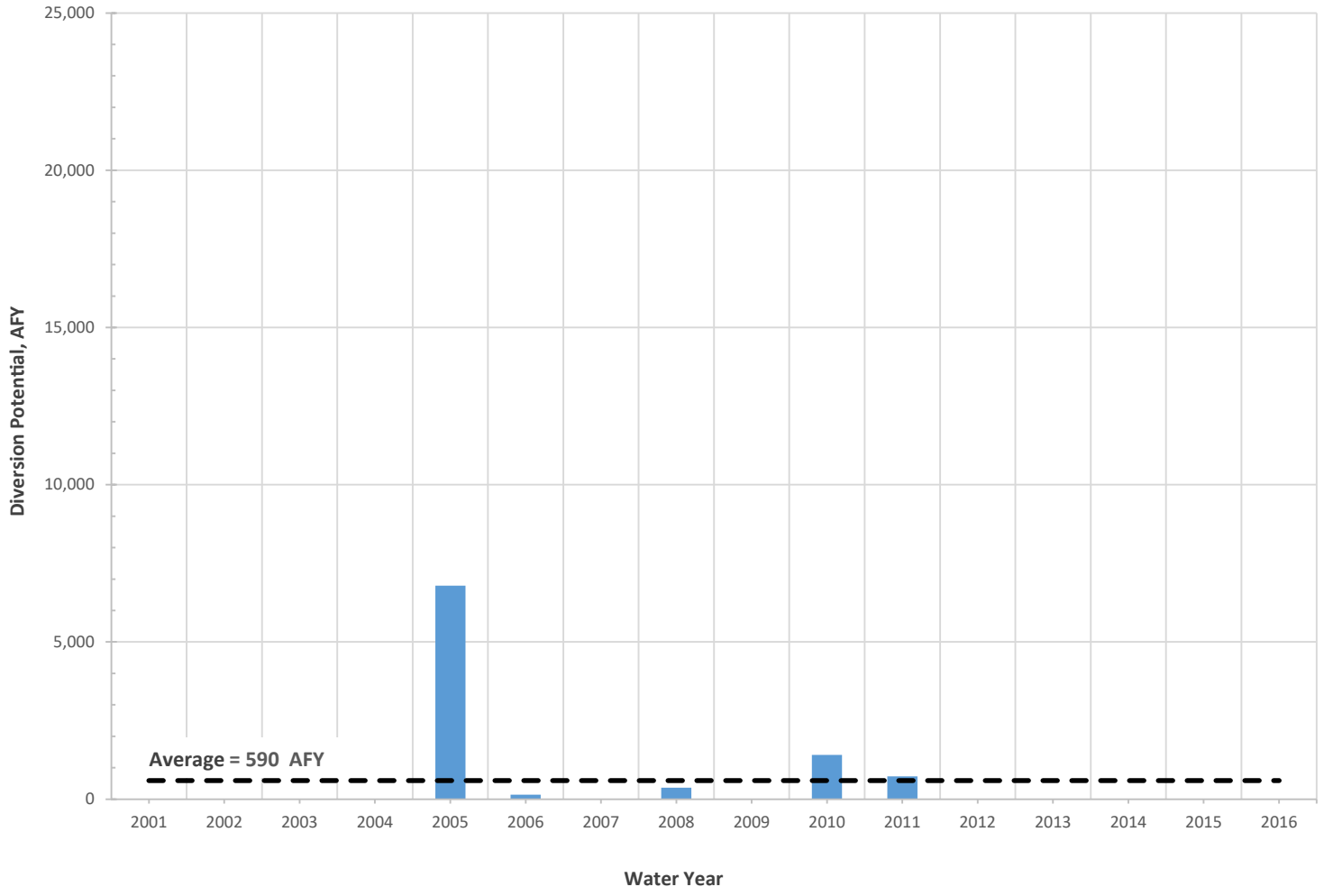
GSI Water Solutions, Inc.

Document Path: Y:\0757_Shandon San Juan\Source Figures\004 - Flood Water Capture Recharge Study\Figure13_Target_Areas_3_4.mxd

FIGURE 14

Annual Diversion Potential for Recharge Target Area 3 - San Juan Creek

Paso Robles Subbasin



LEGEND

- Diversion Potential
- Average Diversion Potential

NOTES

AFY: Acre Feet per Year

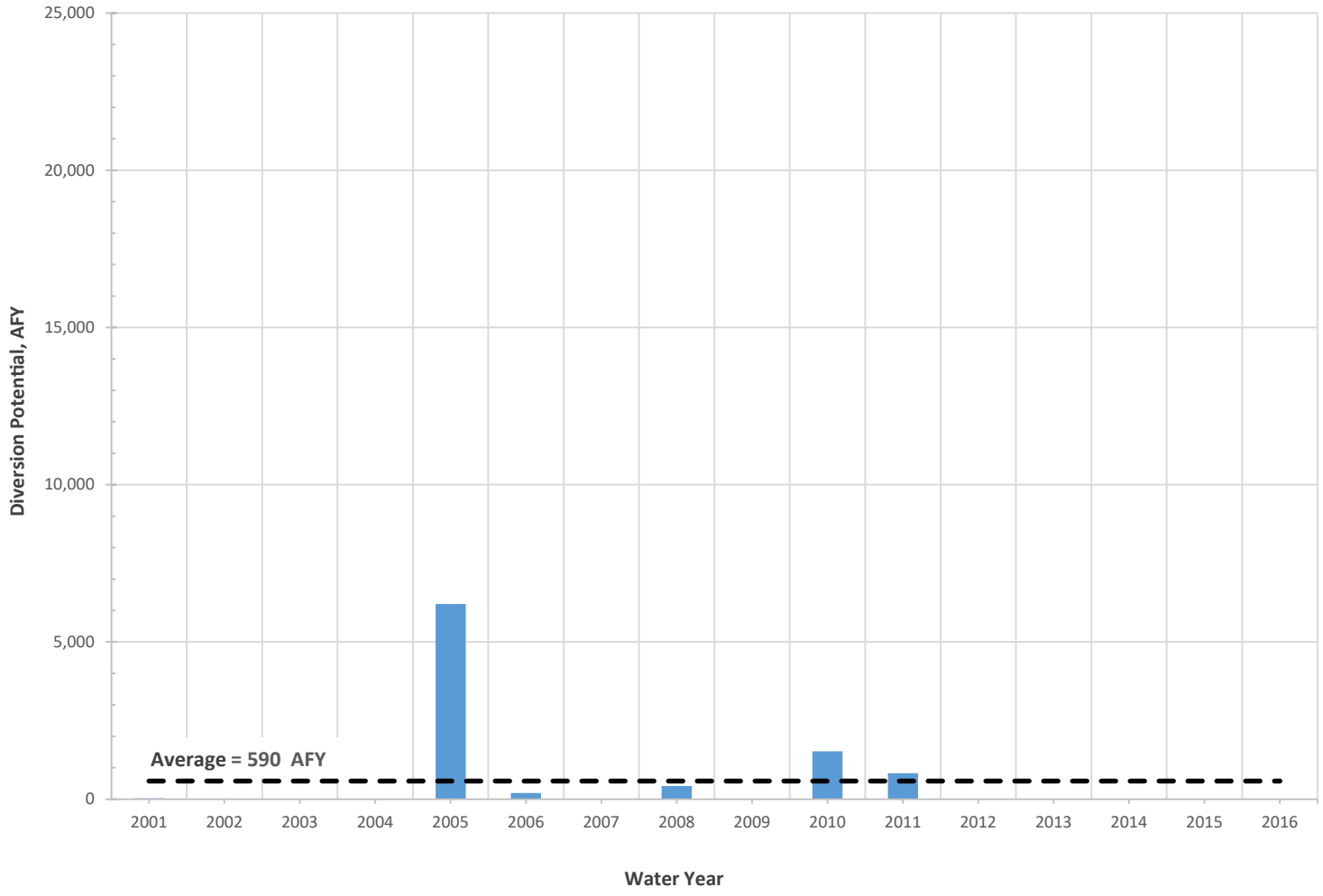
GSI Water Solutions, Inc.

Y:\0757_Shandon San Juan\Source Figures\004 - Flood Water Capture Recharge Study

FIGURE 15

Annual Diversion Potential for Recharge Target Area 4 - San Juan Creek

Paso Robles Subbasin



LEGEND

- Diversion Potential
- Average Diversion Potential

NOTES

AFY: Acre Feet per Year

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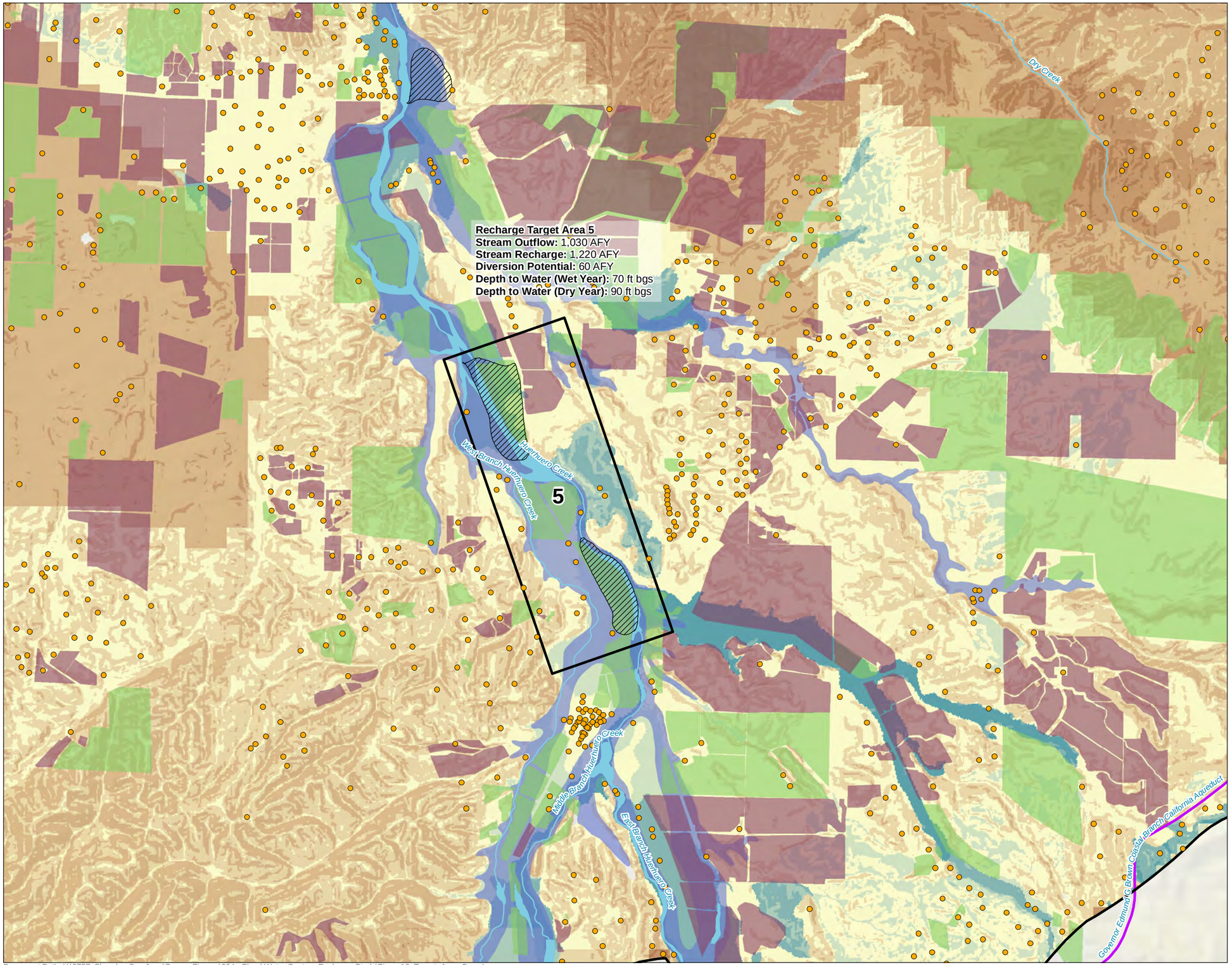
FIGURE 16

Selected Target Area 5 Along Huer Huero Creek

Paso Robles Subbasin



LEGEND

- Assumed Septic Tank Location (any address location outside of San Miguel or Paso Robles Service Area)
- Wastewater Treatment Facility
- Potential Recharge Area
- Target Area

Crop Type

- Vineyard
- Non-Vineyard

Recharge Potential Index

- 0 - 2 (Low)
- 2 - 3
- 3 - 4
- 4 - 5
- 5 - 6
- 6 - 7
- 7 - 8
- 8 - 9
- 9 - 10 (High)

All Other Features

- Watercourse
- Coastal Branch California Aqueduct
- Major Road
- Salinas Valley Groundwater Basin - Paso Robles Area
- 100-year Flood Zone
- City Boundary
- County Boundary

N

0 1,500 3,000 4,500

Feet

Date: May 8, 2020
Data Sources: USGS, ESRI, SLO Co., CA DWR

GSI Water Solutions, Inc.

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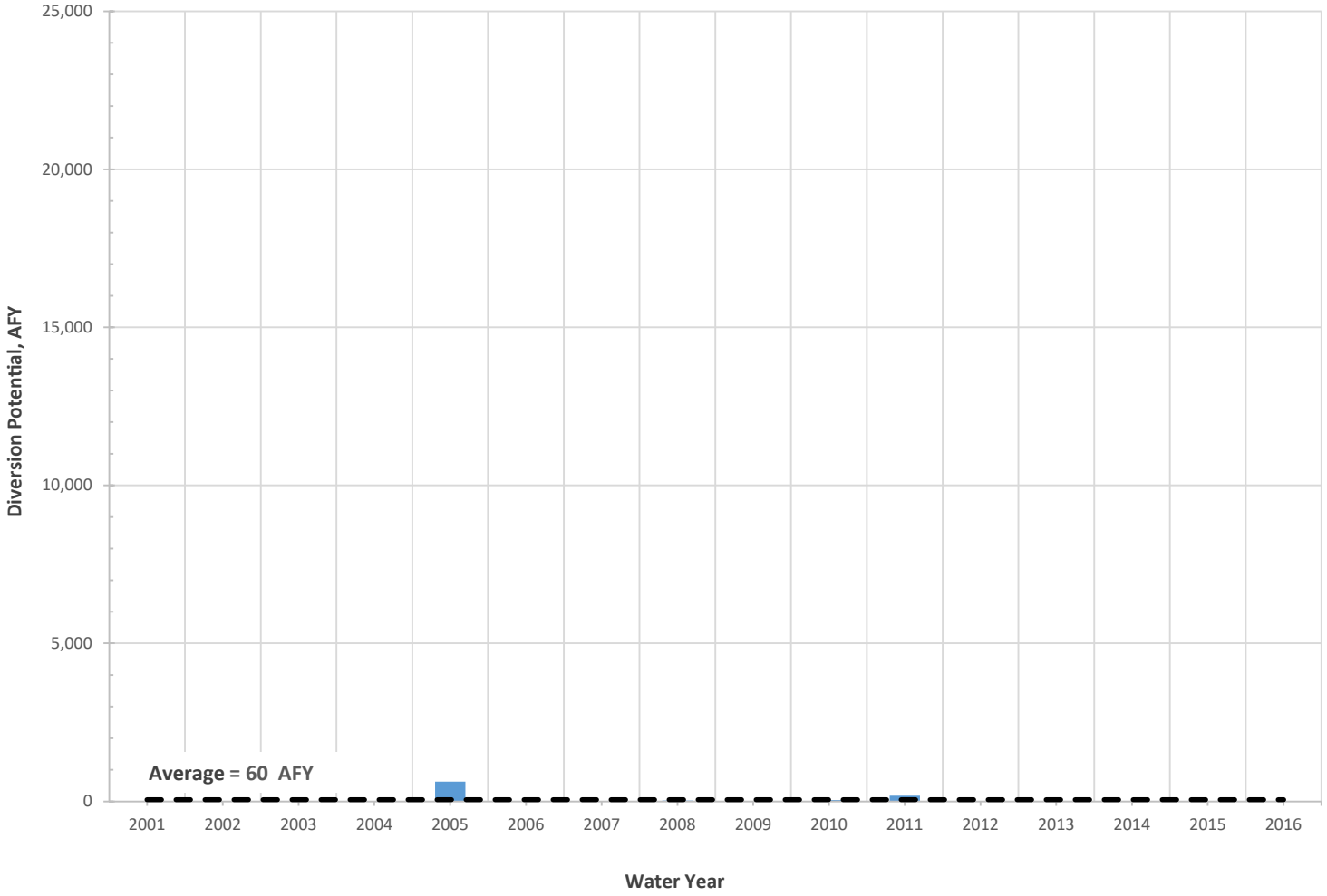
FIGURE 17

Annual Diversion Potential for Recharge Target Area 5 - Huer Huero Creek

Paso Robles Subbasin



LEGEND

- Diversion Potential
- Average Diversion Potential

NOTES

AFY: Acre Feet per Year

GSI Water Solutions, Inc.

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ATTACHMENT 3
WATER AVAILABILITY ANALYSIS
ESTIMATE OF WATER AVAILABILITY TO ACCOMPANY WATER RIGHT APPLICATION A033189 OF SHANDON-SAN JUAN WATER DISTRICT

Prepared for:
Shandon-San Juan Water District
P.O. Box 150
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July 29, 2024

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Exhibits

1 WATER AVAILABILITY ANALYSIS TO ACCOMPANY APPLICATION A033189

California Water Code Section 1260(k) requires that every application for a permit to appropriate water shall include "sufficient information to demonstrate a reasonable likelihood that unappropriated water is available for the proposed appropriation." This narrative and accompanying calculations provide the required information.

The subject application includes a point of diversion (subject POD) at Salinas Dam at Santa Margarita Lake on the Salinas River tributary to the Pacific Ocean. Application A033189 is seeking diversion of up to 14,000 acre-feet at the subject POD. The requested season of diversion is January 1 through May 14. According to State Water Resources Control Board Order WR 98-08, the Salinas River is fully appropriated May 15 through December 31 from Salinas Dam to the confluence with the Nacimiento River. The following describes the methodology used to demonstrate a reasonable likelihood that water is available for the proposed appropriation.

This analysis demonstrates water availability by considering the effects on seasonal flows for selected high-flow years from the proposed diversion under A033189 in combination with the existing water rights of record along the Salinas River from the subject POD downstream to the Pacific Ocean. Flows within the Salinas River were evaluated based on stream gage flow records at the Salinas Dam (San Luis Obispo County daily dam outflow gage data[1]), the Salinas River gage at Paso Robles (USGS Gage 11147500), the Salinas River gage near Bradley (USGS Gage 11150500), and the Salinas River gage at Soledad (USGS Gage 11151700) for the following reaches of the Salinas River: Reach 1 - Salinas Dam to Paso Robles; Reach 2 - Paso Robles to Bradley; Reach 3 - Bradley to Soledad; and Reach 4 - Soledad to the Pacific Ocean. Refer to **Figure 1**.

Seasonal stream flows at the four gage locations were compiled from daily flow records (January 1 through May 14) for the years 1993, 1995, 1997, 1998, 2005, 2006, 2011, and 2023. Recorded flows were compared to water demand from senior water rights and Application A033189**. Exhibit 1 Tables 1 through 4** list the senior water rights of record with corresponding maximum seasonal diversion amounts for each of the river reaches.

This analysis also considers instream flow needs by estimating a minimum bypass flow requirement for the requested diversion at the subject POD, below which the analysis assumes water is unavailable for diversion under A033189. To estimate a minimum bypass flow amount that might be required to satisfy instream flow needs, the analysis assumes a bypass flow equal to at least the February Median Flow (FMF), which has been used as a standard in other regions of the state, and which would support the showing of a reasonable likelihood of available water for Application A033189. The FMF is equal to the median of the recorded (or computed) mean daily flow values occurring in the month of February at a given point on a stream. Diversion under the subject POD was evaluated using a minimum bypass flow amount equal to the calculated seasonal total February Median Flow (FMF) of 9,046 acre-feet. The FMF was calculated at the point of diversion as the median of the mean daily values measured at the Paso Robles gage during

[1] Daily Salinas Dam data downloaded from San Luis Obispo County Public Works website https://www.slocounty.ca.gov/Departments/Public-Works/Forms-Documents/Water-Resources/Salinas-Dam-Release-Reports.aspx

February for the years 1940 through 1965 and 1970 through 2023 plus total seasonal diversions of recorded water rights between Salinas Dam and the Paso Robles gage, prorated to adjust for differences in drainage area and mean annual precipitation (MAP) per *Equations 1 through 3*, below.

$$A_3 = A_1 - A_2 \quad \text{Eqn. 1}$$

$$MAP_3 = [(A_1 \times MAP_1) - (A_2 \times MAP_2)] / A_3 \quad \text{Eqn. 2}$$

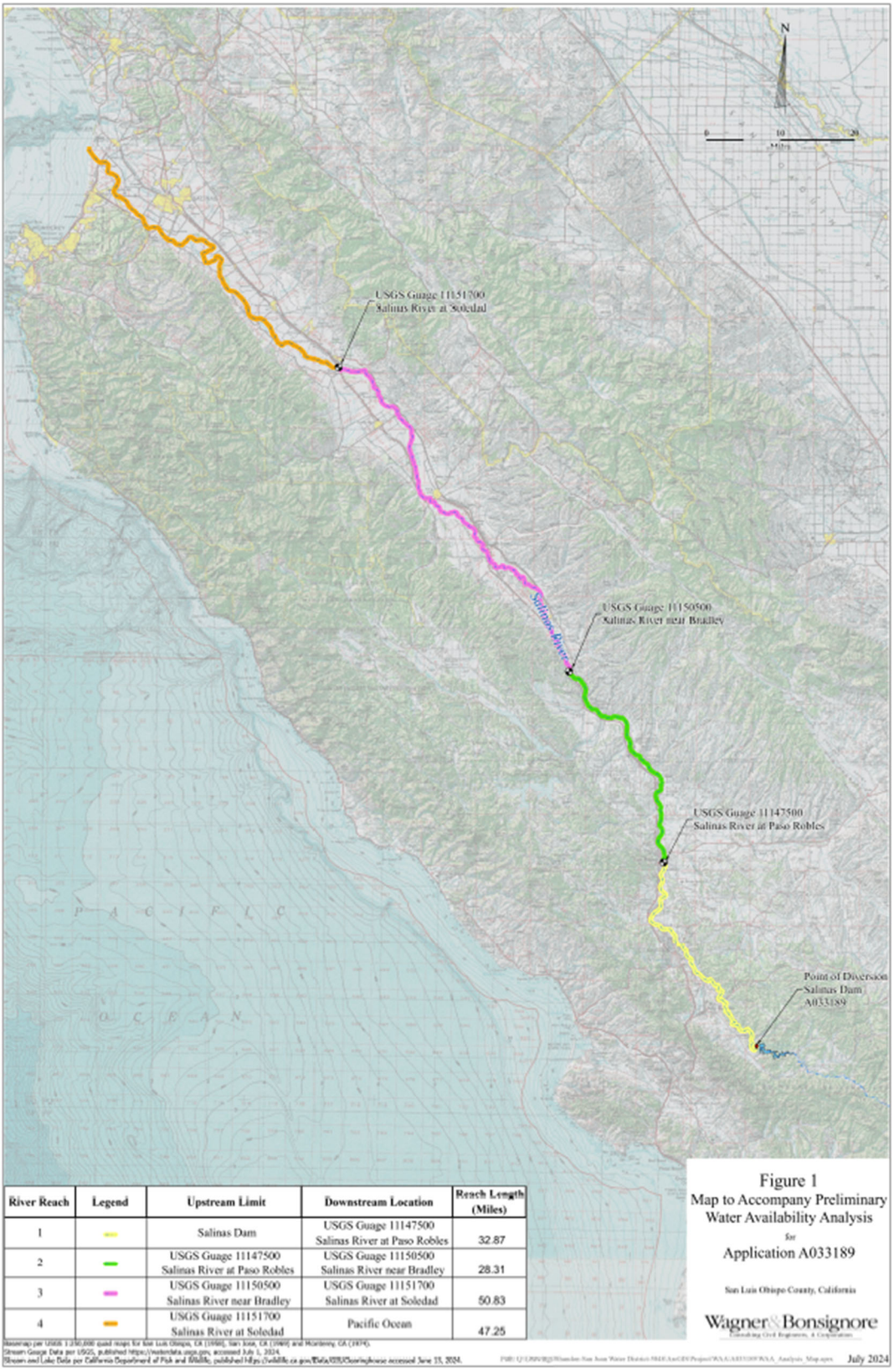
$$Q_2 = (Q_1 + Q_3) \times (A_2/A_3) \times (MAP_2 / MAP_3) \quad \text{Eqn. 3}$$

Where:

A_1 = Watershed area above gage;
A_2 = Watershed area above subject POD;
A_3 = Watershed area above gage minus area above subject POD;
MAP_1 = Weighted mean annual precipitation for watershed above gage.
MAP_2 = Weighted mean annual precipitation for watershed above subject POD;
MAP_3 = Weighted mean annual precipitation for watershed above gage, adjusted by area-weighted averaging to exclude area above subject POD;
Q_1 = Measured flow at gage;
Q_2 = Flow at subject POD;
Q_3 = Total seasonal diversions of record between POD and gage.

The drainage areas and area-weighted average MAP values for the watersheds tributary to the Salinas Dam and the Paso Robles gage were taken from reports generated using the online USGS StreamStats tool. StreamStats reports are included as accompanying **Exhibits 2 and 3**. **Exhibit 1 Table 5** lists watershed weighted mean annual precipitation values and areas for the watersheds of interest.

The minimum bypass flow calculation only includes the area tributary to the gage that is below the subject POD (Salinas Dam) as the area contributing flows to the Paso Robles gage, while the entire Paso Robles gage flow is conservatively attributed to the reduced area; this was done in order to negate the possibility of underestimating the bypass flow due to the flow-reducing effects of the dam. The reduced area (A_3 in the above equations) is the basis for the correlated flow at the subject POD (Salinas Dam), calculated, as shown in the foregoing equations, by ratios of drainage areas and MAP values. Drainage areas and MAP values were generated by the online USGS StreamStats tool and are included in **Exhibits 2 and 3**. Even though the minimum bypass flow would not be present every day of the year, the calculated minimum bypass flow at the subject POD was multiplied over the diversion season of A033189 and converted to acre-feet to obtain a total seasonal demand in acre-feet. The estimated seasonal minimum bypass flow at the dam was further increased by adding the senior water right demand for water rights of record from the Salinas Dam to the stream gage at Paso Robles to conservatively account for any reductions in measured stream flow due to diversions by water right holders. A more detailed, daily flow evaluation would yield a lower bypass flow estimate, but that is beyond the scope of this analysis.



River Reach	Legend	Upstream Limit	Downstream Location	Reach Length (Miles)
1		Salinas Dam	USGS Guage 11147500 Salinas River at Paso Robles	32.87
2		USGS Guage 11147500 Salinas River at Paso Robles	USGS Guage 11150500 Salinas River near Bradley	28.31
3		USGS Guage 11150500 Salinas River near Bradley	USGS Guage 11151700 Salinas River at Soledad	50.83
4		USGS Guage 11151700 Salinas River at Soledad	Pacific Ocean	47.25

Figure 1. Map to Accompany Preliminary Water Availability Analysis.

2 EVALUATION OF SENIOR WATER RIGHT FILINGS

An appropriative water right permit, license, certificate or pending water right application carries a priority in relation to other rights or applications. The water user who is "first in time" is "first in right". This means the senior user is entitled to the full amount of water specified under the right before junior appropriators may exercise their rights. Appropriators are also generally junior to riparian rights. To estimate the amount of water that may be available for appropriation under a new water right application, senior water rights, pending applications, and claims of right must be evaluated for impacts to available flows.

We reviewed the State Water Board's Electronic Water Rights Information Management System (eWRIMS) to identify any water rights, pending water right applications, or claims of water right having PODs on the flow path along the Salinas River from the subject POD to the Pacific Ocean.[2] Upon identifying water right filings using eWRIMs web mapping application, we reviewed water rights, claims, and pending water right applications to determine season, rate, and amount of diversion. **The sum of the maximum authorized amounts in each season, January 1 through May 14, in any year, was used as the maximum seasonal diversion amount attributed to water rights of record, other than Statements of Water Diversion and Use (Statements), whose evaluation is discussed below.**

Most Statements are filed to report water diverted and used under claims of riparian or pre-1914 rights that have not been confirmed by a court. As such, diversions named in Statements do not always have defined limits on season or amount like water right permits and licenses do. For this analysis, diversions named in Statements were evaluated based on the maximum amount reported as having been diverted each season in the available online annual water diversion and use reports from 2009 through 2023, which include monthly reported diversion amounts. **The maximum amount reported during the January through May season was used as the maximum seasonal diversion amount attributed to each Statement.**

[2] This analysis assumes only diversions on the flow path (not tributaries to the flow path) from the Salinas Dam are subtracted from gage data. Historically measured gage flows already account for actual diversions on the flow path and the tributaries of the Salinas River. Because diversions from water rights on the Salinas River are already accounted for in gage readings, this approach to the preliminary WAA should be considered a conservative method for determining a reasonable likelihood of water availability.

3 DETERMINATION OF REASONABLE LIKELIHOOD THAT WATER IS AVAILABLE FOR APPROPRIATION

As described in the foregoing discussion, flows within the Salinas River were evaluated based on stream gage flow records at Salinas Dam (San Luis Obispo County daily dam outflow gage data), at Paso Robles (USGS Gage 11147500), near Bradley (USGS Gage 11150500), and at Soledad (USGS Gage 11151700) for the following river reaches: Reach 1 - Salinas Dam to Paso Robles; Reach 2 - Paso Robles to Bradley; Reach 3 - Bradley to Soledad; and Reach 4 - Soledad to the Pacific Ocean. Seasonal stream flows at the four gage locations were compiled from daily flow records (January 1 through May 14) for the years 1993, 1995, 1997, 1998, 2005, 2006, 2011, and 2023. Recorded gage flows were compared to maximum water demand from senior water rights and Application A033189 to determine a reasonable likelihood of water availability for Application A033189.

- For the years evaluated, Salinas Dam seasonal outflow was compared to seasonal demand from senior water rights within Reach 1, seasonal demand from Application A033189, and demand from total seasonal minimum bypass flow estimated for Application A033189. In each year evaluated, Salinas Dam outflow exceeded these water demands.
- For the years evaluated, the Paso Robles gage seasonal flow was compared to seasonal demand from senior water rights within Reach 1 and Reach 2 and seasonal demand from Application A033189. In each year evaluated, the Paso Robles gage flow exceeded these water demands.
- For the years evaluated, the Bradley gage seasonal flow was compared to seasonal demand from senior water rights within Reaches 1 through 3 and seasonal demand from Application A033189. In each year evaluated, the Bradley gage flow exceeded these water demands.
- For the years evaluated, the Soledad gage seasonal flow was compared to seasonal demand from senior water rights within Reaches 1 through 4 and seasonal demand from Application A033189. In each year evaluated, the Soledad gage flow exceeded these water demands.

Calculations for the foregoing methodology were transmitted to the SWRCB electronically on 7/29/2024. These calculations show that, in at least eight years, the requested 14,000 acre-feet would be available at the subject POD (at Salinas Dam) during the requested diversion season, flows would be adequate to meet the estimated minimum bypass flow for instream beneficial uses below the subject POD, and flows would be available for maximum senior water right diversions down to the Paso Robles gage. The calculations also demonstrate that Salinas River flows at the Paso Robles gage, the Bradley gage, and the Soledad gage for the years evaluated would be adequate to meet the full 14,000 acre-feet water demand requested in Application A033189 and the water demand of senior water rights from the Salinas Dam down to through the next downstream river reach below each of the three gages. **Exhibit 1 Table 6** is a summary of these results.

Exhibit 1 Tables to Accompany Water Availability Analysis

TABLE 1
MAXIMUM SEASONAL DIVERSIONS FOR DIVERTERS OF RECORD ALONG RIVER REACH 1
SALINAS DAM TO USGS GAGE 11147500 (SALINAS RIVER AT PASO ROBLES)
JANUARY 1 TO MAY 14 SEASON

WATER RIGHT ID	MAXIMUM SEASONAL DIVERSION (ACRE-FEET)
A000231	1,874
A004421	67
A010294	2,142
A012285	134
A012526	274
A013690	23
A017182	44
A024365	13
A025199	98
A030299	131
S008285	1,685
S015136	5
S017486	100
S017502	0
S018858	0
S019615	20
S019922	0
S019925	2
S019928	2
S020301	1
S020555	0
S020559	0
S020752	5
S021451	1
S021882	20
S021901	0
S022024	25
S023431	0
S023432	0
S027340	53
TOTAL	**6,718**

TABLE 2
MAXIMUM SEASONAL DIVERSIONS FOR DIVERTERS OF RECORD ALONG RIVER REACH 2
USGS GAGE 11147500 (SALINAS RIVER AT PASO ROBLES) TO USGS GAGE 11150500 (SALINAS RIVER NEAR BRADLEY)
JANUARY 1 TO MAY 14 SEASON

WATER RIGHT ID	MAXIMUM SEASONAL DIVERSION (ACRE-FEET)
A017367	75
A017381	141
S015566	0
S015567	0
S015568	0
S017574	0
S017575	0
S017639	30
S018860	87
S018869	125
S020281	0
S021214	0
S021215	1
S021216	31
S021883	0
S021890	58
TOTAL	**547**

TABLE 3
MAXIMUM SEASONAL DIVERSIONS FOR DIVERTERS OF RECORD ALONG RIVER REACH 3
USGS GAGE 11150500 (SALINAS RIVER NEAR BRADLEY) TO USGS GAGE 11151700 (SALINAS RIVER AT SOLEDAD)
JANUARY 1 TO MAY 14 SEASON

WATER RIGHT ID	MAXIMUM SEASONAL DIVERSION (ACRE-FEET)
A013225	107,107
S014254	295
S014257	0
S014258	0
S014259	150
S014260	518
S014261	562
S014262	311
S014263	225
S014271	428
S014272	239
S014273	360
S014275	2,394
S014276	667
S014306	0
S014307	86
S014329	56
S014330	1
S014359	231
S014360	202
S014361	180
S014362	577
S014363	28
S014364	364
S014365	434
S014366	249
S014425	801
S014427	74
S014428	411
S014429	1
S014430	93
S014431	137
S014432	58
S014434	431
S014436	164
S014437	126
S014438	578
S014439	79
S014441	205
S014442	640
S014443	503
S014444	276
S014445	248
S014467	0
S014498	583
S014499	0
S014500	0
S014501	0
S014502	0
S014504	0
S015152	155
S015153	89
S015154	431
S015155	144
S015156	395
S015158	961
S015159	868
S015160	717
S015161	729
S015162	1,143

TABLE 3
MAXIMUM SEASONAL DIVERSIONS FOR DIVERTERS OF RECORD ALONG RIVER REACH 3
USGS GAGE 11150500 (SALINAS RIVER NEAR BRADLEY) TO USGS GAGE 11151700 (SALINAS RIVER AT SOLEDAD)
JANUARY 1 TO MAY 14 SEASON

WATER RIGHT ID	MAXIMUM SEASONAL DIVERSION (ACRE-FEET)
S015163	1,987
S015164	1,186
S015165	1,439
S015166	1,424
S015167	710
S015168	1,467
S015169	1,121
S015170	1,275
S015171	506
S015172	0
S015173	1,490
S015174	347
S015175	1,309
S015176	1,129
S015177	0
S015178	640
S015179	0
S015180	0
S015181	0
S015436	19
S015437	186
S015438	469
S015439	0
S015440	118
S015441	169
S015580	81
S015581	159
S015582	273
S015586	155
S015589	0
S015590	0
S015591	0
S015593	0
S015594	184
S015595	209
S015596	266
S016923	245
S017535	189
S017536	149
S017600	209
S017601	29
S017604	749
S017607	418
S017609	383
S017623	158
S017626	188
S017629	1,000
S017631	761
S017632	323
S017734	407
S017737	438
S017740	460
S017743	63
S017746	96
S017749	44
S018401	849
S018570	187
S018573	103
S018750	150
S018751	93

TABLE 3
MAXIMUM SEASONAL DIVERSIONS FOR DIVERTERS OF RECORD ALONG RIVER REACH 3
USGS GAGE 11150500 (SALINAS RIVER NEAR BRADLEY) TO USGS GAGE 11151700 (SALINAS RIVER AT SOLEDAD)
JANUARY 1 TO MAY 14 SEASON

WATER RIGHT ID	MAXIMUM SEASONAL DIVERSION (ACRE-FEET)
S018752	345
S020210	398
S021687	221
S021688	228
S021689	183
S021690	137
S021691	478
S021692	361
S021693	355
S021694	376
S021695	236
S021696	244
S022037	483
S022038	308
S022039	503
S022474	247
S022475	0
S022479	60
S022480	184
S022482	103
S022483	95
S022484	244
S022486	461
S022487	296
S022488	375
S022965	196
S025010	222
S025011	266
S025014	68
S025020	145
S025747	385
S027107	131
TOTAL	**161,052**

TABLE 4
MAXIMUM SEASONAL DIVERSIONS FOR DIVERTERS OF RECORD ALONG RIVER REACH 4
USGS GAGE 11151700 (SALINAS RIVER AT SOLEDAD) TO PACIFIC OCEAN
JANUARY 1 TO MAY 14 SEASON

WATER RIGHT ID	MAXIMUM SEASONAL DIVERSION (ACRE-FEET)
S014254	484
S014255	484
S014331	29
S014332	343
S014333	292
S014334	350
S014335	255
S014336	173
S014337	184
S014338	164
S014339	146
S014340	183
S014341	279
S014869	96
S014870	116
S014872	81
S014873	166
S014874	15
S014879	174
S014884	221
S014885	49
S014886	111
S014888	131
S014889	1
S014892	169
S014893	94
S014895	98
S014896	97
S014897	168
S014898	256
S014899	99
S014900	86
S015583	114
S016736	602
S016737	179
S019385	197
S019765	57
S021633	47
S021635	263
S021636	161
S021637	70
S021638	103
S021639	96
S021683	246
S021684	223
S021685	441
S021698	433
S021699	209
S022485	204
S023938	77
S025512	74
TOTAL	**9,388**

Table 5
Shandon-San Juan Water District
Water Right Application A033189 (Salinas Dam)
Watershed Weighted Mean Annual Precipitation

Watershed	Area[(1)] (square miles)	Weighted Mean Annual Precipitation[(1)] (in)	Percent of Adjusted Gage Watershed (%)
USGS Gaging Station #11147500 Salinas River at Paso Robles, CA	389.0	24.6	-
Gaging Station Watershed Excluding Salinas Dam Watershed	276.9	23.4	-
A033189 Point of Diversion at Salinas Dam	112.1	27.5	47.52%

Notes:

(1) USGS gaging station and A033189 point of diversion values generated using USGS StreamStats tool.

Table 6
Shandon-San Juan Water District-Water Right Application A033189 (Salinas Dam)
Preliminary Water Availability Analysis to Accompany Application
Summary of Results

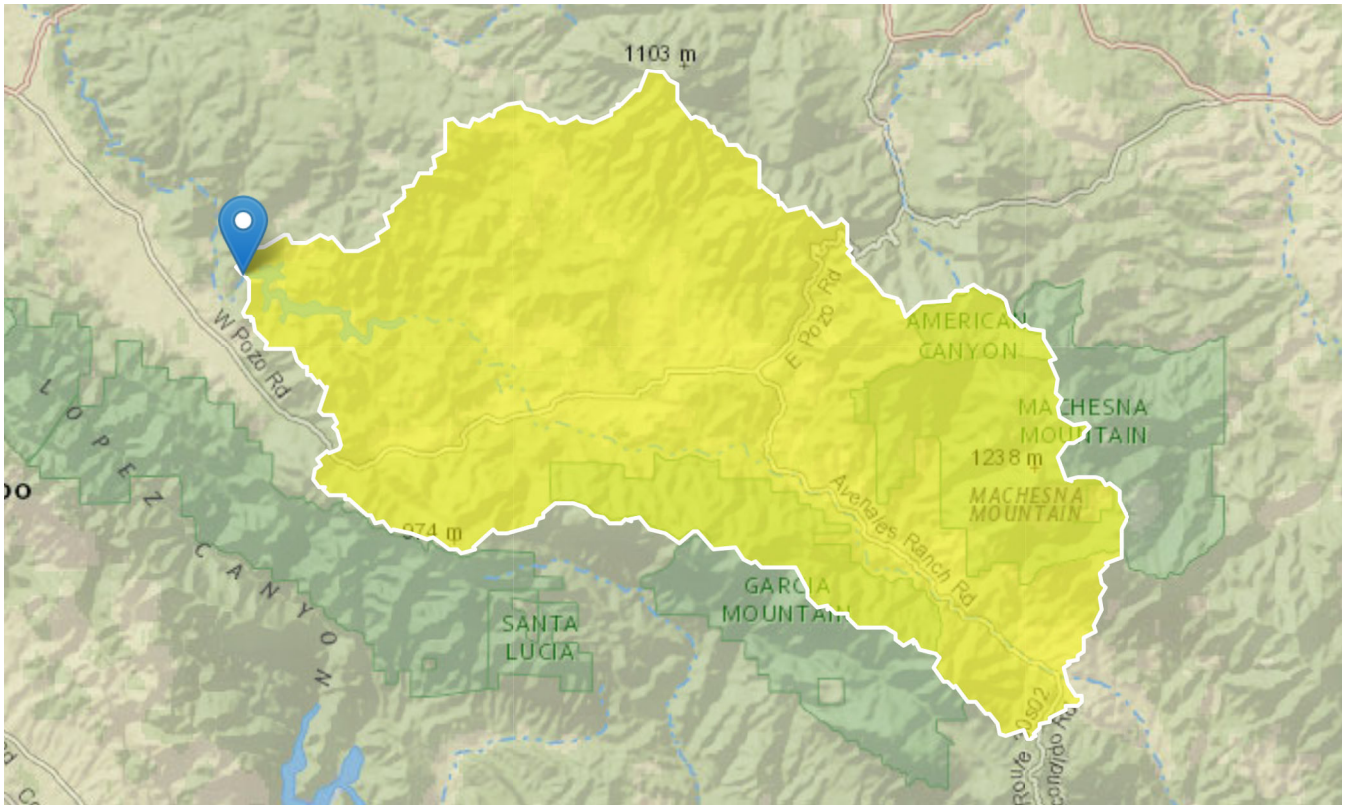
Year Evaluated	Total Diversions			Remaining Salinas Dam Outflow	Paso Robles Gage Flow Minus Dam to Bradley	Total Diversions	Bradley Gage Flow Minus Dam to Soledad	Total Diversions	Total Diversions	Soledad Gage Flow Minus Dam to Ocean
(January 1 through May 14 Season)	Salinas Dam to Paso Robles	A033189 Diversion	A033189 Bypass Flow	(Should Exceed Bypass Flow)	Diversions and A033189 Diversion	Paso Robles to Bradley	Diversions and A033189 Diversion	Bradley to Soledad	Soledad to Ocean	Diversions and A033189 Diversion
	(acre-feet)	(acre-feet)	(acre-feet)	(acre-feet)	(acre-feet)	(acre-feet)	(acre-feet)	(acre-feet)	(acre-feet)	(acre-feet)
1993	6,718	14,000	9,046	23,926	184,667	547	190,700	161,052	9,388	243,892
1995	6,718	14,000	9,046	44,504	244,544	547	432,449	161,052	9,388	544,025
1997	6,718	14,000	9,046	32,736	137,843	547	406,900	161,052	9,388	377,915
1998	6,718	14,000	9,046	81,099	228,832	547	547,929	161,052	9,388	625,766
2005	6,718	14,000	9,046	9,455	138,966	547	222,929	161,052	9,388	255,099
2006	6,718	14,000	9,046	21,663	86,378	547	50,819	161,052	9,388	93,404
2011	6,718	14,000	9,046	21,709	111,572	547	72,989	161,052	9,388	55,409
2023	6,718	14,000	9,046	65,251	337,398	547	633,744	161,052	9,388	404,460

Exhibit 2 Salinas Dam Watershed StreamStats Report

EXHIBIT 2

Salinas Dam Watershed StreamStats Report

Region ID: CA
Workspace ID: CA20240624025120401000
Clicked Point (Latitude, Longitude): 35.33722, -120.50260
Time: 2024-06-23 19:51:44 -0700



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BASINPERIM	Perimeter of the drainage basin as defined in SIR 2004-5262	76	miles
BSLDEM30M	Mean basin slope computed from 30 m DEM	26.6	percent
CENTROXA83	X coordinate of the centroid, in NAD_1983_Albers, meters	-2171048.1	meters
CENTROYA83	Basin centroid horizontal (y) location in NAD 1983 Albers	1640626.9	meters

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	112.1	square miles
EL6000	Percent of area above 6000 ft	0	percent
ELEV	Mean Basin Elevation	2040	feet
ELEVMAX	Maximum basin elevation	4058	feet
FOREST	Percentage of area covered by forest	17.2	percent
JANMAXTMP	Mean Maximum January Temperature	58.14	degrees F
JANMINTMP	Mean Minimum January Temperature	35.74	degrees F
LAKEAREA	Percentage of Lakes and Ponds	0.71	percent
LC11DEV	Percentage of developed (urban) land from NLCD 2011 classes 21-24	2.9	percent
LC11IMP	Average percentage of impervious area determined from NLCD 2011 impervious dataset	0	percent
LFPLENGTH	Length of longest flow path	27	miles
MINBELEV	Minimum basin elevation	1286	feet
OUTLETELEV	Elevation of the stream outlet in feet above NAVD88	1315	feet
PRECIP	Mean Annual Precipitation	27.5	inches
RELIEF	Maximum - minimum elevation	2772	feet
RELRELF	Basin relief divided by basin perimeter	36.5	feet per mi

shall be held liable for any damages resulting from its authorized or unauthorized use.

USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.20.1
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

Exhibit 3 Salinas River at Paso Robles StreamStats Report

EXHIBIT 3

Salinas River at Paso Robles Gage StreamStats Report

Region ID: CA
Workspace ID: CA20240624025908456000
Clicked Point (Latitude, Longitude): 35.62877, -120.68449
Time: 2024-06-23 19:59:31 -0700

Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BASINPERIM	Perimeter of the drainage basin as defined in SIR 2004-5262	190	miles
BSLDEM30M	Mean basin slope computed from 30 m DEM	22.3	percent
CENTROXA83	X coordinate of the centroid, in NAD_1983_Albers, meters	-2187878.7	meters
CENTROYA83	Basin centroid horizontal (y) location in NAD 1983 Albers	1660060.2	meters

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	389	square miles
EL6000	Percent of area above 6000 ft	0	percent
ELEV	Mean Basin Elevation	1518	feet
ELEVMAX	Maximum basin elevation	4058	feet
FOREST	Percentage of area covered by forest	17.3	percent
JANMAXTMP	Mean Maximum January Temperature	59.39	degrees F
JANMINTMP	Mean Minimum January Temperature	34.94	degrees F
LAKEAREA	Percentage of Lakes and Ponds	0.23	percent
LC11DEV	Percentage of developed (urban) land from NLCD 2011 classes 21-24	9.9	percent
LC11IMP	Average percentage of impervious area determined from NLCD 2011 impervious dataset	1.4	percent
LFPLENGTH	Length of longest flow path	61	miles
MINBELEV	Minimum basin elevation	665	feet
OUTLETELEV	Elevation of the stream outlet in feet above NAVD88	670	feet
PRECIP	Mean Annual Precipitation	24.6	inches
RELIEF	Maximum - minimum elevation	3393	feet
RELRELF	Basin relief divided by basin perimeter	17.8	feet per mi

shall be held liable for any damages resulting from its authorized or unauthorized use.

USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.20.1
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

ATTACHMENT 4
ENGINEERING MAP TO ACCOMPANY
APPLICATION A033189

Prepared for:
Shandon San Juan Water District
P.O. Box 150
Shandon, CA 93461

Prepared by:
Wagner & Bonsignore,
Consulting Civil Engineers
2151 River Plaza Drive, Suite 100
Sacramento, California 95833
(916) 441-6850

July 29, 2024

I, Robert C. Wagner, P.E., of 2151 River Plaza Drive, Suite 100, Sacramento, California, do hereby certify that this map was prepared under my direct supervision based on U.S. Geological Survey 1:100,000 quad maps, and on information provided by the Shandon-San Juan Water District, and that it correctly represents the project described in the accompanying petitions and shows the location of streams and ditches in the immediate vicinity, and is true and correct to the best of my knowledge and belief.

_____ (date)

Robert C. Wagner, P.E.
R.C.E. No. 52903
Expires 12/31/2024

N

0 2.5 5
Miles

Point of Rediversion to Underground Storage
Nacimiento Water Project Pipeline (Existing)
A033190

Point of Diversion
Nacimiento Dam (Existing)
A033190

Conveyance to Underground Storage
Wellsona Road Pipeline (Proposed)
A033190

Conveyance to Underground Storage
Creston Road Pipeline (Proposed)
A033190

Estrella River
Proposed Place of Infiltration
to Underground Storage
(via percolation in stream channel)
A033190

Huer Huero Creek
Proposed Place of Infiltration
to Underground Storage
(via percolation in stream channel)
A033190

Huer Huero Creek
Proposed Place of Infiltration
to Underground Storage
(via percolation in stream channel)
A033189

Point of Diversion
Salinas Dam (Existing)
A033189

Point of Rediversion to Underground Storage
Santa Margarita Reservoir Pipeline (Proposed)
A033189

Nacimiento River
Lake Nacimiento
Estrella River
Cholame Creek
Huer Huero Creek
Salinas River
Middle Branch Huer Huero Creek
Santa Margarita Reservoir
Lockwood Valley Groundwater Basin
Salinas Valley Upper Valley Groundwater Basin
Cholame Valley Groundwater Basin
San Simeon Valley Groundwater Basin
Salinas Valley Atascadero Area Groundwater Basin
Santa Rosa Valley Groundwater Basin
Villa Valley Groundwater Basin
Old Valley Groundwater Basin
Cuyama Valley Groundwater Basin
Carrizo Plain Groundwater Basin
Rinconada Valley Groundwater Basin
Pozo Valley Groundwater Basin
San Luis Obispo Valley Groundwater Basin
SAN LUIS OBISPO

- Place of Use- Salinas Valley Paso Robles Area Groundwater Basin
- Shandon San Juan Water District
- DWR Bulletin 118- Groundwater Basins
- Santa Margarita Reservoir Pipeline (Proposed- A033189)
- Wellsona Road Pipeline (Proposed- A033190)
- Creston Road Pipeline (Proposed- A033190)
- Coastal Branch Aqueduct (Existing)
- Nacimiento Project Pipeline (Existing)
- Groundwater Wells in Salinas Valley Paso Robles Area Groundwater Basin

*Additional maps displaying the contour and area capacity curve for Lake Nacimiento and Santa Margarita Reservoir can be found on file with the State Water Resources Control Board - Division of Water Rights under application numbers A010216 and A026901.

*Coordinates for Nacimiento Dam re-projected from original coordinate system found in Application A026901 on file with the State Water Resources Control Board. Coordinates for Salinas Dam from Application A010216 on file with the State Water Resources Control Board.

Application 33189 and Application 33190

Existing Points of Diversion(POD) and Rediversion(PORD):

POD OR PORD	Location by California Coordinate System NAD 1983, Latitude, Longitude WGS 1984	40-acre subdivision of public land survey or projection thereof	Section	Township	Range	Base & Meridian
Salinas Dam (A033189)	North 2,318,289.27 feet, East 5,815,465.67 feet, California Coordinate System, Zone 5 Latitude 35.3371, Longitude -120.5027	NW ¼ of NW ¼	8	30S	14E	MD
Lake Nacimiento Dam (A033190)	North 2,474,511 feet, East 5,705,846 feet, California Coordinate System, Zone 5 Latitude 35.7587, Longitude -120.8846	NE ¼ of NW ¼	15	25S	10E	MD
Nacimiento Water Project Pipeline (A033190)	North 2,475,407 feet, East 5,704,874 feet, California Coordinate System, Zone 5 Latitude 35.7604, Longitude -120.8879	NW ¼ of NW ¼	15	25S	10E	MD

Proposed Point of Rediversion (PORD):

PORD	Location by California Coordinate System NAD 1983, Latitude, Longitude WGS 1984	40-acre subdivision of public land survey or projection thereof	Section	Township	Range	Base & Meridian
Santa Margarita Reservoir Pipeline (A033189)	North 2,319,161 feet, East 5,817,170 feet, California Coordinate System Zone 5 Latitude 35.3396, Longitude -120.4965	SW ¼ of SE ¼	5	30S	14E	MD

Well Data per GSI Water Solutions Inc., June 18, 2024.
Basemap per USGS 1:100,000 quad maps for San Luis Obispo, CA (1981) and Paso Robles, CA (1989).
Water Service Area and Proposed Project Features per Shandon-San Juan Water District, 2022.
Stream and Lake Data per California Department of Fish and Wildlife, published https://wildlife.ca.gov/Data/GIS/Clearinghouse accessed June 13, 2024.

Path: Q:\Drawings\Shandon-San Juan Water District-5048\ArcGIS\Project\Lake Nacimiento\Project Map\A033190 Project Map\A033190 Project Map.aprx

Map to Accompany Applications for Appropriation of Water A033189 & A033190

from

Salinas River and Nacimiento River

by

Shandon-San Juan Water District

San Luis Obispo County, California

Wagner&Bonsignore
Consulting Civil Engineers, A Corporation

July 2024

ATTACHMENT 5
ENVIRONMENTAL SETTING
PHOTOGRAPHS TO ACCOMPANY
APPLICATION A033189

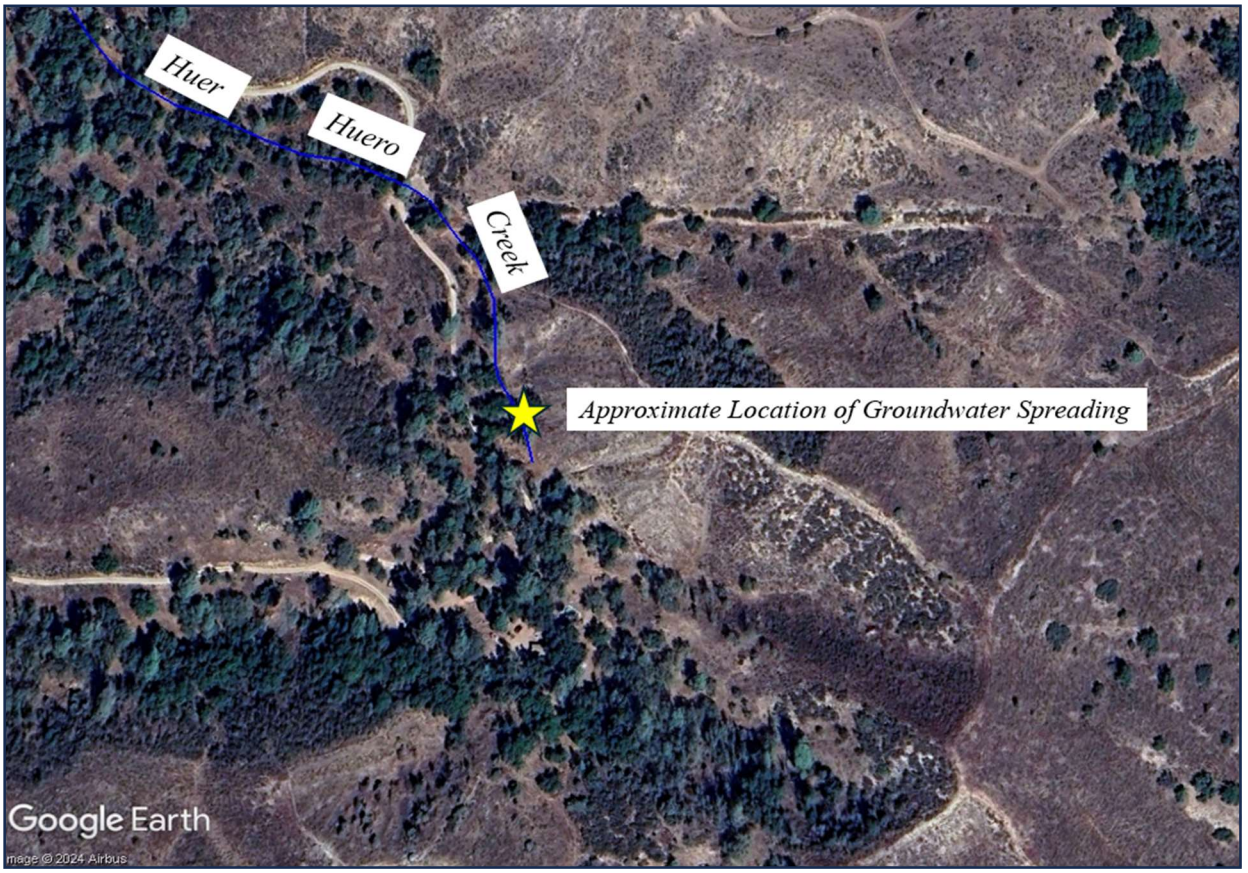
Prepared for:
Shandon San Juan Water District
P.O. Box 150
Shandon, CA 93461

Prepared by:
Wagner & Bonsignore,
Consulting Civil Engineers
2151 River Plaza Drive, Suite 100
Sacramento, California 95833
(916) 441-6850

July 29, 2024

POD #1 Salinas Dam at Santa Margarita Reservoir Source: Google Earth Date: 2/2021	
PORD #1 Proposed Santa Margarita Reservoir Pipeline Diversion to Underground Storage Source: Google Earth Date: 2/2021	

Along stream channel downstream of POD #1 Salinas Dam at Santa Margarita Reservoir Source: Google Earth Date: 2/2021	
Along stream channel upstream of POD #1 Salinas Dam at Santa Margarita Reservoir Source: Google Earth Date: 1/2023	

Huer Huero Creek at Terminus with Proposed Santa Margarita Reservoir Pipeline Source: Google Earth Date: 10/2023	
Shandon-San Juan Water District Service Area Place of Use Source: SSJWD Date: 1/2021	

Shandon-San Juan Water District Service Area Place of Use Source: SSJWD Date: 1/2021	
Shandon-San Juan Water District Service Area Place of Use Source: SSJWD Date: 1/2021