NOTICE AND AGENDA OF MEETING

GROUNDWATER SUSTAINABILITY AGENCY
FOR THE CENTRAL MANAGEMENT AREA
IN THE SANTA YNEZ RIVER GROUNDWATER BASIN

WILL BE HELD
AT 10:00 A.M., MONDAY, MAY 18, 2020

TELECONFERENCE MEETING ONLY – NO PHYSICAL MEETING LOCATION
PUBLIC PARTICIPATION DIAL-IN NUMBER: 1-267-866-0999
PASSCODE: 5124 19 8319

Teleconference Meeting During Coronavirus (COVID-19) Emergency: As a result of the COVID-19 emergency and Governor Newsom's Executive Orders to protect public health by issuing shelter-in-home standards, limiting public gatherings, and requiring social distancing, this meeting will occur solely via teleconference as authorized by and in furtherance of Executive Order Nos. N-29-20 and N-33-20.

Important Notice Regarding Public Participation in Teleconference Meeting: Those who wish to provide public comment on an Agenda Item, or who otherwise are making a presentation to the GSA Committee, may participate in the meeting using the dial-in number and passcode above. Those wishing to submit written comments instead, please submit any and all comments and materials to the GSA via electronic mail at bbuelow@syrwcd.com. All submittals of written comments must be received by the GSA no later than 5:00 p.m. on Friday, May 15, 2020, and should indicate **"May 18, 2020 GSA Meeting"** in the subject line. To the extent practicable, public comments and materials received in advance pursuant to this timeframe will be read into the public record during the meeting. Public comments and materials not read into the record will become part of the post-meeting materials available to the public and posted on the SGMA website.

In the interest of clear reception and efficient administration of the meeting, all persons participating in this teleconference are respectfully requested to mute their phones after dialing-in and at all times unless speaking.

AGENDA

I. Call to Order

II. Introductions and review of SGMA in the Santa Ynez River Valley Basin

III. Additions or Deletions to the Agenda

IV. Public Comment (Any member of the public may address the Committee relating to any non-agenda matter within the Committee's jurisdiction. The total time for all public participation shall not exceed fifteen minutes and the time allotted for each individual shall not exceed five minutes. No action will be taken by the Committee at this meeting on any public item.)

V. Review and consider approval of meeting minutes of February 24, 2020

VI. Receive CMA GSA Financial update and consider approval of CMA Warrant List

VII. Receive update on Intra-Basin Administrative Agreement

VIII. Receive update/slide presentation from Stetson Engineers on GSP activities in the CMA

a. Draft Technical Memorandum of Data Compilation and Management

b. Draft Technical Memorandum of 3D Geologic Model for the Santa Ynez River Valley Groundwater Basin

IX. Receive update on Proposition 68 Grant Award for Aerial Electro-Magnetic Survey of CMA

X. Receive update on CMA Outreach Efforts

   a. Basin wide SGMA Newsletter

XI. Next CMA GSA Meeting: Monday, August 24, 2020, 10:00 AM. Notice will be sent on whether the meeting will be in person or held via conference call

XII. CMA GSA Committee requests and comments

XIII. Adjournment

[This agenda was posted 72 hours prior to the scheduled meeting at 3669 Sagunto Street, Suite 101, Santa Ynez, California, and https://www.santaynezwater.org in accordance with Government Code Section 54954. In compliance with the Americans with Disabilities Act, if you need special assistance to review agenda materials or participate in this meeting, please contact the Santa Ynez River Water Conservation District at (805) 693-1156. Notification 72 hours prior to the meeting will enable the GSA to make reasonable arrangements to ensure accessibility to this meeting.]

DRAFT MEETING MINUTES

Groundwater Sustainability Agency for the Central Management Area in the Santa Ynez River Groundwater Basin
February 24, 2020

A regular meeting of the Groundwater Sustainability Agency (GSA) for the Central Management Area (CMA) in the Santa Ynez River Groundwater Basin was held on Monday, 24 February 2020 at the Buellton City Council Chambers, 140 West Highway 246, Buellton, California.

GSA Committee Directors Present:
Ed Andrisek Art Hibbits

Alternate GSA Committee Director Present:
Cynthia Allen

Staff Present:
Bill Buelow Rose Hess Amber Thompson Matt Young

Others Present:
Maygan Cline (GeoSyntec) Anita Regmi (DWR)
and seven members of the public

Others Via Phone:
Curtis Lawler and Miles McCammon (Stetson Engineers) Zoe Carlson (Dudek)

I. Call to Order

GSA Committee Director Andrisek called the meeting to order at 10:03 a.m. and welcomed all in attendance.

II. Pledge of Allegiance

GSA Committee Director Andrisek led the Pledge of Allegiance.

III. Introductions and Review of SGMA in Santa Ynez River Valley Basin

GSA Committee Director Andrisek invited everyone to introduce themselves. Ms. Anita Regmi from the State of California Department of Water Resources (DWR) explained her role as the Point of Contact for the Santa Ynez River Groundwater Basin. Ms. Regmi further described DWR's role to provide resources for the implementation of SGMA. She explained that DWR will review the Groundwater Sustainability Plan (GSP) within two years of submittal. DWR will also provide financial assistance in form of grants, technical assistance, and other support services. DWR has funds available for well installation and for monitoring equipment. Ms. Regmi previously attended CMA GSA meetings via phone. This was her first time attending in persona and encouraged anyone with questions to contact her directly.

Mr. Buelow reviewed history of the Sustainable Groundwater Management Act (SGMA) requirements and what has been completed so far in the Santa Ynez River Basin including the creation of the three Groundwater Sustainability Agencies (GSAs) in the Basin (EMA, CMA, WMA), securing Department of Water Resources (DWR) Prop. 1 Grant (Grant) funding, hiring Consultants, coordinating efforts between the eight agencies participating in the three GSAs, and establishing a Citizen Advisory Group (CAG).

IV. Additions or Deletions, if any, to the Agenda

No additions or deletions were made.

V. Public Comment

Mr. Mark Preston, Buellton resident, asked for clarity on a County of Santa Barbara Board of Supervisors meeting agenda item regarding SGMA calling to identify and designate fringe areas. Mr. Matt Young from Santa Barbara County Water Agency explained the areas involved are the Goleta Groundwater Basin and Santa Maria Groundwater Basin.

VI. Review and Approve Minutes

GSA Committee Director Andrisek submitted the minutes of the meetings of October 28, 2019 for GSA Committee approval.

GSA Committee Director Hibbits made a MOTION to approve the minutes. GSA Committee Director Andrisek seconded the motion and it passed unanimously.

VII. Receive CMA GSA financial update and approve CMA Warrant Lists

Mr. Buelow presented the financial reports of FY 2018-19 Period 12 and FY 2019-20 Periods 1 through 6 (through December 31, 2019) and the Warrant Lists for July, August and September 2019 and October, November and December 2019. The GSA Committee reviewed them, and discussion followed.

The GSA Committee unanimously approved the July, August, September, October, November and December Warrant Lists as presented (Nos. 1004 – 1009). GSA Committee Director Hibbits made a MOTION to approve the warrant lists and financial reports as submitted. GSA Committee Director Andrisek seconded the motion and it passed unanimously.

VIII. Receive update on Intra-Basin Administrative Agreement

Mr. Buelow gave an update on the Intra-Basin Administrative Agreement for Implementation of the Sustainable Groundwater Management Act in the Santa Ynez River Valley Groundwater Basin (Agreement) stating that it had been endorsed by all three GSAs and adopted by all but one of the eight GSA Member Agencies in the Basin. Mr. Buelow further explained that the eighth agency is meeting this week to consider

adopting the Agreement and that he expects it will be approved by all agencies by the end of the week.

IX. Receive Draft Final Outreach and Engagement Plan and Draft Final Data Management Plan

Mr. Buelow presented the Draft Final Outreach and Engagement Plan and Draft Final Data Management Plan. He reported that both plans have been made available for public review and comment, according to SGMA guidance. The CAG reviewed both plans and submitted a memorandum with their comments. Consultants received the public comments and revised the plans. Mr. Buelow reported that changes can still be made at the direction of the CMA GSA Committee prior to the January 2022 GSP submission. At that time, if no changes are made, the Draft Final Plans will become Final.

Discussion followed. GSA Committee Director Hibbits asked if any controversies arose from either of the Draft plans. Mr. Buelow reported there were no controversies with either of the plans. GSA Committee Directors requested the public comments received on both plans be made available to the public via the **SantaYnezWater.org** website.

Public comment and discussion followed.

X. Receive update on GSP activities in the CMA and Basin

Ms. Cline, Geosytec Consultants, along with Curtis Lawler and Miles McCammon, Stetson Engineers, (via phone) and Zoe Carlson, Dudek, (via phone) presented an update on the consultants GSP activities in the CMA GSA. The presentation included an update of consultant team activities since the last GSA Committee meeting in October 2019. The presentation included a SGMA overview, GSP milestones timeline, review of Draft Final Outreach and Engagement Plan and Draft Final Data Management Plan. The consultants reviewed newly initiated work, ongoing activities and the next steps to create a SGMA compliant GSP for the CMA GSA.

Public comment and discussion followed.

- Ms. Lombardo, owner of the Ventura County -based American Agri-Women, asked when the public will be able to view the reports and data used in the Plan. Mr. Buelow replied that the process has not been established yet. Consultants will determine usability of the data which is being peer reviewed by professionals familiar with the geology of the basin. Any data available from the public is welcome to be submitted for consideration and should be forwarded him at the Santa Ynez River Water Conservation District. No action was needed or taken by the GSA Committee.

- GSA Committee Director Hibbits asked when DWR will release feedback on the GSPs recently submitted by the Critically Over Drafted Basins to review. Ms.

Regmi reported that five plans were received. SGMA gives DWR two years to review the plan. However, DWR does not expect to take the full two years and will attempt to release the review in batches. The submitted GSPs are now posted online at the DWR SGMA website and available for public comment for 75 days. The GSPs are and are expected to be implemented, immediately after submission, during DWR's review process.

- Mr. Preston asked if public will be able to view the data being used (to prepare the GSP) with references, to see historical development of groundwater pumping and the levels over time. Ms. Cline, Mr. Buelow and Mr. Young confirmed it will be available and added that historical pumping data as far back as 1980 is expected to be used in the development of the GSP even though the law only requires data beginning from 2015.

- Mr. Fleckenstein asked who is taking the lead on development of the GSP for the CMA including data management, hydro geologic conceptual model, etc. Ms. Cline reported that Stetson Engineers is the lead consultant. Dudek and Geosyntec are subcontractors to Stetson, and all three consulting firms are working as a team. The Stetson team is coordinating with EMA GSA's consultant GSI..

- Ms. Lindsey Cokely asked if data from all wells in the area are being used or if only those of specific depths or rock type. Ms. Cline replied that no well data collected is precluded, however consultants will assign wells to principle aquifers after they prioritized the usefulness of the data.

XI. Next CMA Meeting: Monday, May 18, 2020, 10:00 AM, at the Buellton City Council Chambers, 140 W. Highway 246, Buellton, CA

Mr. Buelow announced that the next CMA GSA Committee Meeting will be Monday, May 18, 2020, 10:00 AM, at the Buellton City Council Chambers, 140 W. Highway 246, Buellton, CA.

XII. CMA GSA Committee requests and comments

Mr. Buelow announced that the Santa Ynez River Water Conservation District, on behalf of the Central and Western Management Area GSAs applied for and received a Prop. 68 Grant from the DWR. He clarified that the requested funding was approved however the exact amount is yet to be determined. The final award notification should be received in March 2020. The funds will be used for an Aerial Electro-Magnetic Survey of the CMA, which will help confirm and improve the Hydrogeologic Conceptual Model. A similar survey is planned in the EMA and WMA portions of the basin.

GSA Committee Director Andresik requested the timeline slide and consultant presentation be posted on the Basin website.

XIII. Adjournment

GSA Committee Director Andrisek adjourned the meeting at 11:47 a.m.

Ed Andrisek, Chairman

William J. Buelow, Secretary

SYRWCD CMA
BALANCE SHEET
MARCH 31, 2020

Assets

Current Assets		
Cash	$.00	
Rabobank #5472	237,199.53	
Accounts Receivable	.00	
Grant Receivable	.00	
Prepaid Expenses	.00	
Interest Receivable	.00	
Other Current Assets	.00	
TOTAL Current Assets		237,199.53
Non Current Assets		
Capital Assets	.00	
Other Assets	.00	
TOTAL Non Current Assets		.00
TOTAL Assets		$237,199.53

Liabilities AND Equity

Current Liabilities		
Accounts Payable	.00	
Accrued Expenses	.00	
TOTAL Current Liabilities		.00
Non-current Liabilities		
Other Liabilities	.00	
TOTAL Non-current Liabilities		.00
TOTAL Liabilities		.00
Net Position		
Retained Earnings	115,587.14	
Retained Earnings-Current Year	121,612.39	
TOTAL Net Position		237,199.53
TOTAL Liabilities AND Equity		$237,199.53

SYRWCD CMA
INCOME STATEMENT
FOR THE 9 PERIODS ENDED MARCH 31, 2020

	QUARTER TO DATE ACTUAL	QUARTER TO DATE PERCENT	YEAR TO DATE ACTUAL	YEAR TO DATE PERCENT
Revenue:				
Revenue				
Operating Assessments	$157,665.34	83.7 %	179,297.57	78.0
Grant Revenue	30,765.33	16.3	50,562.41	22.0
TOTAL Revenue	188,430.67	100.0	229,859.98	100.0
TOTAL Revenue	188,430.67	100.0	229,859.98	100.0
Gross Profit	188,430.67	100.0	229,859.98	100.0
Expenses:				
Operating Expenses				
Outside Staff Support	.00	.0	300.00	.1
TOTAL Operating Expenses	.00	.0	300.00	.1
Consultants				
General Consultant	.00	.0	188.83	.1
Stakeholder Engagement	2,169.40	1.2	31,206.18	13.6
GSP - DMS	1,526.23	.8	62,222.33	27.1
GSP - HCM	2,806.25	1.5	6,732.50	2.9
GSP - Water Budget, GW Models	4,794.00	2.5	7,597.75	3.3
TOTAL Consultants	11,295.88	6.0	107,947.59	47.0
TOTAL Expenses	11,295.88	6.0	108,247.59	47.1
Net Income from Operations	177,134.79	94.0	121,612.39	52.9
Earnings before Income Tax	177,134.79	94.0	121,612.39	52.9
Net Income (Loss)	$177,134.79	94.0 %	121,612.39	52.9

GROUNDWATER SUSTAINABILTY AGENCY FOR THE CENTRAL MANAGEMENT AREA (CMA)
IN THE SANTA YNEZ RIVER VALLEY GROUNDWATER BASIN

JANUARY 2020 WARRANT LIST FOR COMMITTEE APPROVAL

NUMBER	DATE	PAYEE	DESCRIPTION		AMOUNT
1010	01/30/20	Valley Bookkeeping	FY 2019-20 1st-2nd Quarter Bookkeeping (July, Aug., Sept. 2019 and Oct., Nov., Dec. 2019)	$	300.00
1011	01/30/20	Stetson Engineers	Oct., Nov., Dec. 2019 Engineering Service (Task Order #2)	$	44,034.79
			TOTAL	$	44,334.79

FEBRUARY 2020 WARRANT LIST FOR COMMITTEE APPROVAL

NUMBER	DATE	PAYEE	DESCRIPTION		AMOUNT
			TOTAL	**$**	**-**

MARCH 2020 WARRANT LIST FOR COMMITTEE APPROVAL

NUMBER	DATE	PAYEE	DESCRIPTION		AMOUNT
1012	03/25/20	Stetson Engineers	Jan. 2020 Engineering Service (Task Order #2)	$	11,295.88
			TOTAL	**$**	**11,295.88**

TOTAL THIS QUARTER: $ 55,630.67

Intra-Basin Administrative Agreement

For Implementation of the Sustainable Groundwater Management Act

In the Santa Ynez River Valley Groundwater Basin

This Intra-Basin Administrative Agreement ("Agreement") is made and effective as of February 26, 2020 ("Effective Date") by and between the Parties executing this Agreement below, each referred to herein as a "Party" and collectively as the "Parties."

A. **WHEREAS**, in 2014 the State of California enacted the Sustainable Groundwater Management Act, including but not limited to Water Code section 10720 et seq., referred to in this Agreement as the "Act" or "SGMA," as subsequently amended, pursuant to which certain agencies may become or participate in "Groundwater Sustainability Agencies" ("GSAs") and prepare, adopt, and implement "Groundwater Sustainability Plans" ("GSPs") to achieve sustainable groundwater management in basins throughout the State. The Act defines a groundwater "basin" as a basin or sub-basin identified and defined in California Department of Water Resources ("DWR") Bulletin 118 or as modified pursuant to the Act. Each Party is a local agency located within the Santa Ynez River Valley Groundwater Basin (Bulletin 118, Basin No. 3-15, "Basin"), each is qualified to become a GSA or participate in a GSA or multiple GSAs, and each is authorized to adopt a GSP or participate in the adoption of a GSP or multiple GSPs under the Act for all or a portion of the Basin, as applicable; and

B. **WHEREAS**, the Parties previously executed a "Memorandum of Understanding for Implementation of the Sustainable Groundwater Management Act in the Santa Ynez River Valley Groundwater Basin" dated May 23, 2016 ("2016 MOU") to, among other things, provide for the initial organization of the Basin according to three separate Management Areas, ensure the timely formation and filing of a separate GSA for each of the three Management Areas, and establish the basis for a cooperative and ongoing working relationship between and among the Parties and GSAs for implementing the goals and requirements of SGMA throughout the Basin; and

C. **WHEREAS**, in accordance with SGMA and the 2016 MOU, three separate GSAs have been formed and are operating within the Basin, wherein one GSA represents the Western Management Area, one GSA represents the Central Management Area, and one GSA represents the Eastern Management Area; and

D. **WHEREAS**, the Western Management Area Groundwater Sustainability Agency ("WMA GSA") was formed by the City of Lompoc, the Vandenberg Village Community Services District, the Mission Hills Community Services District, the Santa Ynez River Water Conservation District, and the Santa Barbara County Water Agency pursuant to the January 11, 2017 Memorandum of Agreement for Formation of a Groundwater Sustainability Agency for the Western Management Area in the Santa Ynez River Valley Groundwater Basin Under the Sustainable Groundwater Management Act ("WMA MOA"); and

E. **WHEREAS**, the Central Management Area Groundwater Sustainability Agency ("CMA GSA") was formed by the City of Buellton, the Santa Ynez River Water Conservation District, and the Santa Barbara County Water Agency pursuant to the January 11, 2017 Memorandum of Agreement for Formation of a Groundwater Sustainability Agency for the Central Management Area in the Santa Ynez River Valley Groundwater Basin Under the Sustainable Groundwater Management Act ("CMA MOA"); and

F. **WHEREAS**, the Eastern Management Area Groundwater Sustainability Agency ("EMA GSA") was formed by the City of Solvang, the Santa Ynez River Water Conservation District, Improvement District No.1, the Santa Ynez River Water Conservation District, and the Santa Barbara County Water Agency pursuant to the April 27, 2017 Memorandum of Agreement for Formation of a Groundwater Sustainability Agency for the Eastern Management Area in the Santa Ynez River Valley Groundwater Basin Under the Sustainable Groundwater Management Act ("EMA MOA"); and

G. **WHEREAS**, the Parties hereto wish to supplement and provide a further framework for cooperative and ongoing efforts among themselves and among the WMA GSA, the CMA GSA, and the EMA GSA for implementation of SGMA throughout the Basin in a manner that is effective, efficient, fair, and at reasonable costs.

THEREFORE, in consideration of the Recitals set forth above and the mutual promises set forth below, the Parties agree as follows:

1. Purpose. The primary purpose of this Agreement is to facilitate a cooperative and ongoing working relationship between the Parties and among the WMA GSA, the CMA GSA, and the EMA GSA that will allow them to explore, study, evaluate, develop, and carry out mutually beneficial approaches and strategies for implementing SGMA throughout the Basin in an effective, efficient, fair, and cost-effective manner.

2. Development of Separate Groundwater Sustainability Plans.

   (a) In accordance with the WMA MOA, the CMA MOA, and the EMA MOA, a separate GSP will be developed by the respective GSAs for each of the three Management Areas identified in the Recitals above. As a part of their cooperative and ongoing efforts under this Agreement, the Parties through their respective GSAs shall continue to discuss and explore the potential formation of one or more new joint powers authority or alternative arrangement(s) to implement the GSPs and carry out the objectives and requirements of SGMA throughout the Basin in a coordinated fashion.

   (b) As further described at Section 3 below, the Parties acknowledge and agree that the respective GSPs must be developed in a coordinated fashion and that a Coordination Agreement must be developed and submitted to the California Department of Water Resources ("DWR") together with the three GSPs for the Basin. As foundation to the Coordination Agreement, and in accordance with Section 10727.6 of the Act, the Parties

further acknowledge and agree that their respective GSAs shall coordinate with each other in the preparation of the respective GSPs to ensure that the GSPs utilize the same data and methodologies for the following assumptions:

- Groundwater elevation data;
- Groundwater extraction data;
- Surface water supply;
- Total water use;
- Change in groundwater storage;
- Water budget; and
- Sustainable yield.

(c) Governance and decision-making processes within the individual GSAs shall be governed by the respective Memoranda of Agreement described in the Recitals above, as those documents may be modified or supplemented from time to time by applicable bylaws, policies, amendments, or other agreements.

3. Coordination Agreement. Because multiple GSPs will be developed for the Basin, the Parties agree that a Coordination Agreement shall be developed and entered in accordance with Sections 10727(b)(3), 10727.6, and 10733.4(b)(3) of the Act, and the requirements and elements set forth in Section 357.4 of Title 23 of the California Code of Regulations ("SGMA Regulations") to ensure that the GSPs are developed and implemented utilizing the same data and methodologies and that elements of the GSPs necessary to achieve the sustainability goal for the Basin are based upon consistent interpretations of the basin setting.

Because developing and executing the Coordination Agreement is a prerequisite to filing the respective GSPs, the Parties agree to commence negotiation of the Coordination Agreement through their respective GSAs as soon as practicable, but no later than July 1, 2020. In the event that essential terms and elements of the Coordination Agreement, as set forth by Section 357.4 of the SGMA Regulations, have not been developed in draft for consideration by the Parties and the respective GSAs by June 1, 2021, any Party to this Agreement may demand in writing to the other Parties that the remaining process for developing and finalizing the Coordination Agreement be administered with the services of a mediator as provided by Section 7 below.

4. Sharing of DWR Grant Funds. The Parties acknowledge that the Santa Ynez River Water Conservation District (SYRWCD) is the grantee of a DWR Proposition 1 grant award of $1,000,000 ("DWR Grant Funds") on behalf of the respective GSAs for the three Management Areas and that such DWR Grant Funds are administered pursuant to the 2018 Grant Agreement Between the State of California (DWR) and the SYRWCD ("DWR Grant Agreement"). The Parties agree, individually and through their respective GSAs, that the DWR Grant Funds shall be shared and allocated equally (one-third each) among the WMA GSA, the CMA GSA, and the EMA GSA on behalf of the respective Management Areas for development of their

respective GSPs and related SGMA costs as authorized by the DWR Grant Agreement; and that if any GSA does not incur costs that are reimbursable from its respective one-third share of DWR Grant Funds, such unutilized funds shall be allocated equally (one-half each) to the two remaining GSAs; and that if either of the two remaining GSAs does not incur costs that are reimbursable from its one-half share of such remaining DWR Grant Funds, such unutilized funds shall be allocated to the one remaining GSA; and if the remaining GSA does not incur costs that are reimbursable from such remaining DWR Grant Funds, such unutilized funds shall be administered in accordance with the DWR Grant Agreement. Subject to the requirements of the DWR Grant Agreement, decisions related to the use and application of DWR Grant Funds within any given Management Area shall be made by the respective GSA for that Management Area.

5. Cost Sharing Among GSAs and Securing Joint Services.

(a) The Parties anticipate the need or opportunity from time to time to perform certain services or activities that are common to and will benefit all three Management Areas and GSAs in preparing their respective GSPs, which services or activities otherwise would be funded individually through the GSAs, and where jointly securing and undertaking such services or activities can improve efficiencies in preparing the GSPs and save costs at a Basin-wide level. These common and mutually beneficial services, activities, and associated costs may include, but are not limited to, SGMA website development, data management systems, technical review, and administrative support. Any decision(s) on a case-by-case basis to secure and undertake services or activities that are common and mutually beneficial to the three Management Areas and GSAs, and to incur the costs associated with any such decision(s), shall require prior approval by all three GSAs, wherein the method, terms, and costs for securing and undertaking such services or activities shall be presented to each GSA as part of the aforementioned approval requirements.

(b) Costs incurred for services or activities that are undertaken as described in Section 5(a) above shall be equally apportioned among and paid by the three GSAs (one-third each); provided, however, that each GSA shall make its own determination in coordination with SYRWCD of whether to seek reimbursement for its proportionate share of such costs from DWR Grant Funds made available to that GSA as described in Section 4 above. Cost sharing within the individual GSAs shall be administered in accordance with the terms of the WMA MOA, the CMA MOA, and the EMA MOA, along with any applicable amendments to those documents

(c) SYRWCD shall coordinate cost sharing among the GSAs and administer any agreement or contract to provide such services or activities on behalf of the three GSAs as described in Section 5(a) above; provided, however, that SYRWCD may elect in the future not to provide such coordination or administration services, and provided further that the GSAs may agree in writing for a different Party or third-party to coordinate such cost sharing or to administer any such agreement or contract as part of the approval requirements described

in Section 5(a) above. The Parties agree that the costs incurred by SYRWCD or other Party or third-party for providing such coordination or administration services shall be apportioned and shared by the GSAs in accordance with this Section 5.

(d) Subject to the availability of DWR Grant Funds and other sources of funding that may be available to any of the GSAs, all other SGMA-related costs that are not shared among the three GSAs in accordance with this Agreement, including but not limited to those for preparation and implementation of their respective GSPs, shall be borne by the respective GSAs and Parties thereto in accordance with their respective Memoranda of Agreement described in the Recitals above, as those documents may be modified or supplemented from time to time by applicable bylaws, policies, amendments, or other agreements. Nothing in this Agreement is intended to nor shall limit any Party or any of the GSA from seeking recovery of SGMA-related costs, including but not limited to those for preparation or implementation of the GSPs, from water users and other persons and entities in any lawful manner, including but not limited to the authorities provided by SGMA.

6. Ongoing Cooperation. In accordance with the primary purpose of this Agreement, the Parties agree to coordinate with each other in good faith to ensure a cooperative and ongoing working relationship between the Parties and among the WMA GSA, the CMA GSA, and the EMA GSA that will allow them to explore, study, evaluate, develop, and carry out mutually beneficial approaches and strategies for implementing SGMA throughout the Basin in an effective, efficient, fair, and cost-effective manner. In furtherance of this purpose, each Party shall identify a principal contact person and other appropriate staff and/or consultant(s) to participate on such Party's behalf in carrying out this Agreement.

7. Dispute Resolution.

(a) The Parties agree to mediate any claim or dispute arising from this Agreement before filing any court action; provided, however, that any Party may elect not to mediate, where any Party that elects not to mediate or commences a court action based on a dispute or claim arising from this Agreement without first attempting to resolve the matter through mediation as provided in this Section 7 shall not be entitled to recover attorneys' fees or costs, even if such fees and costs otherwise would be available to that Party in any such action. A Party shall satisfy the requirement for "first attempting to resolve the matter through mediation" by proceeding or otherwise participating in accordance with the entire process set forth in Section 7(b) below.

(b) In the event of a claim or dispute, or where the Parties or respective GSAs cannot reach agreement on any matter arising under this Agreement, including but not limited to preparing GSPs in a coordinated fashion as described in Section 2(b) above, or developing a Coordination Agreement as described in Section 3 above, any Party may provide a written Notice of Dispute to the other Parties that describes in detail the claim or disputed matter ("Dispute"). Upon issuance of a Notice of Dispute, a meeting shall be conducted within

twenty (20) calendar days from the date of the Notice of Dispute among all Parties that elect to participate in the meeting as a good faith attempt to resolve the Dispute informally ("Informal Dispute Resolution"). In the event the Dispute is not resolved through Informal Dispute Resolution within thirty (30) calendar days from the date of the Notice of Dispute, the Party that initially provided the Notice of Dispute shall provide a separate written notification to all Parties that participated in the Informal Dispute Resolution process which identifies three mediator candidates, all of whom must be an attorney, engineer, or hydrogeologist experienced and familiar with SGMA, to mediate the Dispute ("Formal Dispute Resolution"). Furthermore, all mediator candidates must be unbiased neutrals who are not participants in any of the GSAs in the Basin and who are not officials, officers, employees, contractors, consultants, or agents of any of the Parties to this Agreement. Within ten (10) days of receiving a written notification of qualified mediator candidates, all Parties that elect to participate in such Formal Dispute Resolution may provide a written response consenting to one or more of the mediator candidates or identifying up to three additional qualified mediator candidates. Thereafter, if a mediator is not mutually-agreed upon by said participating Parties from the combined list within fifteen (15) calendar days, each party shall submit two potential mediators that they would approve and a mediator shall be picked by a non-party through random selection from the Parties' combined lists of remaining mediators. Once initiated, the mediation shall be completed within 30 days.

(c) Mediation fees, if any, shall be divided equally among the Parties that elect to be involved in a mediation process pursuant to Section 7(b) above. Each Party involved in the mediation shall be responsible for its own attorneys' fees and costs.

(d) This Section 7 shall not preclude any Party from meeting and conferring with any other Party or Parties to mutually resolve a dispute or claim prior to requesting or participating in the mediation processes described in Section 7(b) above.

(e) This Section 7 shall not preclude any Party from seeking a preliminary injunction or other interlocutory relief if necessary to avoid irreparable harm or damages.

8. Indemnification. To the extent authorized by law, each Party shall defend, indemnify, and hold harmless the other Parties and their respective elected officials, officers, supervisors, employees, agents, contractors, and consultants from and against any and all damages, demands, actions, claims, or liabilities for the indemnifying Party's acts or omissions arising from carrying out this Agreement.

9. Miscellaneous/General Provisions.

(a) Notices. Any formal notice required or other formal communication given under the terms of this Agreement shall be in writing to all of the Parties and shall be given personally, by electronic mail (email), or by certified mail, postage prepaid and return receipt requested.

The date of receipt of any written notice provided hereunder shall be the date of actual personal service, or email, or three days after the postmark on certified mail.

(b) Entire Agreement/Amendments/Counterparts. This Agreement incorporates the entire and exclusive agreement of the Parties with respect to the matters described herein and supersedes all prior negotiations and agreements (written, oral, or otherwise) related thereto, including the 2016 MOU; provided, however, this Agreement does not amend, supersede, or modify the WMA MOA, the CMA MOA, or the EMA MOA as described in the Recitals above, as those documents may be amended or supplemented. This Agreement may be amended (including without limitation to add new Parties) only in a writing executed by all of the Parties. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

(c) Termination/Withdrawal. This Agreement shall remain in effect unless terminated by the mutual consent of the Parties. Upon 30 days written notice to the other Parties, any Party may withdraw from this Agreement, and the Agreement shall remain in effect for the remaining Parties. No Party shall be liable to any other Party for electing to withdraw from this Agreement.

(d) Assignment. No rights or duties of any of the Parties under this Agreement may be assigned or delegated without the express prior written consent of all of the other Parties, and any attempt to assign or delegate such rights or duties without such written consent shall be null and void.

(e) Insurance. Each Party shall maintain its own insurance coverage through commercial insurance, self-insurance, or a combination thereof, against any claim, expense cost, damage or liability arising out of the performance of its responsibility pursuant to this Agreement, to the extent insurable.

(f) Counsel. The Parties recognize that as of the Effective Date of this Agreement, independent legal counsel has not been retained to represent any of the three GSAs in the Basin. Until such time as any Party may decide otherwise within its sole and absolute discretion, each Party agrees, in its individual capacity and as a member agency of its respective GSA, to utilize its own legal counsel for all purposes, including but not limited to those related in any way to compliance with SGMA and any and all other legal requirements, to rely exclusively upon the legal advice of its own legal counsel, and to bear all of its own fees, costs, and expenses for legal counsel, including but not limited any experts or consultants retained through legal counsel on behalf of that Party. This arrangement shall not be construed in any way to create an attorney-client relationship or a duty of loyalty between an attorney and any Party other than the direct client of that attorney, and no such relationship will be deemed to arise by implication as a result of this

Agreement. The provisions of this Section 9(f) shall not be affected in the event, if any, that any or all of the GSAs in the Basin determine(s) to retain independent legal counsel.

(g) CEQA. The Parties recognize and agree that, pursuant to 10728.6 of the Act and Public Resources Code Section 21065, neither this Agreement nor the preparation or adoption of a GSP constitutes a "project" or approval of a project under the California Environmental Quality Act ("CEQA") or the State CEQA Guidelines.

(h) No Third-Party Beneficiaries. This Agreement is not intended and shall not be construed to confer any benefit or create any right for any third party, or to provide the power or right of a third party to bring an action to enforce any of the terms of this Agreement.

(i) Attorneys' Fees and Costs. Subject to the provisions of Section 7 above, if any action at law or equity, including an action for declaratory relief, is brought to enforce or interpret the provisions of this Agreement, the prevailing Party or Parties, as determined by the court, shall be entitled to recover reasonable attorneys' fees and costs which shall be determined by the court. The attorneys' fees and costs to be awarded shall be made to fully reimburse the prevailing Party or Parties for all reasonable attorneys' fees and costs, including but not limited to expert fees, costs, and expenses actually incurred in good faith, regardless of the size of the judgment or outcome of the action; provided, however, that recoverable fees awarded to any prevailing party shall not exceed the rate of three hundred and twenty-five dollars ($325.00) per hour for attorneys or experts.

(j) Authority/Binding Effect. Each Party represents and warrants that the individual(s) executing this Agreement is authorized to do so and thereby obligate such Party to perform all acts required by this Agreement, and that the consent, approval or execution of or by any third party is not required to legally bind the Party to this Agreement.

(k) Incorporation of Recitals. The Recitals set for the above are hereby imported into this Agreement.

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement as of the date first written above.

[*Signature Pages Below*]

SANTA BARBARA COUNTY WATER AGENCY

ATTEST:
MONA MIYASATO,
COUNTY EXECUTIVE OFFICER
Ex Officio Clerk of the Board Directors
of the Santa Barbara County Water Agency

By: _____
Deputy

SANTA BARBARA COUNTY WATER AGENCY

By: _____
Gregg Hart, Chair, Board of Directors

APPROVED AS TO FORM:
MICHAEL C. GHIZZONI
COUNTY COUNSEL

By: _____
Deputy

APPROVED AS TO FORM:
RAY AROMATORIO, ARM, AIC
RISK MANAGER

By: _____

RECOMMENDED FOR APPROVAL:
SCOTT D. MCGOLPIN
PUBLIC WORKS DIRECTOR

By: _____
Deputy Public Works Director

SANTA YNEZ RIVER WATER CONSERVATION DISTRICT

By: _____
Kevin D. Walsh, General Manager

Address: P.O. Box 719
Santa Ynez, CA 93460

Email: kwalsh@syrwcd.com

SANTA YNEZ RIVER WATER CONSERVATION DISTRICT, IMPROVEMENT DISTRICT NO.1

Date: December 12, 2019

By: _____
Jeff Clay, President

ATTEST:

By: _____
Mary Martone, Secretary

CITY OF SOLVANG

By: _____
Xenia Bradford
Acting City Manager

Address: 1644 Oak Street, Solvang, CA 93463

Email: xeniab@cityofsolvang.com

APPROVED AS TO FORM:

City Attorney: Price, Postel and Parma, LLP

By: _____
Chip Wullbrandt
City Attorney

CITY OF BUELLTON

By: _____
Holly Sierra, Mayor

Address: P.O. Box 1819
Buellton, CA 93427

Email: hollys@cityofbuellton.com

CITY OF LOMPOC

CITY OF LOMPOC, a municipal corporation

By: _____
James Throop, City Manager

Attest:

By: _____
Stacey Haddon, City Clerk

Approved as to form:

By: _____
Jeff Malawy, City Attorney

VANDENBERG VILLAGE COMMUNITY SERVICES DISTRICT

7 Jan 2020

Katherine A. Stewart, President
Board of Directors

Date

APPROVED AS TO FORM:

12/23/19

Michael A. Munoz
Senior Deputy County Counsel

Date

ATTEST:

1/7/20

Stephanie Garner
Secretary, Board of Directors

Date

MISSION HILLS COMMUNITY SERVICES DISTRICT

2-26-20

Bruce Nix, President
Board of Directors

Date

2.27.20

Loch A Dreizler
General Manager

Date

ATTEST:

2-26-20

Kayla Barker
Secretary, Board of Directors

Date

CMA

Santa Ynez River Valley Groundwater Basin
Central Management Area
Groundwater Sustainability Agency

May 2020 Status Update

STETSON ENGINEERS INC.

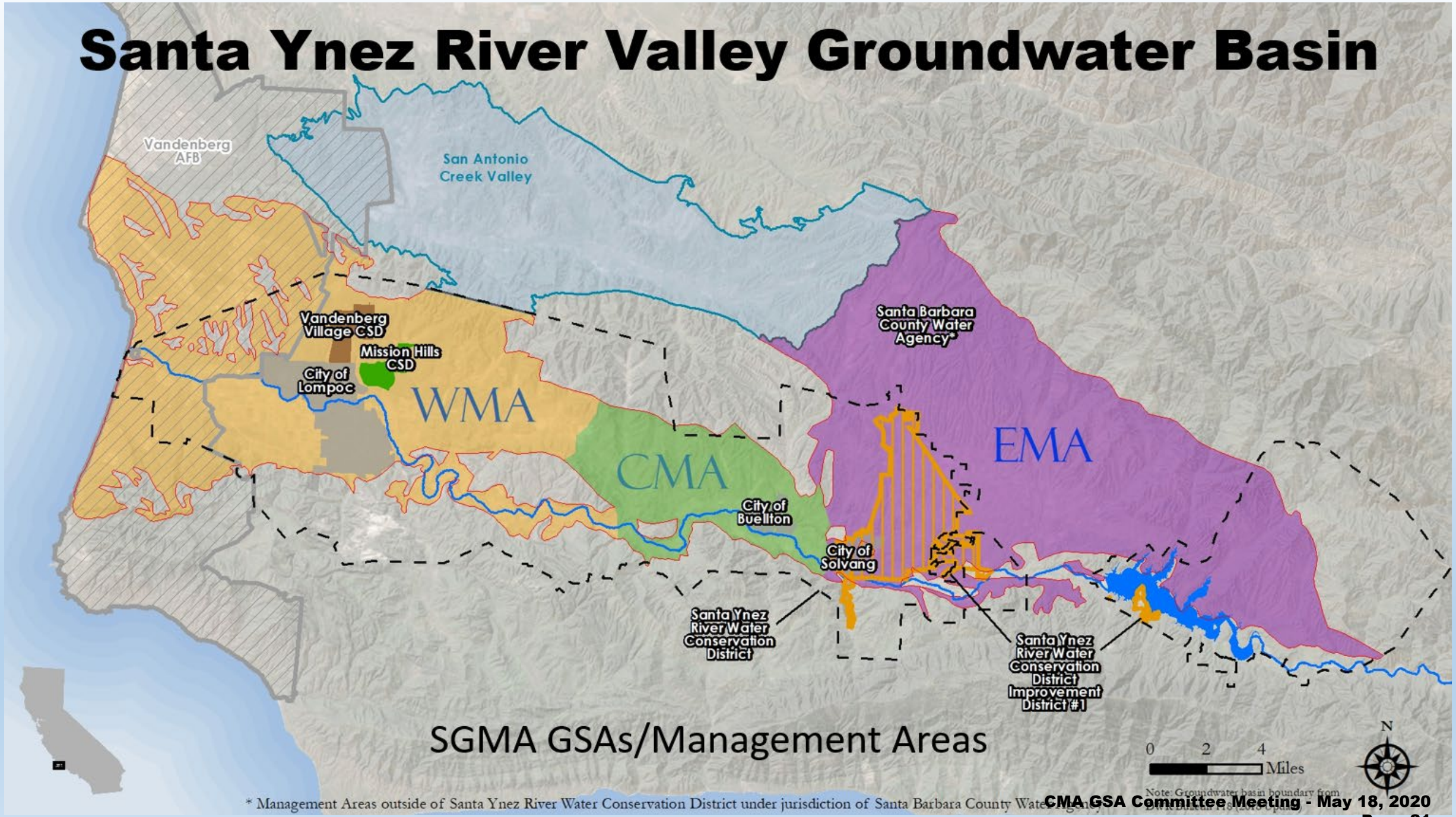
DUDEK

Geosyntec consultants

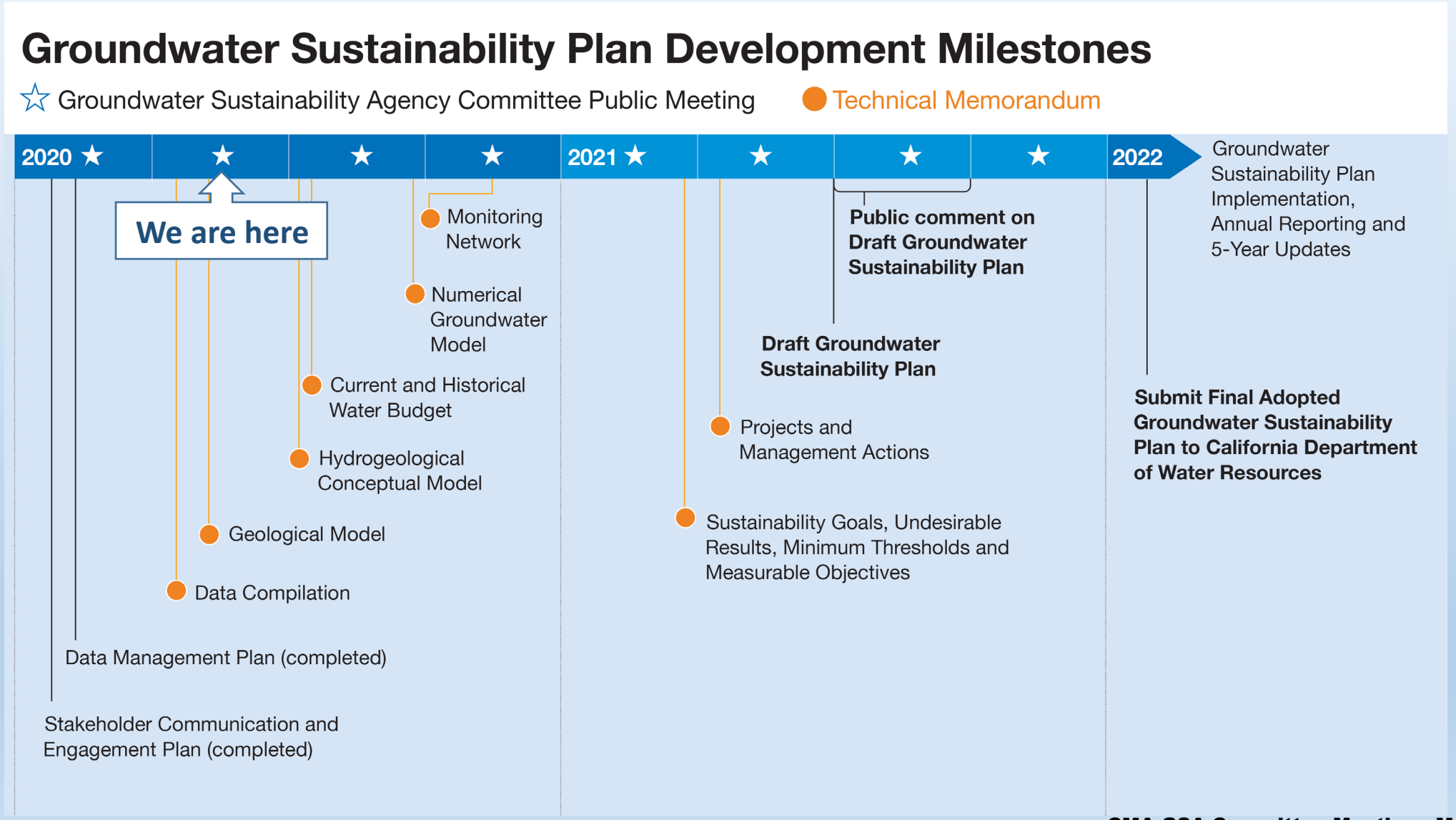
engineers | scientists | innovators

Agenda

1. SGMA & GSA Overview
2. Timeline & Milestones
3. Community Outreach
4. CMA Water
5. Technical Memorandums
6. Field Work
7. SkyTEM
8. Questions


Santa Ynez River Valley Groundwater Basin
Vandenberg AFB
San Antonio Creek Valley
Vandenberg Village CSD
Mission Hills CSD
City of Lompoc
WMA
CMA
EMA
Santa Barbara County Water Agency*
City of Buellton
City of Solvang
Santa Ynez River Water Conservation District
Santa Ynez River Water Conservation District Improvement District #1
SGMA GSAs/Management Areas
0 2 4
Miles
N
* Management Areas outside of Santa Ynez River Water Conservation District under jurisdiction of Santa Barbara County Water Agency

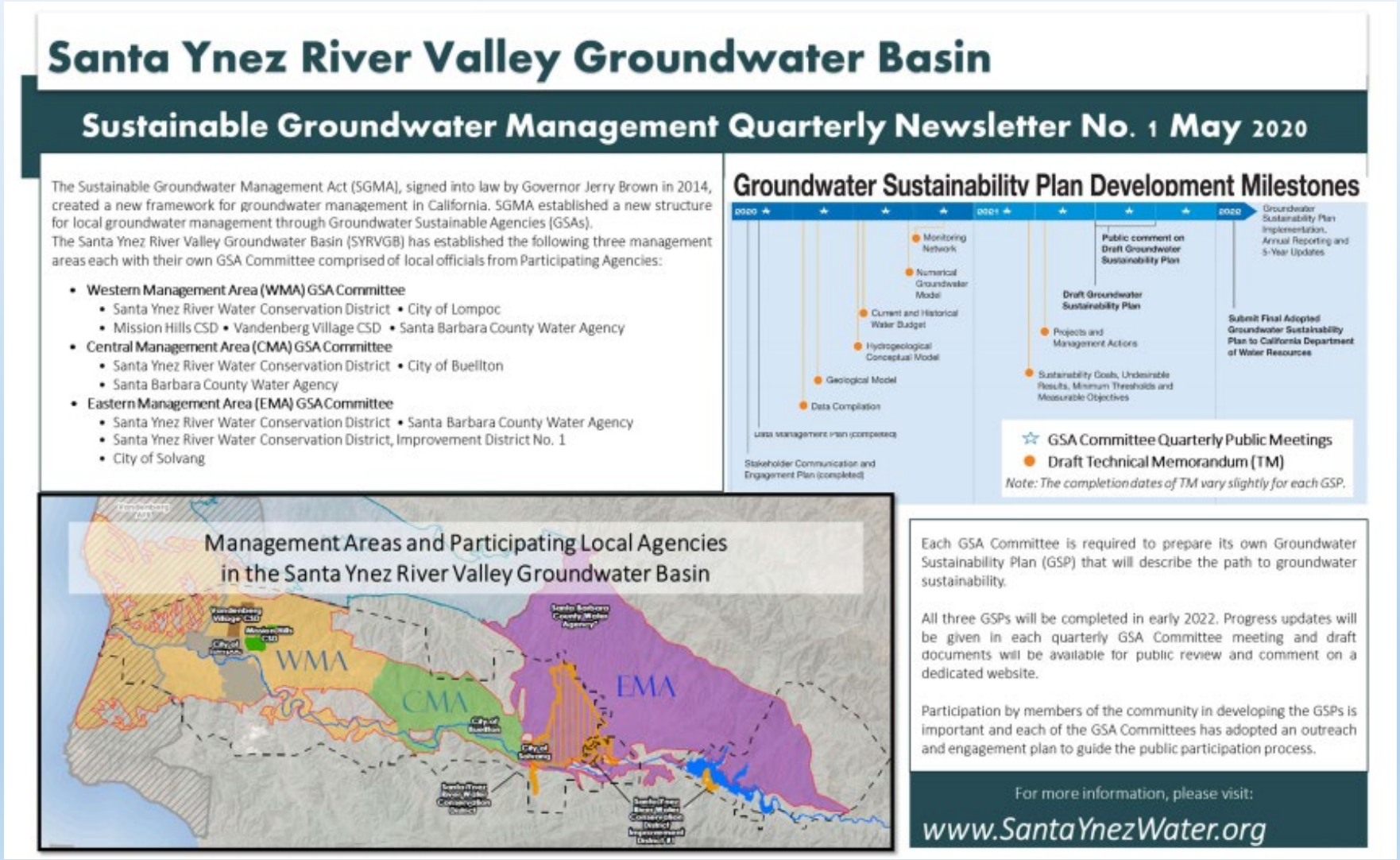
Timeline


Groundwater Sustainability Plan Development Milestones
Groundwater Sustainability Agency Committee Public Meeting
Technical Memorandum
2020
2021
2022
We are here
Monitoring Network
Numerical Groundwater Model
Current and Historical Water Budget
Hydrogeological Conceptual Model
Geological Model
Data Compilation
Data Management Plan (completed)
Stakeholder Communication and Engagement Plan (completed)
Public comment on Draft Groundwater Sustainability Plan
Draft Groundwater Sustainability Plan
Projects and Management Actions
Sustainability Goals, Undesirable Results, Minimum Thresholds and Measurable Objectives
Groundwater Sustainability Plan Implementation, Annual Reporting and 5-Year Updates
Submit Final Adopted Groundwater Sustainability Plan to California Department of Water Resources

Community Outreach

- 1st Quarterly Newsletter developed
- Distribute with water bills (paper and/or email)
- Digital Outreach

Buellton - City TV



Santa Ynez River Valley Groundwater Basin

Sustainable Groundwater Management Quarterly Newsletter No. 1 May 2020

The Sustainable Groundwater Management Act (SGMA), signed into law by Governor Jerry Brown in 2014, created a new framework for groundwater management in California. SGMA established a new structure for local groundwater management through Groundwater Sustainable Agencies (GSAs).
The Santa Ynez River Valley Groundwater Basin (SYRVGB) has established the following three management areas each with their own GSA Committee comprised of local officials from Participating Agencies:

- Western Management Area (WMA) GSA Committee
  - Santa Ynez River Water Conservation District • City of Lompoc
  - Mission Hills CSD • Vandenberg Village CSD • Santa Barbara County Water Agency
- Central Management Area (CMA) GSA Committee
  - Santa Ynez River Water Conservation District • City of Buellton
  - Santa Barbara County Water Agency
- Eastern Management Area (EMA) GSA Committee
  - Santa Ynez River Water Conservation District • Santa Barbara County Water Agency
  - Santa Ynez River Water Conservation District, Improvement District No. 1
  - City of Solvang

Groundwater Sustainability Plan Development Milestones

2020 2021 2022

- Data Compilation
- Geological Model
- Hydrogeological Conceptual Model
- Current and Historical Water Budget
- Numerical Groundwater Model
- Monitoring Network
- Stakeholder Communication and Engagement Plan (completed)
- Sustainability Goals, Undesirable Results, Minimum Thresholds and Measurable Objectives
- Projects and Management Actions
- Draft Groundwater Sustainability Plan
- Public comment on Draft Groundwater Sustainability Plan
- Submit Final Adopted Groundwater Sustainability Plan to California Department of Water Resources
- Groundwater Sustainability Plan Implementation, Annual Reporting and 5-Year Updates

☆ GSA Committee Quarterly Public Meetings
● Draft Technical Memorandum (TM)
Note: The completion dates of TM vary slightly for each GSP.

Management Areas and Participating Local Agencies in the Santa Ynez River Valley Groundwater Basin

WMA CMA EMA

Each GSA Committee is required to prepare its own Groundwater Sustainability Plan (GSP) that will describe the path to groundwater sustainability.

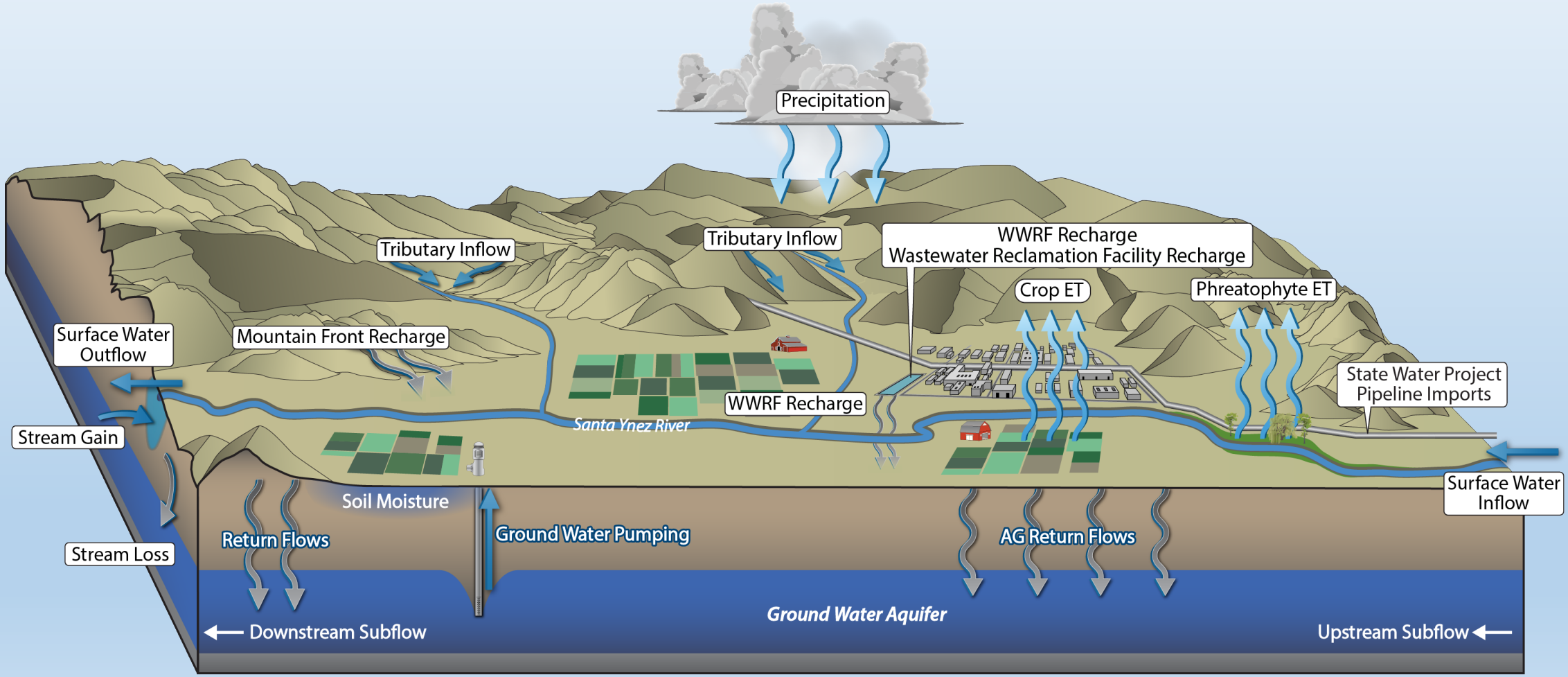
All three GSPs will be completed in early 2022. Progress updates will be given in each quarterly GSA Committee meeting and draft documents will be available for public review and comment on a dedicated website.

Participation by members of the community in developing the GSPs is important and each of the GSA Committees has adopted an outreach and engagement plan to guide the public participation process.

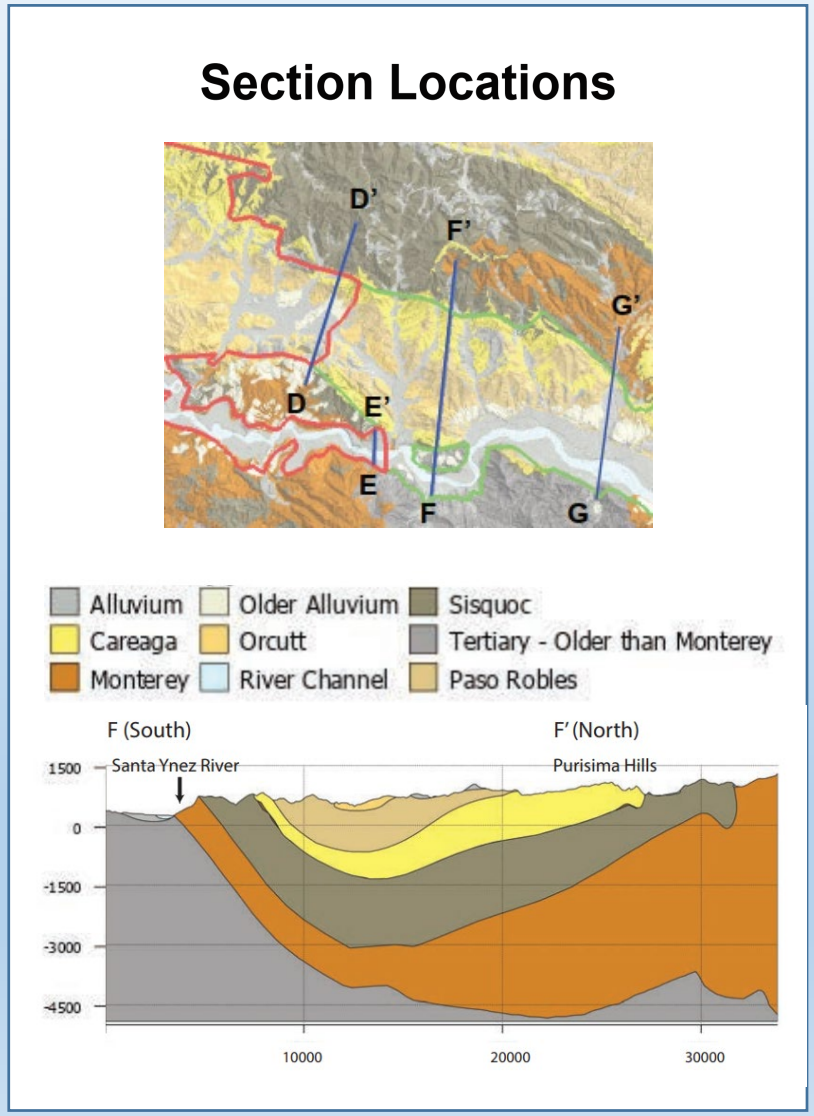
For more information, please visit:
www.SantaYnezWater.org

CMA Water

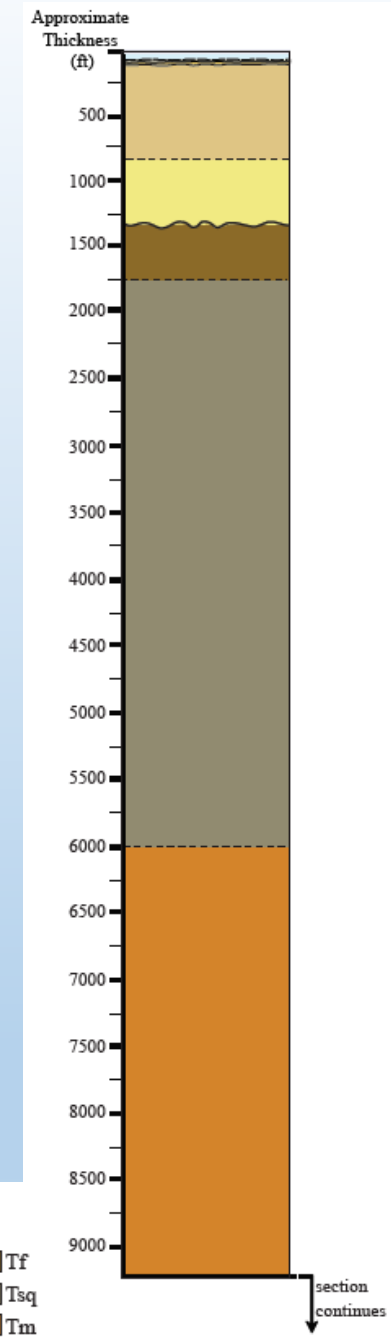
CENTRAL MANAGEMENT AREA OF THE SANTA YNEZ RIVER VALLEY GROUNDWATER BASIN



Geologic Model Technical Memorandum

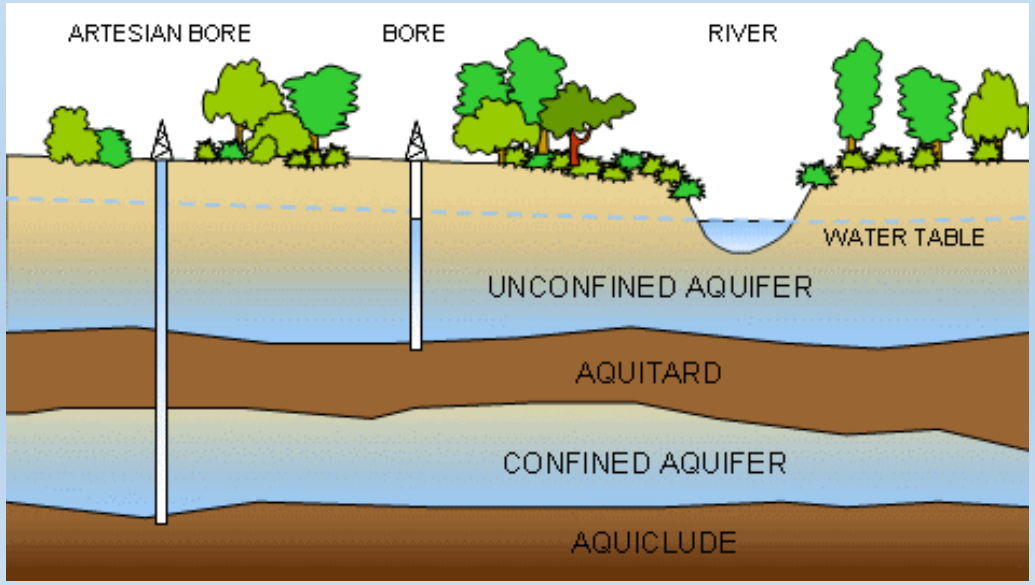


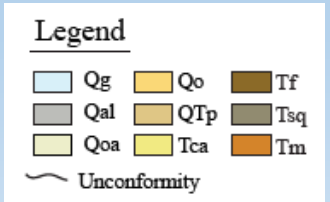
- DRAFT Tech Memo in review by Staff
- Describes the software, data sources and assumptions used to build the model
- Outlines data gaps identified by the model (lack of data in one area)
- SkyTEM data may be used later to refine the model

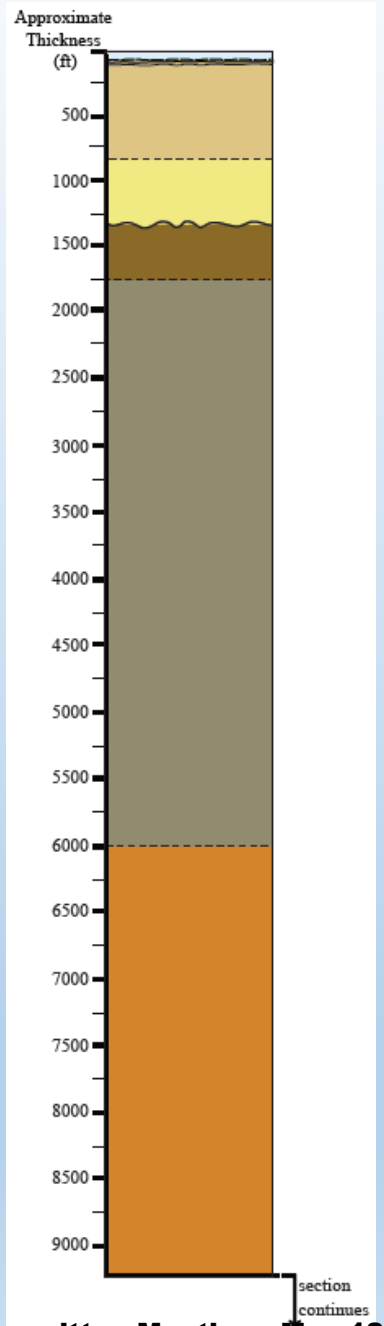


Geologic Model Technical Memorandum

- Why model the basin Geology?
- Geologic units inform where groundwater is present.
- Each geologic unit has specific properties that affect how groundwater moves through the basin.
- Understanding where groundwater is present and how it flows through the basin informs groundwater management.



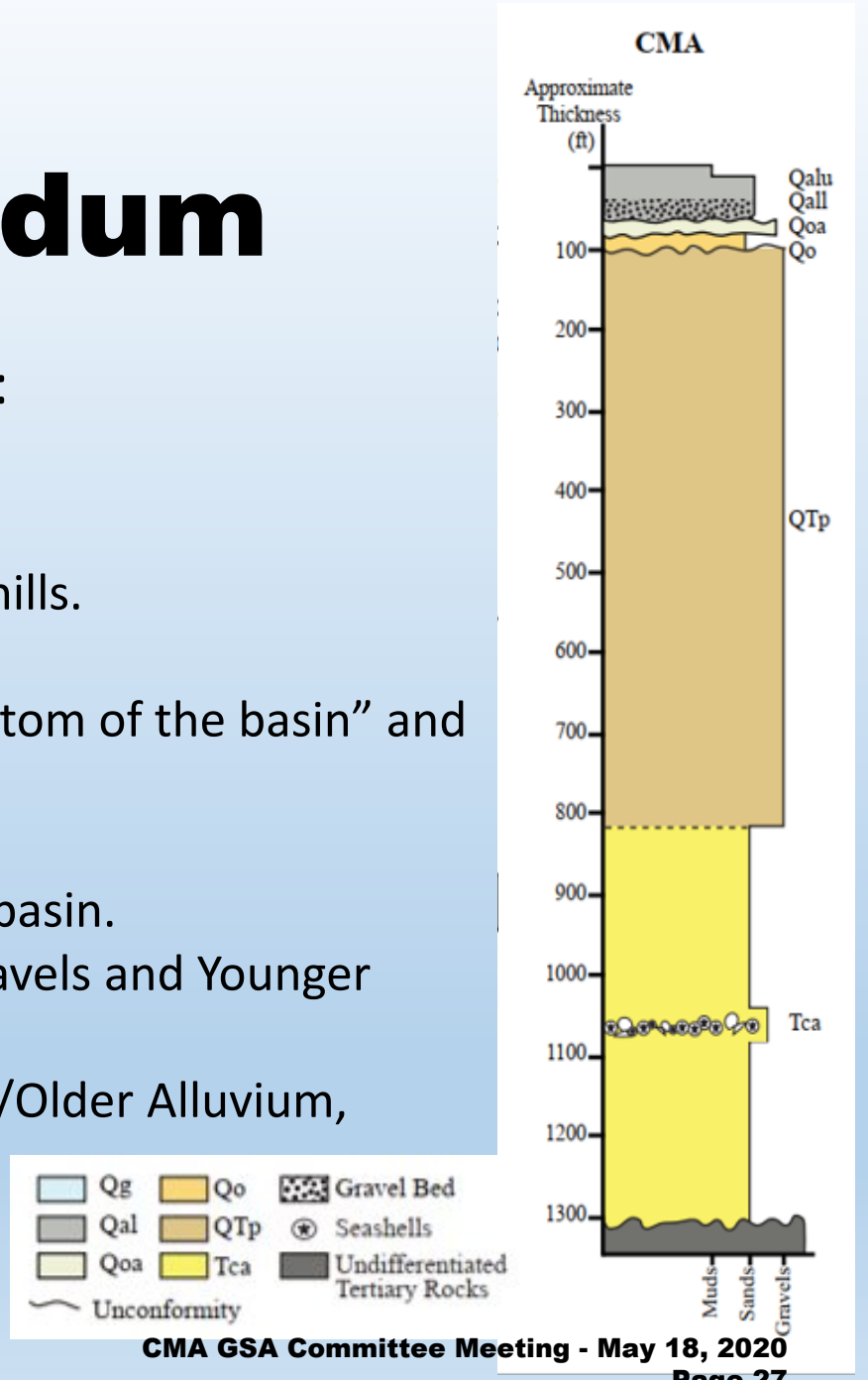




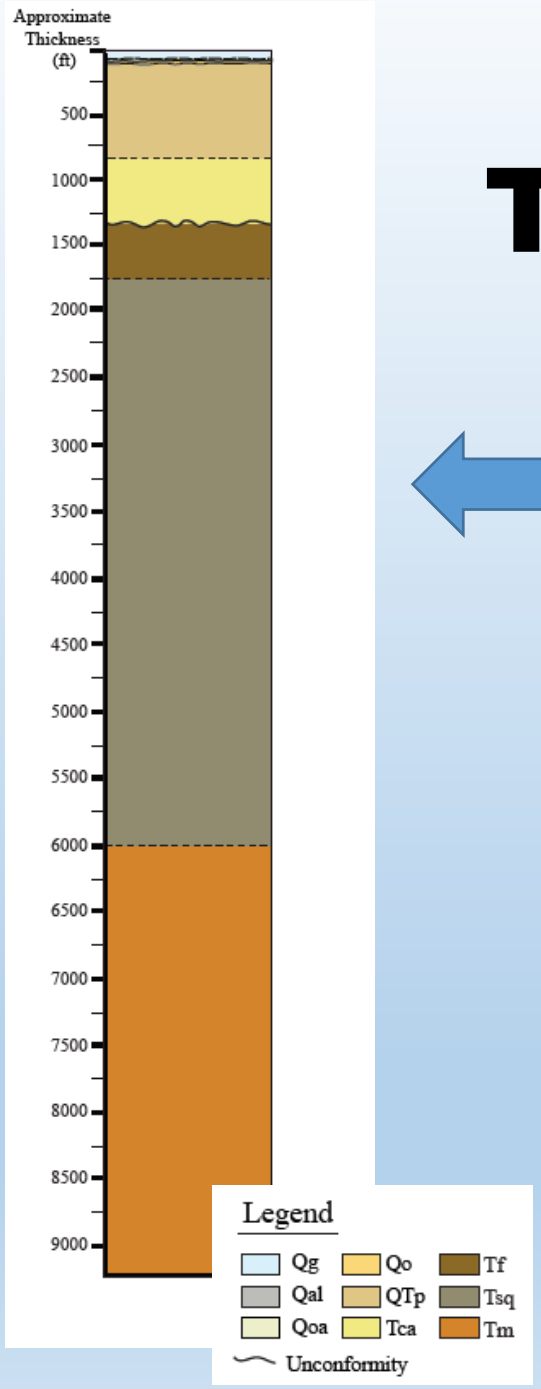
Geologic Model Technical Memorandum

Geologic units can be categorized into two broad categories:

1. Consolidated Rock
   - Underlies the groundwater basin and outcrops in surrounding hills.
   - Includes the Monterey, Foxen, and Sisquoc Formations.
   - SGMA terminology: consolidated rock forms the “definable bottom of the basin” and “lateral basin boundaries.”
2. Unconsolidated Deposits
   - Geologic formations that contain and convey water within the basin.
   - Santa Ynez River Floodplain Alluvium – Upper Aquifer (River gravels and Younger alluvium)
   - Upland Deposits Formations – Lower Aquifer (Terrace Deposits/Older Alluvium, Orcutt, Paso Robles, Careaga Sand)



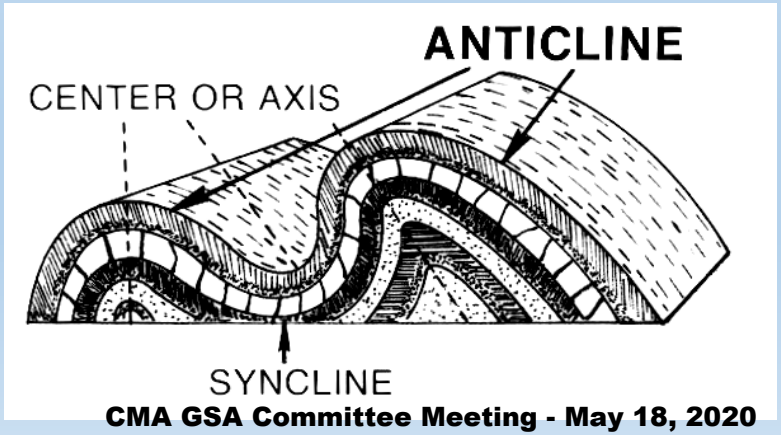
Geologic Model Technical Memorandum



- Modeling the geologic units (stratigraphy) as shown in this figure, helps us better understand and interpret geologic structures within the basin.

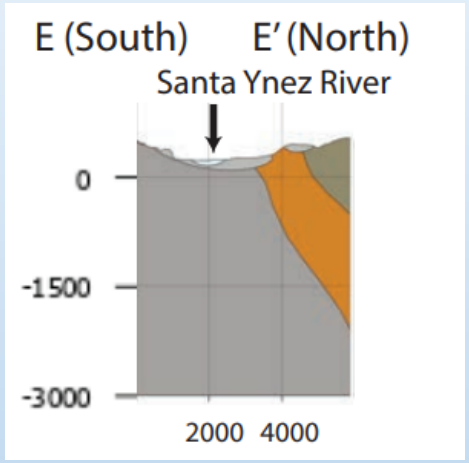
- Geologic structures in the basin include folds, faults, mountains and other features.

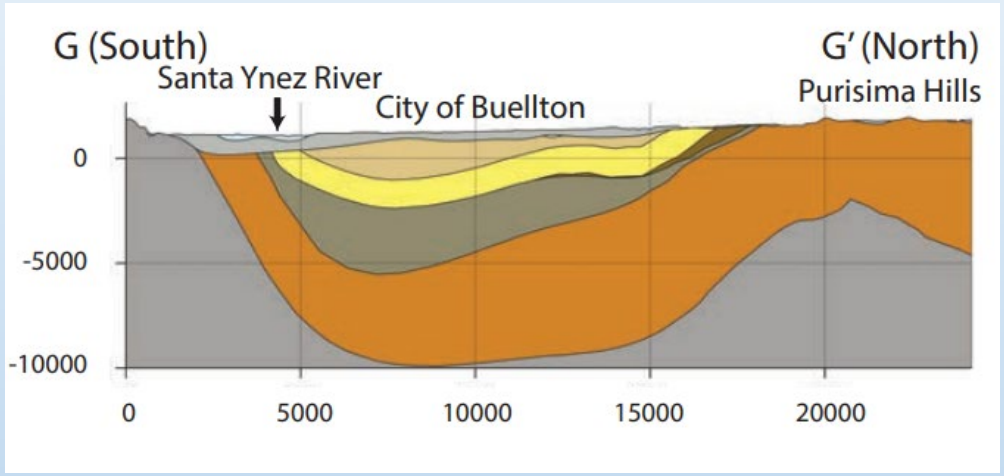
- Anticline and syncline folds

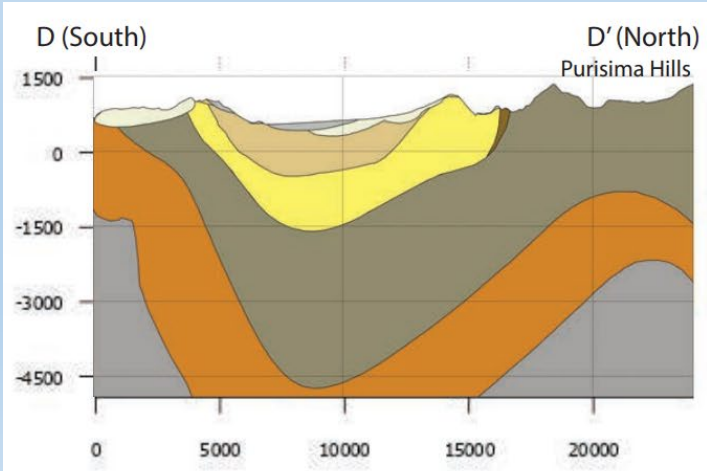


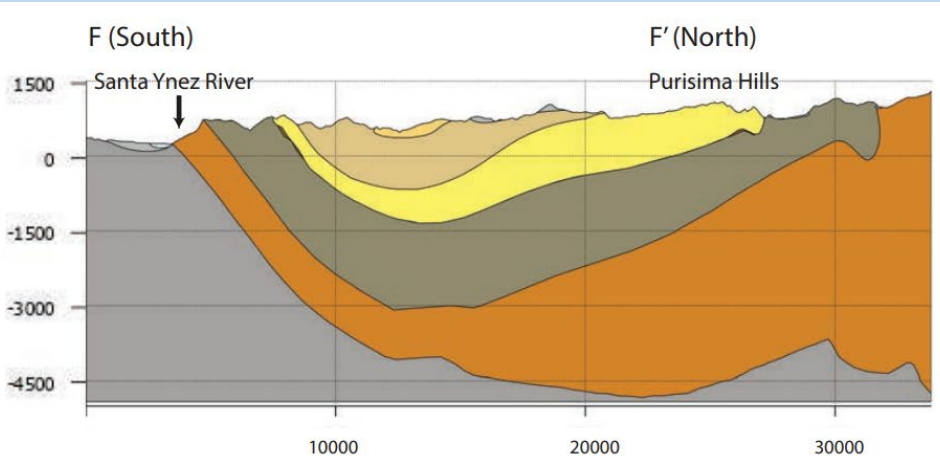
Fold Figure By Pearson Scott Foresman - Archives of Pearson Scott Foresman, donated to the Wikimedia Foundation, Public Domain, https://commons.wikimedia.org/w/index.php?curid=2572045

Geologic Model Technical Memorandum

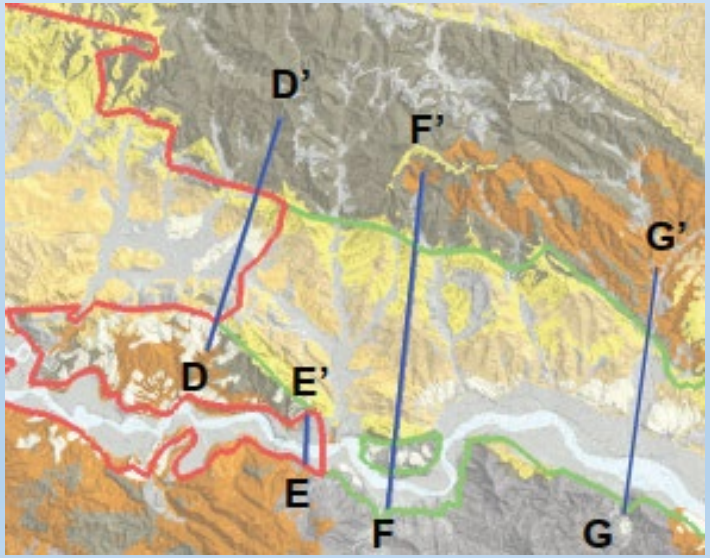




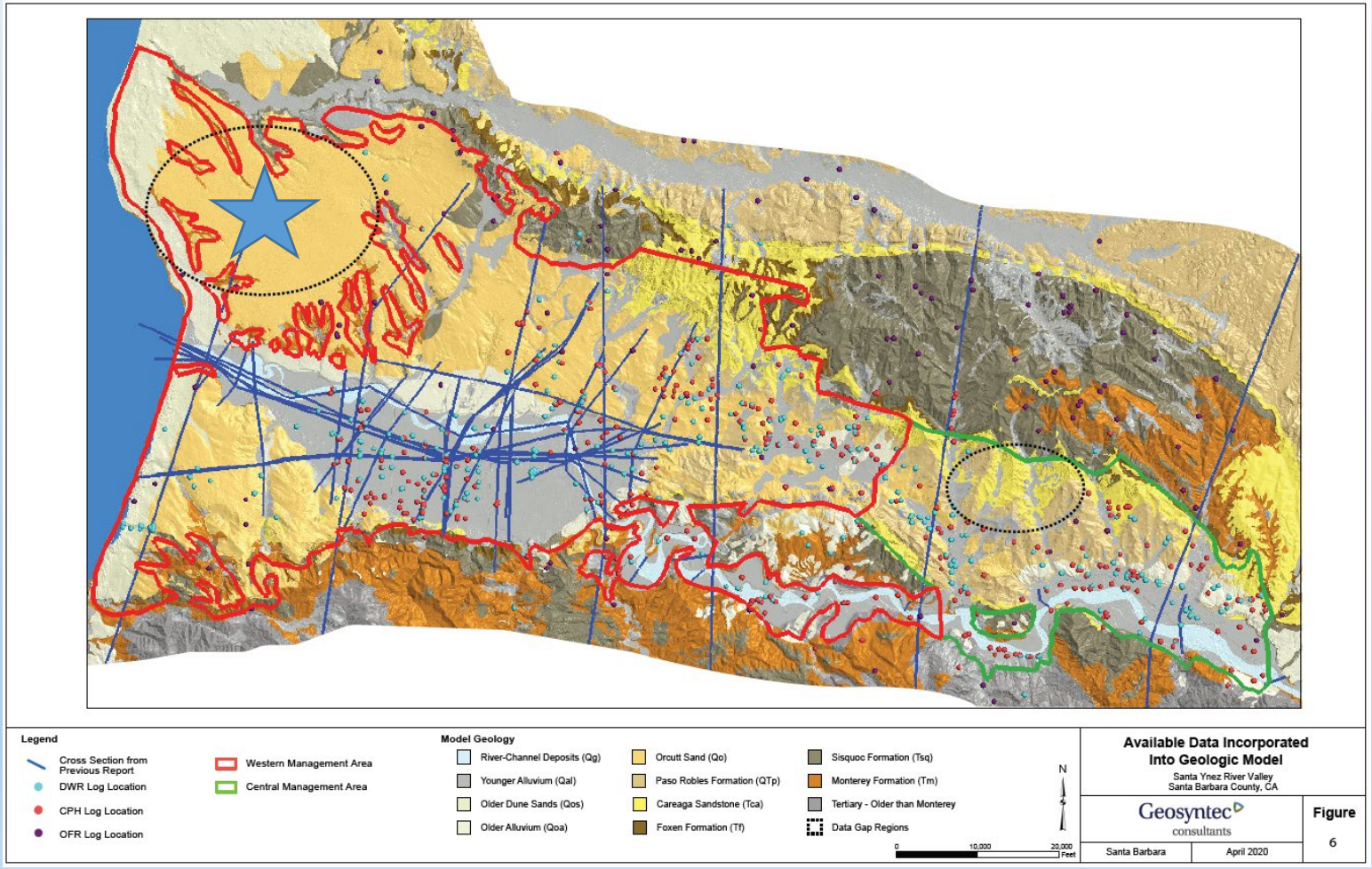




- Cross-section views of the CMA geologic model
- View of subsurface folds in the CMA



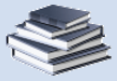
Geologic Model Technical Memorandum



- Aerial (overhead) view of the geologic model and incorporated data.
- Well boring information from publicly available resources.
- Cross-sections from previously published reports.

Data Management System Technical Memorandum

- DRAFT Tech Memo in review by Staff.
- Describes the volume of data uploaded into the DMS (data index).
- Complement to the Data Management Plan.

	Type	Data Uploaded
	Pumping Data	Buellton (2007-17), Lompoc (2003-13), Vandenberg Village Community Services District (2005-19), Public Water System Statistics Surveys (2006-18) Santa Ynez River Water Conservation District (2011 - 18)
	Water Level Measurements	United States Geological Survey/County of Santa Barbara (1940-2019), United States Bureau of Reclamation (1972-2019), Buellton (2003-2017), Lompoc (1964-2013), Vandenberg Village Community Services District (2005-19)
	Water Quality	California State Waterboard GeoTracker GAMA
	Map Layers	Committee Agency Extents, General Reference: Digital Elevation Model/Topography, parcels, roads, watersheds, PLSS, etc. Linked Layers: Air Imagery/Geologic Maps
	Reports / Publications	187 Total, Examples: Santa Ynez River Water Conservation District Annual Reports, United States Geological Survey (USGS) Reports, California Department of Water Resources (DWR) Reports, Plans – Ex: Urban Water Management Plan/ Integrated Regional Water Management/ General Plans

Field Work

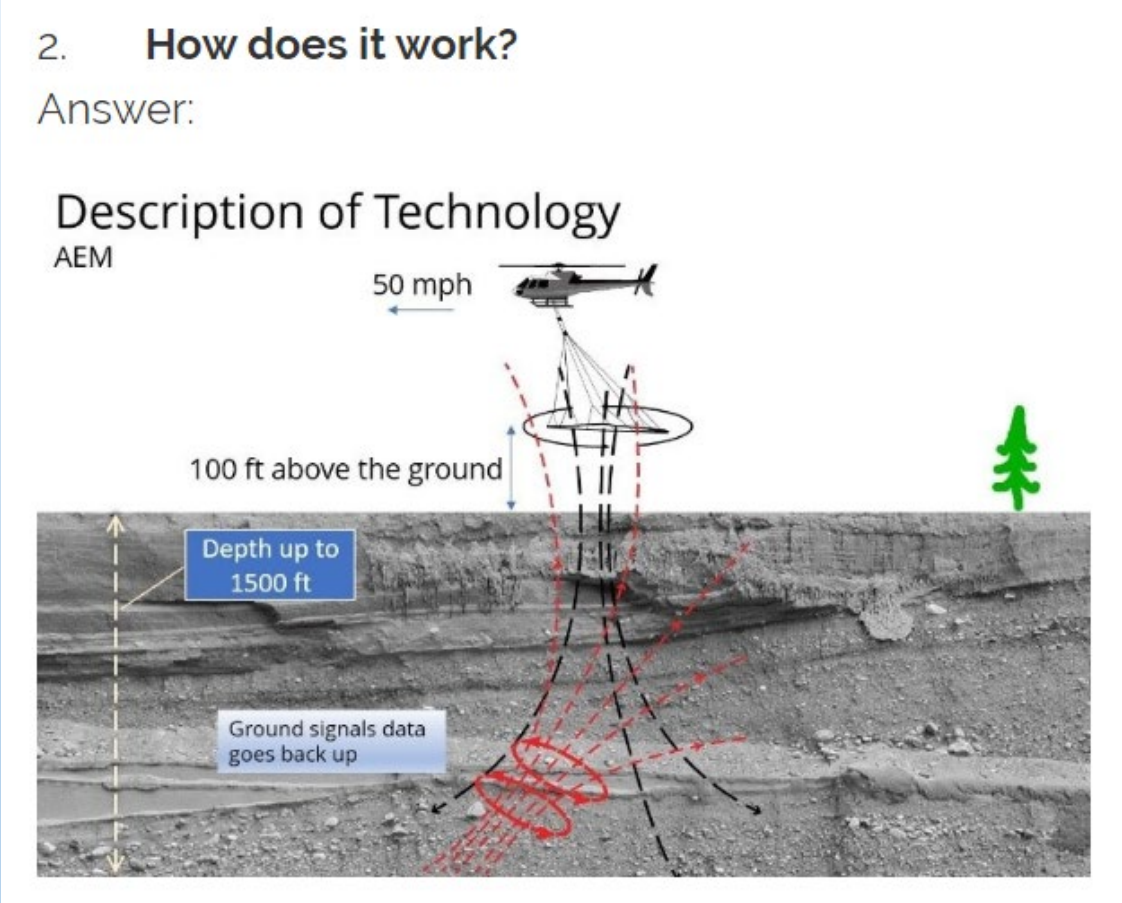
Survey and field-verification of various items:

- Ground surface elevation
- Groundwater well locations
- Groundwater elevation measuring points

SkyTEM

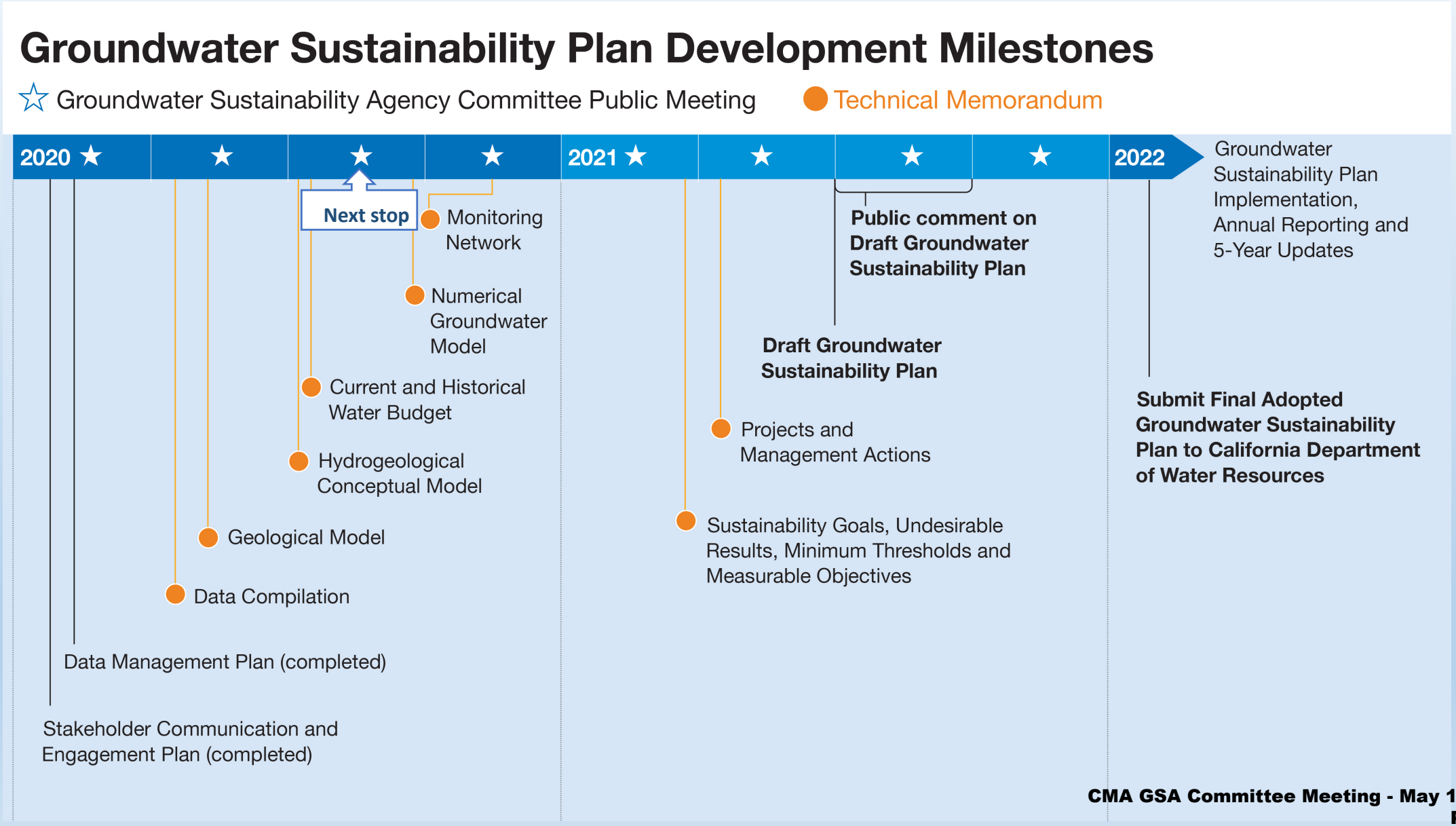
- Grant from DWR for SkyTEM work
- Groundwater mapping through Aerial Electromagnetic Method (AEM)
- Well data will be used to verify the data collected and map the layers within the Basin

SkyTEM



- Instruments are attached to a low flying helicopter flying at ~100 feet above the ground surface, towing a large hoop that will transmit a weak electromagnetic field.
- The electromagnetic field interacts with the ground, and the ground response is measured using a set of receiver coils attached to the hoop.
- Additional SkyTEM info available on the website: https://www.santaynezwater.org/aem-survey-ema

The Way Ahead



Questions?

STETSON ENGINEERS INC.

DUDEK

Geosyntec consultants

engineers | scientists | innovators

CMA

Santa Ynez River Valley Groundwater Basin
Central Management Area
Groundwater Sustainability Agency

May 2020
Status Update

STETSON ENGINEERS INC.

DUDEK

Geosyntec consultants

engineers | scientists | innovators

DRAFT TECHNICAL MEMORANDUM

2171 E. Francisco Blvd., Suite K • San Rafael, California • 94901
TEL: (415) 457-0701 FAX: (415) 457-1638 e-mail: milesm@stetsonengineers.com

TO:	GSA Agency Staff WMA Committee CMA Committee	DATE:	May 5, 2020
FROM:	Stetson Engineers	JOB NO:	2710/11 - Santa Ynez SGMA
RE:	**DRAFT** Phase I Data Compilation for the Santa Ynez River Groundwater Basin Data Management System (WMA and CMA)		

INTRODUCTION

This memorandum describes the first phase of data compilation collected and entered in to the data management system (DMS) developed for the Santa Ynez River Valley Groundwater Basin (SYRVGB) Western Management Area (WMA) and Central Management Area (CMA). This is a first step in developing and implementing a Sustainable Groundwater Management Act (SGMA) plan for these portions of the SYRVGB. It is anticipated that there will be additional phases of data that will be entered into the DMS. After each phase of data entry, this memorandum will be updated.

A description of the DMS was provided in the Data Management Plan (DMP), which included overall goals of the DMS, a description of the DMS platform, and how this addresses the needs of SGMA. This memorandum provides a snapshot view of data collected and entered into the DMS as of March 2020.

DATA COLLECTION GOALS

Different types of geologic and hydrogeologic data are required to prepare a Groundwater Sustainability Plan (GSP) that is compliant with the Sustainable Groundwater Management Act (SGMA) of 2014. Data from Federal, State and Local agencies as well as private well owners were collected with the goal to prepare parts of the GSP including:

1. Description of the basin, and basin characterization;
2. Development of the preliminary water budget for the basin
3. Preparation of the hydrogeological conceptual model.
    a. Development of three-dimensional (3-D) geological visualization tool."
4. Development of a groundwater flow model.
    a. Calibration of the groundwater model, to historical groundwater levels.
5. Evaluation of additional data needs or data gaps;
6. Data monitoring and recording relative to SGMA evaluation criteria and project and management goals.
    a. Chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply if continued over the planning and implementation horizon.
    b. Significant and unreasonable reduction of groundwater storage.
    c. Significant and unreasonable seawater intrusion.
    d. Significant and unreasonable degradation of water quality.
    e. Significant and unreasonable land subsidence.
    f. Depletion of interconnected surface water and groundwater that has significant and unreasonable adverse impacts on beneficial uses of the surface water.

DMS UPDATES

The DMP was made Draft Final on February 18, 2020. There have been several updates and improvements to the DMS since the last revision of the DMP. These include the following added features:

- Direct connection to the map server for GIS desktop programs including ArcGIS and QGIS for authorized users was added to the DMS. Previously users were required to use a web browser to access data hosted through the map server.

- A new "entity at a glance" feature was added which summarizes information from a single agency or other entity associated with the GSAs.
- Modifications to email system for user notifications to improve email deliverability. This included additional DNS and other configurations to meet requirements of "anti-spam" filters and unique requirements such as the plain-text requirement for .mil email addresses.
- New feature that allows users to see how they've used the site, listing how many times they have logged over the last month, last six months, and all time.

SUMMARY OF DATA ON DMS

The focus of Phase I of data collection was geologic and hydrogeologic data which include direct measurements from agencies that monitor their respective groundwater systems. This data includes well locations, static groundwater level data, and groundwater pumping or production data. The following tables list data sets that were uploaded to the DMS.

GROUNDWATER LEVEL DATA

Type	Summary	Range	Sites	Records	Description
Monthly	City of Buellton	January 2003-March 2019	4	290	Static water level reads from the City of Buellton.
Monthly	City of Lompoc	March 1964-June 2008	10	3,504	Static water level reads from the City of Lompoc provided as part of the HCI model.
Monthly	USBR	October 1972-December 2019	58	38,556	Groundwater elevation data reported in the USBR Cachuma project monthly reports. Data was converted from NGVD29 to NAVD88, and includes source NGVD29 data.
Monthly	Vandenberg Village CSD	July 1959-October 2019	9	2,194	Static water level reads from Vandenberg Village CSD.
Semiannual	USGS NWIS	January 1940 - June 2019	2,150	76,712	Groundwater data available from the USGS NWIS (entire Santa Ynez Valley).
Semiannual	County of Santa Barbara Water Agency	March 2019 – October 2019	113	150	Groundwater elevation data provided by the County of Santa Barbara Water Agency. CASGEM data is a subset of this.

GROUNDWATER PRODUCTION DATA

Type	Summary	Range	Sites	Records	Description
Daily	City of Buellton	August 2007-December 2017	4	12,300	Pumping records from the City of Buellton.
Monthly	City of Lompoc	March 2003-December 2013	11	4,456	Pumping records from the City of Lompoc provided as part of the HCI model and updates.
Daily	Vandenberg Village CSD	July 2005-June 2019	3	10,027	Daily pumping from Vandenberg Village CSD.
Monthly	DWR - Public Water System Statistics	January 1994-December 2018	9	1,368	Production records by public water system reported to DWR Water Use and Efficiency Branch.

Daily groundwater production data is generally provided through the DMS interface as monthly totals.

GROUNDWATER QUALITY DATA

Type	Summary	Range	Records	Description
Various	Waterboard GAMA	April 1911-October 2019	22,312	Selected water quality (TDS, Chloride, Sodium) from GeoTracker GAMA compilation. Includes areas in the EMA.

The above water quality data are in the database but are not available through the interface at this time.

GEOSPATIAL DATA

Type	Summary	Presented	Description
Management Area	Project Extents	GeoJSON	Extents as posted to California Department of Water Resources. Based on Buellton 118 Update 2018 basin boundaries.
SYRWCD Annual Report	Groundwater Divisions	GeoJSON	Extents of key groundwater basins as reported in the 41st Santa Ynez Annual Report.
SYRWCD Annual Report	Wells	GeoJSON	Locations of wells as reported in the 41st Santa Ynez Annual Report.
Committee	SYRWCD	GeoJSON	Extents of SYRWCD developed from the county surveyor in 2012.
Committee	Lompoc	GeoJSON	Extents of City of Lompoc.
Committee	Vandenberg Village CSD	GeoJSON	Extents of Vandenberg Village CSD.
Committee	Mission Hills CSD	GeoJSON	Extents of Mission Hills CSD.
Committee	Buellton	GeoJSON	Extents of City of Buellton.
Committee	Solvang	GeoJSON	Extents of City of Solvang.
Committee	ID#1	GeoJSON	Extents of Improvement District No. 1.

Type	Summary	Presented	Description
General Location	Streets	Map Server (vector)	Roads for the County of Santa Barbara. Data was included with the County of Santa Barbara Parcel Data received in June 2019.
General Location	Railroads	Map Server (vector)	Railroad lines of the US sourced from the 2018 TIGER/Line, a product of the US Census Bureau.
Topography	Topographic Contours (USGS)	Map Server (vector)	USGS 1:24,000 scale contours for 1 Degree Quadrangles of Santa Maria West, and Santa Maria East. Sourced from the USGS from 7.5-minute contour maps.
Topography	Digital Elevation Model	Map Server (raster, rendered as hillshade)	Combined from three sources: 1) 1m sourced from NED, covering the entire CMA, and the WMA (except portions of Burton Mesa). Survey from 2018-2019. 2) 5m sourced from NOAA, covering the entire CMA and WMA. Source date in 2002. 3) 10m Digital Elevation Model (DEM) at 1/3 Arc-Second Resolution, downloaded from USGS National Map. Regional coverage of the 1 Degree Quadrangles of Santa Maria West, and Santa Maria East. Source date in 2008.
Surface Water	Watersheds / Hydrologic Units	GeoJSON	The Watershed Boundary Dataset (WBD) is a seamless, national hydrologic unit (HU) dataset developed by the USGS. Longer hydrologic unit codes (HUC) indicated a smaller watershed area. These are the HUC8 "Subbasin," HUC10 "Watershed," and HUC12 "Subwatershed." Sourced from the USGS.
Surface Water	Hydrography	Map Server (vector)	The National Hydrography Dataset (NHD) represents the water drainage network of the United States with features such as rivers, streams, canals, lakes, ponds, coastline, dams, and streamgages. Sourced from the USGS.
Survey Information	Estimated Township/Ranges, Sections	Map Server (vector)	California Department of Water Resources Section fill. Township / Range dissolve. Sourced from Well Completion Report Map Application, downloaded in 2019. Note, "official" BLM Cadastral Survey Program does not include Mexican Land Grants, which are majority of the WMA and CMA.
Survey Information	Mexican Land Grants	GeoJSON	Territory granted as part the Mexican Rancho system.
Survey Information	County of Santa Barbara	Map Server (vector)	Parcels extents as provided by the County of Santa Barbara as of June 2019.
Reference	Vandenberg AFB	GeoJSON	Extents of Vandenberg AFB developed from the County of Santa Barbara parcel data, as received in June 2019.

In addition, to the above listed geospatial datasets, the DMS database includes specific site location information in the well table, surface water table, and USGS location table which are used to index the data tables such as water levels, water production, and water quality.

GEOLOGIC MODEL GEOSPATIAL DATA

Development of the hydrogeologic conceptual model included the review and compilation of production and monitoring well logs, and lithological logs from a variety of sources including

Department of Water Resources (DWR) and the County of Santa Barbara Department of Environmental Health Services (EHS). The locations of available wells and boreholes were uploaded to the DMS. Wells and well logs were selected to be uploaded based on a twofold approach to evaluate the usefulness of each log as follows:

1. Identify and download available well logs for the basin from DWR. DWR organizes well logs by sections. Locations of deeper wells were identified, based upon information from the logs, and the lithology was determined. There are 497 "deeper" wells identified in the basin. The data from these wells are stored in a specific GIS layer specific to the deeper DWR wells.

2. Identify and download available well logs for the basin from the Santa Barbara County Environmental Health Services (EHS). EHS organizes well logs by parcel number. Wells for the CMA and WMA parcels were selected from the EHS files for the entire County. To limit the potential for duplicates, only parcels without a DWR well log were reviewed. There are 334 wells stored in a specific GIS layer specific to the EHS wells

LINKED GEOSPATIAL DATA

In addition to the geospatial data that are hosted on the DMS server, the DMS links to external geospatial data hosted by third parties. Third-party data by nature are not controlled or managed by the DMS, so availability may be subject to change. Data may be temporarily cached on the SYWATER server.

Type	Summary	Presented	Description
Geologic Map	Geologic map mosaic.	Cache	Mosaic of geological maps provided by the USGS National Geological Map Database (NGMDB).
Crop Map	Crop Classification.	Cache	DWR provided crop classification and land use for the 2016 main season agricultural season.
Hillshade	USGS Hillshade	Link	Supplied by the USGS "The National Map." Hill shade features only.
Hillshade	Color Hillshade	Link	Supplied by Stamen Design. Hill shading using quasi-natural vegetation colors.

Type	Summary	Presented	Description
Orthoimagery	NAIP 2012	Cache	NAIP[1] images from 2012 sourced from California Department of Fish and Wildlife images. Most recent complete imagery for the basin: More recent NAIP from 2014, 2016, and 2018 do not include portions of the WMA related to Vandenberg AFB.
Orthoimagery	NAIP 2018	Cache	Natural color imagery sourced from California Department of Fish and Wildlife images from 2018. Does not include portions of the WMA related to Vandenberg AFB.
Orthoimagery Color Infrared	NAIP 2018 CIR	Cache	Color infrared sourced from California Department of Fish and Wildlife images from 2018. Color infrared is used to identify vegetation. Does not include portions of the WMA related to Vandenberg AFB.
Orthoimagery	NAIP 2010	Link	Sourced from California Department of Fish and Wildlife images from 2010.
Orthoimagery	NAIP 2009	Link	Sourced from California Department of Fish and Wildlife images from 2009.
Orthoimagery	NAIP 2005	Link	Sourced from California Department of Fish and Wildlife images from 2005.
Topography Map	USGS Topography	Link	Supplied by the USGS "The National Map." Combined map showing roads, topographic contours, hill shade, and other map features.
Road Map	Open Street Map	Link	Supplied by Open Street Map. Community based mapping project.

LIBRARY OF REPORTS

The consultant team reviewed available documents from a variety of sources including local agencies, state, federal and local entities. As of January 23, 2020 there are 184 report entries related to the Santa Ynez groundwater basin. Documents were sourced from the following list of report repositories.

- Stetson Engineers physical and electronic libraries.
    - Including all Santa Ynez River Water Conservation District Annual Engineering and Survey Reports
- Santa Ynez River Water Conservation District physical and electronic libraries.
- Other documents as provided by the GSA Committee Agencies.

[1] National Agriculture Imagery Program (NAIP) are captured by the US Department of Agriculture (USDA). It consists of periodically acquired imagery at one-meter resolution, with an accuracy of six meters of ground control points. In most cases only natural color imagery is used and provided.

Natural color imagery means the color as presented matches the electromagnetic spectrum that was recorded, so the result image approximates what would be observed by a human observer. This is opposite of pseudo-color such as color infrared where the recorded data for some range of electromagnetic spectrum is mapped to each of the red, green, and blue color channels

- Reference documents gathered by Tim Durbin in development of historical City of Lompoc groundwater model and model update.
- USGS online publications warehouse, and map locations.
- DWR libraries
    - Urban Water Management Plans
    - DWR Bulletins
- General Plans
- County of Santa Barbara Reports (Groundwater Reports)

FUTURE DATA PHASES

It is anticipated that there will be the additional future updates as additional data is provided and processed.

ADDITIONAL AGENCY DATA

GSA member agencies may provide additional data including pumping and water levels. The Santa Ynez River Water Conservation District is digitizing historical groundwater pumping data from its paper archive files once compiled, this data will be uploaded to the DMS.
GSA member agencies may provide additional water quality data. The current water quality data from the Waterboard GeoTracker GAMA is a compilation of water quality from Federal and state of California sources, which includes data that all public water agencies submit to the State. Once compiled the additional water-quality data will be uploaded to the DMS.

Data used to develop the water budget (not including groundwater data) will be uploaded to the DMS. This includes USGS gaged surface flows, Santa Barbara County precipitation data, and a summary of imported water by the Central Coast Water Authority.

COMPLETED GROUNDWATER MODEL AND WATER BUDGET

Developing the groundwater model and water budget may result in the identification of additional data sources which could be used in other components of the GSP. These additional data will be reviewed for potential inclusion in the DMS.

In addition some components of the model or model outputs as may also be uploaded to the DMS. Examples could include the 3D visualization model and numeric groundwater model output, which may include modeled water levels for selected time periods.

ONGOING FIELD WORK AND DATA COLLECTION

Data collected from field efforts will be reviewed and incorporated into the DMS as appropriate. Anticipated field work includes a surveying effort to verify measuring point elevation and special location accuracy. These survey data are required to meet SGMA standards and will be used for tracking land subsidence, water quality sampling, and future monitoring well installation projects. There will also be an Aerial Electro-Magnetic (AEM) survey of the CMA and WMA, which will inform and update the Hydrogeologic Model of those areas. Data from the AEM survey will be uploaded to the DMS.

TO:	Stetson Engineers
SUBJECT:	DRAFT Technical Memorandum Regional Geology and 3D Geologic Model for the Santa Ynez River Valley Groundwater Basin
PREPARED BY:	Eryn Torres, Senior Professional Maygan Cline, Senior Geologist Mark Grivetti, Senior Principal Hydrogeologist
DATE:	May 12, 2020

1. INTRODUCTION

This technical memorandum is prepared as part of the hydrogeologic conceptual model (HCM) for the Western and Central Management Areas (WMA and CMA, respectively) Groundwater Sustainability Agencies[1] (GSAs) within the larger Santa Ynez River Valley Groundwater Basin (SYRVGB). This technical memorandum focuses on the geologic units within the SYRVGB, and the subsurface geologic model built to visualize those units. The aquifer characteristics of these units are then considered in a separate study which correlates principal aquifers within the basin. This technical memo describes the modeled geologic units and existing literature that identifies the water-bearing tendency of each unit but does not include an in-depth principal aquifer analysis or discussion.

The HCM is the conceptual understanding of the physical characteristics related to the regional hydrology, land use, geologic units and structures, groundwater quality, principal groundwater aquifers, and principle aquitards of the WMA and CMA portions of the SYRVGB (basin). Understanding the regional geologic setting and structural configuration is integral to conducting subsequent technical studies of the basin, including presence, absence and correlation of principal aquifers, identification of an appropriate monitoring network, numerical groundwater modeling, and identification of projects and management actions in accordance with the Sustainable Groundwater Management Act (SGMA).

A detailed subsurface three-dimensional model of the geologic units and structures (model) that comprise the basin was developed from publicly available published reports and data sources from the WMA and CMA GSAs. The model is intended for use as a visualization tool to communicate the regional geologic setting to the WMA and CMA GSAs, as well as the public, in accordance with SGMA. Additionally, the model will be used in concert with the Water Budget and the Data Management System to identify potential data gaps within the basin where additional data

[1] This technical memorandum does not include the Eastern Management Area (EMA) GSA within the SYRVGB. The EMA GSA is supported by a different consulting team.

collection may be warranted. Furthermore, model elements may be exported to support subsequent technical studies conducted in the basin for incorporation into a SGMA compliant Groundwater Sustainability Plan (GSP), due to the California Department of Water Resources (DWR) in January of 2022.

The remainder of this technical memorandum describes the geologic data and methodology used to build the model, including quality control methods implemented at the boundary of the CMA and EMA, for alignment with the model built by the EMA consultant team. Representative cross-sections and maps included as figures in this technical memorandum are derived from the model.

1.1 REGIONAL GEOLOGIC SETTING

The regional geology for the basin has been previously described in various publicly available reports. The previous reports contain comprehensive studies and descriptions of the geological formations in and surrounding the WMA and CMA, herein referred to as the basin, when describing the regional geology. The basin is located within the Transverse Range geomorphic province of California (Figure 1), which is characterized by east-west striking, complexly folded and faulted bedrock formations. The basin is an east-west trending, linear, irregular structural depression between rugged mountain ranges and hills within the Transverse Range in Santa Barbara County, CA. The basin is bounded by the Purisima Hills on the northwest, the San Rafael Mountains on the northeast, the Santa Ynez Mountains on the south, and the Pacific Ocean on the west. Primary structural features of the basin include large anticline-syncline pairs. These large folds are evident in the rocks and deposits in the lowland between the folded and faulted Santa Ynez Mountains on the south and the faulted San Rafael Mountains on the north (Upson and Thomasson, 1951). Regional geology is included in a plan view on Figure 2.

Geologic Formations Within the Basin

The geologic formations that comprise the water-bearing aquifers are defined as those with sufficient permeability, storage potential, and groundwater quality to store and convey groundwater. The geologic formations present in the basin are described below under "Geologic Formations." Further discussion of the water bearing characteristics of the aquifers is provided under "Aquifers." Stratigraphic representation of geologic formations included in the model are included in Figures 3 and 4.

Soils

Although not strictly a geologic formation, soils found in the study area are important in that they blanket most of the area, support vegetation, and provide varying degrees of infiltration depending on their characteristics. Soil typically vary with respect to the underlying geologic material. Soils underlain by consolidated deposits tend to be clayey loams, whereas soils underlain by unconsolidated deposits are typically sandy loams (Hydrologic Consultants, Inc., 1997 and references therein). Ultimately, both soils have formed from similar parent material, as the unconsolidated deposits are sourced from the erosion, transport and deposition of the underlying

and surrounding consolidated deposits (i.e., shales and sandstones) that comprise the surrounding mountains and hills (Upson and Thomasson, 1951; Hydrologic Consultants, Inc., 1997).

River Channel Deposits (Qg)

Qg occurs within the modern-day Santa Ynez River channel and consists of fine-to-coarse sand, gravels, and thin discontinuous lenses of clay and silt (Upson and Thomasson, 1951; Wilson, 1959; Miller, 1976; Bright et al., 1992). The grain size typically decreases along the river's reach, fining towards the ocean (Upson and Thomasson, 1951). The Qg unit thickness ranges from 30-feet (ft) to 40-ft, with observations of localized deposits up to 70-ft thickness 6 miles west of the City of Buellton along the Santa Ynez River, however, these deposits are largely indistinguishable from the underlying alluvium (Upson and Thomasson, 1951). The Qg in the geologic model is interpreted using the Dibblee geologic map and from borehole data and is generally thought to be hydraulically connected to the Qa, described below.

Alluvium (fluvial-Qa)

Qa is composed of a coarse sand upper member and a fine sand lower member which have been previously described by others (Dibblee, 1950; Upson and Thomasson, 1951; Wilson, 1959; Miller, 1976; Bright et al., 1992). For the purposes of the geologic model described in Section 1.2 below, these units are not differentiated, and the alluvium was modeled as a single lithologic unit. Qa is composed of unconsolidated, normally graded gravel and medium-to-very coarse sand, which grades upwards into fine to coarse sand with rare gravels, then fines vertically upwards into fine sand, silt and clay (Upson and Thomasson, 1951; Wilson, 1959; Miller, 1976; Bright et al., 1992; Fugro Consultants, INC., 2014). The thickness of Qa varies from approximately 30 to 90-ft in the Buellton Subarea (Upson and Wilson, 1951) to approximately 170-ft to 200-ft in the Lompoc plain (Dibblee, 1950; Upson and Thomasson, 1951; Evenson and Miller, 1963; Miller, 1976; Bright et al., 1992). In sloped areas and drainages, the thickness of Qa varies from less than 10-ft to 50-ft (Fugro Consultants, INC., 2014). Qa is the principal source of groundwater in the Lompoc plain (Dibblee, 1950; Upson and Thomasson, 1951; Evenson and Miller, 1963; Miller, 1976; Berenbrock, 1988; Bright et al., 1992).

Terrace Deposits / Older Alluvium (fluvial-Qoa)

Qoa typically consists of unconsolidated to poorly consolidated sands and gravels with common silt and clay zones (Dibblee, 1950; Upson and Thomasson, 1951; Miller, 1976; Berenbrock, 1988; Bright et al., 1992). Qoa thickness varies from 0-50-ft (Bright et al., 1992), up to 150-ft (Upson and Thomasson, 1951; Miller, 1976; Berenbrock, 1988). Qoa underlies alluvium (Qa) in most of the southern Lompoc plain and caps hilltops, benches and upland areas of the Santa Ynez River and major tributaries (Upson and Thomasson, 1951; Miller, 1976; Berenbrock, 1988; Bright et al., 1992).

Orcutt Sand (eolian / nonmarine- Qo)

Qo consists of unconsolidated, well sorted, coarse to medium sand and clayey sand with scattered pebbles and gravel stringers (Upson and Thomasson, 1951; Bright et al., 1992). The top of the formation is locally indurated in Lompoc Valley and Burton Mesa by iron oxides, whereas the basal portion contains well-rounded pebbles of quartzite, igneous rocks, and Monterey chert and shale (Dibblee, 1950). Qo thickness varies from 0-300-ft (Upson and Thomasson, 1951; Evenson and Miller, 1963; Bright et al., 1992).

Paso Robles Formation (Alluvial fans- QTp)

QTp consists of poorly consolidated to unconsolidated, poorly sorted, gravels, sands, silts and clays (Dibblee, 1950; Upson and Thomasson, 1951; Wilson, 1959; Miller, 1976; Berenbrock, 1988; Bright et al., 1992; Yates, 2010). QTp varies in thickness from 2,800-ft in the Santa Ynez subarea (Upson and Thomasson, 1951) 6.5 miles west of the San Lucas Bridge, to 700-ft in Santa Rita Valley (Dibblee, 1950; Miller, 1976) and thins westward where it pinches out in the eastern Lompoc plain (Dibblee, 1950; Upson and Thomasson, 1951; Miller, 1976).

QTp yields water to wells throughout the study area (Upson and Thomasson, 1951; Miller, 1976; Berenbrock, 1988; Bright et al.,1992) and is the principal water bearing unit in the basin near lake Cachuma and in the Santa Ynez uplands (Yates 2010).

Careaga Sand (marine-Tca undifferentiated)

Tca yields water and consists of massive, fine-to-coarse sand, with lenses of gravels and fossil shells (Dibblee, 1950; Woodring and Bramlette, 1950; Upson and Thomasson, 1951; Wilson, 1959; Evenson and Miller, 1963; Miller, 1976). Clay and silt beds are characteristically absent, and the uniformity in grain-size and presence of seashells distinguish it from the overlying QTp (Dibblee, 1950; Upson and Thomasson, 1951). Tca is often differentiated into the upper coarse sand *Graciosa Member (*Tcag) and the lower, fine sand *Cebada Member* (Tcac), which have been described in literature (Dibblee, 1950; Woodring and Bramlette, 1950; Upson and Thomasson, 1951; Evenson and Miller, 1963; Miller, 1976; Berenbrock, 1988; Bright et al., 1992). Tca thickness can vary from 450-ft to1000-ft (Upson and Thomasson, 1951), but is typically observed between 500-ft to 800-ft thickness in the Lompoc area, surrounding Lompoc hills, and in the Buellton area (Dibblee, 1950; Evenson and Miller, 1963; Miller, 1976). The Careaga Formation has been previously identified as an important aquifer within the SYRVGB (Hoffman, 2018).

Aquifers

Comprehensive studies of the water-bearing aquifers in the basin have been developed and published in numerous reports that are listed in the Geologic Data Sources section of this memorandum. The aquifers are typically categorized into two categories: Santa Ynez River floodplain alluvium and upland deposits formations (referred to in the Lompoc Area as an Upper Aquifer and Lower Aquifer) and are described in detail below.

Santa Ynez River Floodplain Alluvium – Upper Aquifer

In the Lompoc Plain, the Santa Ynez River floodplain alluvium is referred to as the Upper Aquifer, which consists of Qg, and Qa. It has been divided into 3 parts (Bright *et al.*, 1997) identified as the shallow, middle and main zones, described below.

The Shallow Zone has an average thickness of 50-ft. It is composed of river channel deposits (30-ft to 40-ft thick) and shallow upper alluvium deposits.

The Middle Zone is composed of the lower portion of the upper alluvium (moderately permeable sand and gravel lenses interbedded with deposits of fine sand, silt, and clay). The interbedded fine sand, silt, and clay deposits confine or partly confine the sand and gravel lenses in the western, central, and northeastern plains. The thickness of sand and gravel lenses range from 5-ft to 40-ft.

The Main Zone is located within the lower member of alluvium and consists of medium to coarse sand and gravel, separated from the upper aquifer zones by lenses of silt and clay. The Main Zone overlays the unconsolidated deposits that form the Lower Aquifer in the Lompoc plain. In the eastern and northwestern regions of the Lompoc plain, the silt and clay layers are less continuous or absent. As a result, groundwater moves freely between the zones of the Upper Aquifer. In the southern plain, the sand and gravel deposits in the main zone are absent. The fine sand deposits of the shallow and middle zones are also less continuous or absent (Upson and Thomasson, 1951).

Upstream of the Lompoc Plain, the Santa Ynez River floodplain alluvium is often referred to just as the river alluvium (no zonation). The thickness of the river alluvium generally averages up to 70-ft (Upson and Thomasson, 1951). Because this unit overlies consolidated deposits that are non-water bearing (see Section 1.1.2), the subflow in this unit is considered a part of the Santa Ynez River flow and is regulated by the State Water Resources Control Board as part of surface water rights.

Upland Deposits Formations – Lower Aquifer

In the Lompoc area, the upland deposits formations are referred to collectively as the "Lower Aquifer" and consist of undifferentiated Terrace Deposits/Older Alluvium (Qoa), Orcutt Sand (Qo) and the Careaga Sand (Tca). These deposits are present beneath the Lompoc uplands, the Upper Aquifer through the eastern portion of the Lompoc plain, and Lompoc terrace.

The Paso Robles Formation (QTp) forms the Lower Aquifer beneath the Lompoc uplands and east river area of Lompoc plain. The Graciosa and Cebada Members of the Careaga Sand (Tca) are present beneath the Lompoc upland and most of the Lompoc plain. However, the Graciosa Member generally is absent or unsaturated. Where present, the Graciosa Member of the Careaga Sand (Tca) is the main producer of ground water in the Lower Aquifer.

These same formations (Qoa, Qo, QTp, and Tca) also make up the aquifers in the Santa Rita Upland and Buellton Upland.

Geologic Formations Surrounding the Basin

Additional Tertiary-Mesozoic age typically non-water-bearing bedrock units are present within and surrounding the basin. These units are important because they contribute to the geologic structure (Figure 5) of the basin and define the limits of the water-bearing aquifer units by limiting groundwater flow due to limited or non-permeability, reduced or no storage capacity, or poor groundwater quality. These constraining bedrock units within and surrounding the basin are included in the geologic model described in Section 1.2 and are described below.

Tertiary-Mesozoic Rocks

Tertiary-Mesozoic Rocks are consolidated non-water bearing units, all of marine origin. They consist of the near-shore marine *Foxen, Sisquoc,* and *Monterey Formations*. The Foxen Formation consists of light gray or tan massive claystone, siltstone, and/or mudstone (Dibblee, 1950; Woodring and Bramlette, 1950; Upson and Thomasson, 1951). The Sisquoc Formation is massive to very thin bedded, white diatomite and diatomaceous mudstones, with basal massive fine sands (Dibblee, 1950; Woodring and Bramlette, 1950; Upson and Thomasson, 1951). The Monterey Formation, primarily known for its vast oil reserves, consists of variably bedded siliceous shale, diatomaceous mudstone, porcelaneous shale, chert, phosphatic shale, silty shale, limestone, and a basal clay altered tuff (Dibblee, 1950; Woodring and Bramlette, 1950; Upson and Thomasson, 1951).

2. GEOLOGICAL MODEL

2.1 MODEL USE AND INTENT

The detailed subsurface three-dimensional model was developed as a visualization and communication tool to convey the regional geologic setting and confining features of the basin to WMA and CMA GSAs, and the public, in accordance with SGMA. Additionally, the model will be used in concert with the Water Budget and the DMS to identify potential data gaps within the basin where additional data collection may be warranted. Furthermore, model elements may be exported to support subsequent technical studies conducted in the basin for incorporation into a SGMA compliant Groundwater Sustainability Plan (GSP), due to the California Department of Water Resources (DWR) in January of 2022.

2.2 MODELING APPROACH

Modeling Software

The software used for the model is Seequent's Leapfrog Works (Leapfrog), an industry-standard geologic modeling software, designed to view and manage surface and subsurface data, build complex geologic models, visualize hydrogeological systems, understand the impact of water use, and provide jurisdictional authorities with tools to convey complex topics to the general public (Seequent, 2020).

Model Domain

The geologic model domain boundaries (model extent) were selected to encompass the entirety of the WMA and CMA, and slightly overlapping the EMA to the east. Ground surface elevations were defined using a combination of publicly available digital elevation models (DEM). Next, quantitative measurements for geologic units exposed at the ground surface were imported using existing literature and publicly available geologic maps. Contacts between those geologic units (surface between two different rock types) were defined as erosional or depositional, as the designation augments the model assumptions and subsurface interpolations. Once the contacts were defined, the volume between those contacts were filled according to the depositional environment, age of the geologic unit, and localized structure to form a complete geologic model. The data used to interpolate and interpret the geologic surfaces generated in 3D are described in detail in Section 1.2.3. Leapfrog's interpolation algorithm and manual manipulation according to professional judgement were used to adjust surfaces, as appropriate. Structural elements were also incorporated from existing literature and publicly available geologic maps. The generated result is a detailed subsurface geometric rendering of the geologic contacts presented in the attached cross-sections.

Data Quality

Data quality objectives include verification of alignment with existing literature and available geologic maps; and coordination with the EMA GSA and consultant team to review and confirm alignment between the modeled CMA/EMA boundary (boundary). To facilitate model alignment at the boundary, data review, modeling approach discussion and data sharing was conducted. The consultant teams for the CMA and EMA provided boundary data packages for review. Each consultant team reviewed the data received, organized and validated the data, then incorporated the data into their model to assess modeled boundary alignment. Geologic formations from locations were reviewed in both models, confirming assumptions across the boundary.

2.3 GEOLOGIC DATA SOURCES

Various publicly available data were sourced for compilation and assessment prior to incorporation into the model, described in detail below.

Borehole Data

Publicly available well bore and well completion information was obtained from the California Department of Water Resources (DWR) online inventory, the Santa Barbara County Public Health (CPH) historical paper well records, the Santa Ynez River Water Conservation District, and from the California Department of Oil and Gas and Geothermal Resources (CA DOGGR) open file report (USGS, 2010).

The DWR online database consists of redacted well completion reports of varying quality, and map locations of varying accuracy. Available well completion reports within the study area were

obtained from the DWR online database using the DWR Well Completion Report Map Application and incorporated into a secure relational database for the purpose of building the model. Once the data were compiled, assessed and validated for their intended use, they were incorporated into the DMS prepared for the basin. The available well records are accompanied by a longitude and latitude provided by DWR; however, many records are simplified, and locations are centered in their respective township and range quadrant, within approximately one square miles of their actual location. Well locations were updated manually in GIS software using assessor parcel numbers (APN), hand-drawn maps, addresses, and other location information available in the well records.

Available historical County EHS well records were obtained in paper format, the files were digitized, and pertinent data was extracted. Well records were evaluated for useful information and incorporated as appropriate into the model.

Additional stratigraphic interpretations from 694 Oil and Gas wells were collected in digital format from the (USGS, 2010). The well information was sourced from the CA DOGGR records. These wells were originally interpreted to model the Santa Maria Basin and provide depositional trends and structural evolution of the basin.

In total, 916 well records were used from the study area there to build the model, including 349 DWR, 396 CPH, and 171 CA DOGGR well records. Of the total well records used, 518 well records are within the WMA and 221 are within the CMA. The geologic formations were transcribed from the DWR and CPH well logs for import to the geological model while interpretations from CA DOGGR were imported as interpreted.

Surface Topography

DEMs were used to provide a best estimate for ground surface elevation across the model domain. The primary DEM is based on USGS's recently released regional FEMA LiDAR surveys related to 2018 post-fire surveys. This DEM was collected at 1-meter accuracy and represents a bare earth surface with trees and features removed. USGS standard 1-meter DEMs are produced exclusively from high resolution light detection and ranging (LiDAR). In areas where a 1-meter accuracy DEM is not available a 1/3 arc-second equivalent (approximately 10-meter accuracy) used instead.

All DEMs were sourced from the National Map (TNM) via the USGS.

- *U.S. Geological Survey, 20190930, USGS NED one-meter x75y384 CA SoCal Wildfires B4 2018 IMG 2019: U.S. Geological Survey.*
- *U.S. Geological Survey, 20190924, USGS 13 arc-second n35w121 1 x 1 degree: U.S. Geological Survey. Sources for Descriptions of Geological Formations*

Surface Geology

i The model is composed of publicly available geologic data from the Unites States Geological Survey (USGS). Interpreted surface geology was publicly accessed via the

USGS Mapview database tool. Surface geology is comprised from the following USGS Quadrangles:

- *CMA: Solvang and Gaviota Quadrangle, Zaca Creek Quadrangle, Santa Rosa Hills and Sacate Quadrangle, and Los Alamos Quadrangle.*
- *WMA: Lompoc Hills and Point Conception Quadrangle, Point Arguello and Tranquillon Mountain Quadrangle, and Lompoc and Surf Quadrangle.*

Subsurface geology was partially interpolated using surface contacts of geologic units, as well as structural data (dip and dip azimuth) present in each quadrangle. Subsurface geology was extrapolated from a combination of surface contacts and structural data points from the geologic quadrangle using Leapfrog software.

The major formations shown in Figure 2 are described in Section 1.1 and included in the attached stratigraphic columns (Figures 3 and 4).

Descriptions of Geological Formations

There have been numerous investigations of geological formations of the basin by others in the past, some of which date back to the 1940s. Some of the more comprehensive reports for this area include the following:

- *Geology of Southwestern Santa Barbara County, California: Point Arguello, Lompoc, Point Conception, Los Olivos, and Gaviota Quadrangles* (Dibblee, 1950)
- *Geology and Ground-Water Features of Point Arguello Naval Missile Facility Santa Barbara County California* (Evenson and Miller, 1963)
- *Geology and Paleontology of The Santa Maria District California. USGS 222* (Woodring and Bramlette, 1950)
- *Evaluation of Ground-Water Flow and Solute Transport in the Lompoc Area, Santa Barbara County, California* (Bright *et al.,* 1997)
- *Preliminary Report on Water Storage Capacity of Unconsolidated Deposits Beneath Lompoc plain* (Upson, 1943)
- *Geology and Water Resources of the Santa Ynez River Basin, Santa Barbara County, California: Water-Supply Paper 1107* (Upson and Thomasson, 1951)
- *Ground-Water Hydrology and Quality in The Lompoc Area, Santa Barbara County, California, 1987-88: U.S. Geological Survey Water-Resources Investigations Report 91-4172* (Bright *et al*., 1992)
- *Ground-Water Appraisal of Santa Ynez River Basin, Santa Barbara County, California: U.S. Geological Survey Water-Supply Paper 1467* (Wilson, 1959)

- *Development of A System of Models for The Lompoc Ground-Water Basin and Santa Ynez River* (Hydrologic Consultants, Inc., 1997)
- *Ground-Water Resources in The Lompoc Area, Santa Barbara County, California* (Miller, 1976)
- *Phase I Services, Preliminary Geotechnical Engineering Study, East Cat Canyon Oil Field, Sisquoc Area, Santa Barbara County, California* (Fugro Consultants, Inc., 2014)
- *Assessment of Groundwater Availability on the Santa Ynez Chumash Reservation* (Yates, 2010)
- *Digital tabulation of stratigraphic data from oil and gas wells in the Santa Maria Basin and surrounding areas, central California coast: U.S. Geological Survey Open-File Report 2010–1129* (USGS, 2010)

Cross Sections from Previous Reports

An important and useful resource to build the model was the large number of existing geologic information and cross sections from previous studies and reports conducted in the basin. The selected reports include the following:

- *Geology of Southwestern Santa Barbara County, California: Point Arguello, Lompoc, Point Conception, Los Olivos, and Gaviota Quadrangles* (Dibblee, 1950)
- *Geology and Water Resources of the Santa Ynez River Basin, Santa Barbara County, California: Water-Supply Paper 1107* (Upson and Thomasson, 1951)
- *Ground-Water Appraisal of Santa Ynez River Basin, Santa Barbara County, California: U.S. Geological Survey Water-Supply Paper 1467* (Wilson, 1959)
- *Ground-Water Hydrology and Quality in The Lompoc Area, Santa Barbara County, California, 1987-88: U.S. Geological Survey Water-Resources Investigations Report 91-4172* (Bright *et al*., 1992)
- *Geologic Map of The Zaca Creek Quadrangle, Santa Barbara County, California* (Dibblee, 1993)
- *Geologic Map of The Los Alamos Quadrangle, Santa Barbara County, California* (Dibblee, 1993)
- *Evaluation of Ground-Water Flow and Solute Transport in the Lompoc Area, Santa Barbara County, California: Water-Resources Investigations Report 97-4056* (Bright *et al*., 1997)
- *Development of A System of Models for The Lompoc Ground-Water Basin and Santa Ynez River* (Hydrologic Consultants, Inc., 1997)

- *Geophysical and Geotechnical Study Sewer Force Main Crossing, Santa Ynez River, Solvang, California* (Fugro West, Inc., 2007)

A total of 58 cross-sections from previous reports were digitized and imported into the model for visualization. The locations for the 58 cross-sections are included on Figure 6. The imported cross-sections were assessed for their agreement with model elements and used to validate the modeled surfaces, thicknesses and presence within the basin.

3. MODEL VISUALIZATIONS

Views from the model are presented as **Figures 2, 5**, and **6**. An aerial view of the outcropping geologic units and basin boundaries is presented as **Figure 2**. Generalized stratigraphic columns are presented as **Figures 3** and **4**. Cross-section views of the basin are presented in **Figure 5**. **Figure 6** provides an aerial view of modeled data, including well locations, cross-sections and geologic formations.

Figure 1: Site Location Map. Identifies basin location and geomorphic province information.

Figure 2: Geological Map and GSA Boundaries. Figure 2 presents an aerial view of the outcropping geologic units and basin boundaries. Areas of interest include Lompoc Terrace, Lompoc Plain, and Lompoc Upland and are included for reference purposes. The cross sections A-A' through G-G' are also shown on the figure.

Figures 3 and 4: Stratigraphic Columns (Shallow and Deep). These figures provide schematic stratigraphic columns with depths and short descriptions of each geologic formation.

- The shallow stratigraphic columns provide detailed descriptions for shallow formations **in the** WMA and CMA areas to the depth of the Tca (approximately 1,300 ft below ground surface).
- The deep column presents formation approximations from the surface to the Tm (approximately 9,000 ft below ground surface).

Figures 5: Geologic Cross Sections.

- **Cross-section A-A'** extends from west-to-east along the Santa Ynez River through the Lompoc Plane and intersects with Cross sections B-B' and C-C'. In this area consolidated formations form a westward plunging syncline which propagates through the WMA.
- **B-B'** is located on the west side of the WMA with a south-to-north orientation similar to sections C-C' through G-G'. Consolidated formations form a repeated syncline/anticline fold system that extends to the north of the model.
- **C-C'** extends through the middle of the WMA through the Lompoc Plain and Lompoc Upland and continue the syncline/anticline fold structure observed in cross section B-B'.
- **D-D'** is located near the northern boundary between the WMA and CMA and displays a similar fold structure to cross section B-B' and cross section C-C'.

- **E-E'** extends across the Santa Ynez River at the southeast boundary between the WMA and CMA. The southern limb of the central syncline is observed at the northern end of cross section E-E' along the north side of the Santa Ynez River. The middle and north portions of the section are mainly composed of consolidated rocks.
- **F-F'** transects through the CMA, south of Los Alamos. The central syncline continues through southeast of the model with the southern limb of the central syncline of consolidated rocks below the Santa Ynez River.
- **G-G'** is location on the east side of CMA which extends across the Santa Ynez River, through the City of Buellton and up through the Zaca Creek bed. Similar to cross section
- **F-F'**, the southern limb of the central syncline is located in the south below the Santa Ynez River and the northern anticline repeating in the north below Zaca Creek.

Figure 6: Available Data. Presents spatial distribution of available data resources incorporated into the model and potential data gaps, as described in additional detail below.

4. DATA GAPS

The model results will be used in concert with the Water Budget, the DMS and future additional technical studies conducted by others to identify potential data gaps within the basin and where additional data collection may be warranted. Data gaps may include lack of groundwater wells in portions of the basin, absence of ground surface elevation or groundwater measurement elevation for existing wells, inconsistent groundwater elevation measurements for a given well, long well screens that span multiple groundwater aquifers – providing insufficient or unreliable data, well screens that penetrate the river alluvium and do not represent principal aquifers, and other similar data gaps. Identification of data gaps within the model, paired with data gaps identified in other technical studies will be compiled and will inform recommendations for additional data gathering, as appropriate.

As presented on **Figure 6**, available data incorporated into the geologic model includes 58 cross sections from existing literature and previously published reports, and data from 1,439 unique well borehole locations. Cross-sections presented on **Figure 6** generally fit one of the three following categories:

- Lompoc Plain: the majority of available historical cross sections transect the Lompoc Plain along the Santa Ynez River (west-to-east) or crossing the river (south-to-north), within and the WMA.
- Long cross-sections: these transect the WMA (five) and CMA (two) from the Santa Ynez Mountains in the south, toward the San Antonio Creek Groundwater Basin in the north.
- Short cross-sections: transect the Santa Ynez River in the WMA (four) and CMA (three).

Although historical cross-sections are unavailable for the WMA/CMA boundary and are limited at the CMA/EMA boundary, well borehole data in those areas suggest that the model may sufficiently interpolate available borehole data, and data gaps in these two areas may not exist.

Well borehole data from the publicly available resources used in the model (i.e., well records from DWR, CPH, DOGGR, existing literature, and previously published reports) are distributed across most areas of the basin, with the following exceptions:

- An approximate 5.4 square mile (mi^2) area along the northern boundary of the CMA, northwest of the City of Buellton; and
- An approximate 26 mi^2 area within the Vandenberg Air Force Base, located in the northwest portion of the WMA, north of the Lompoc Upland and along the Pacific coastline.

Historical borehole data for these two areas was not obtained from the publicly available resources searched and therefore, the lack of well borehole data in these areas may be considered a data gap. However, subsequent technical studies may determine that these areas are not necessarily vital to understanding and managing the groundwater flow regime of the SYRVGB, and additional data collection (advancement of well boring, or installation or well(s)) may not be necessary or recommended in these areas.

Additional data collected by the DWR endorsed SkyTEM program will be useful in validating and refining the geological structure of the WMA and CMA in the model. SkyTEM uses the Aerial Electromagnetic method (AEM) to obtain large scale geophysical data, useful for interpreting geology and the presence/absence of groundwater. The collected SkyTEM geologic data may be useful to refine modeled extent of geologic units to a depth of approximately 1,000 to 1,400 feet below the ground surface within the SYRVGW. The existing well borehole and cross-section data incorporated into the model and presented in this technical memorandum will be used to verify and interpret the SkyTEM survey results. The SkyTEM data may also be used to enhance subsequent technical studies, including numerical groundwater modeling to estimate the SYRVGB system, particularly the areas with data gaps (**Figure 6**), groundwater flow along the boundaries of the management areas, and along the Santa Ynez River and tributaries.

* * * * * *

Attachments

Figure 1 Site Location Map

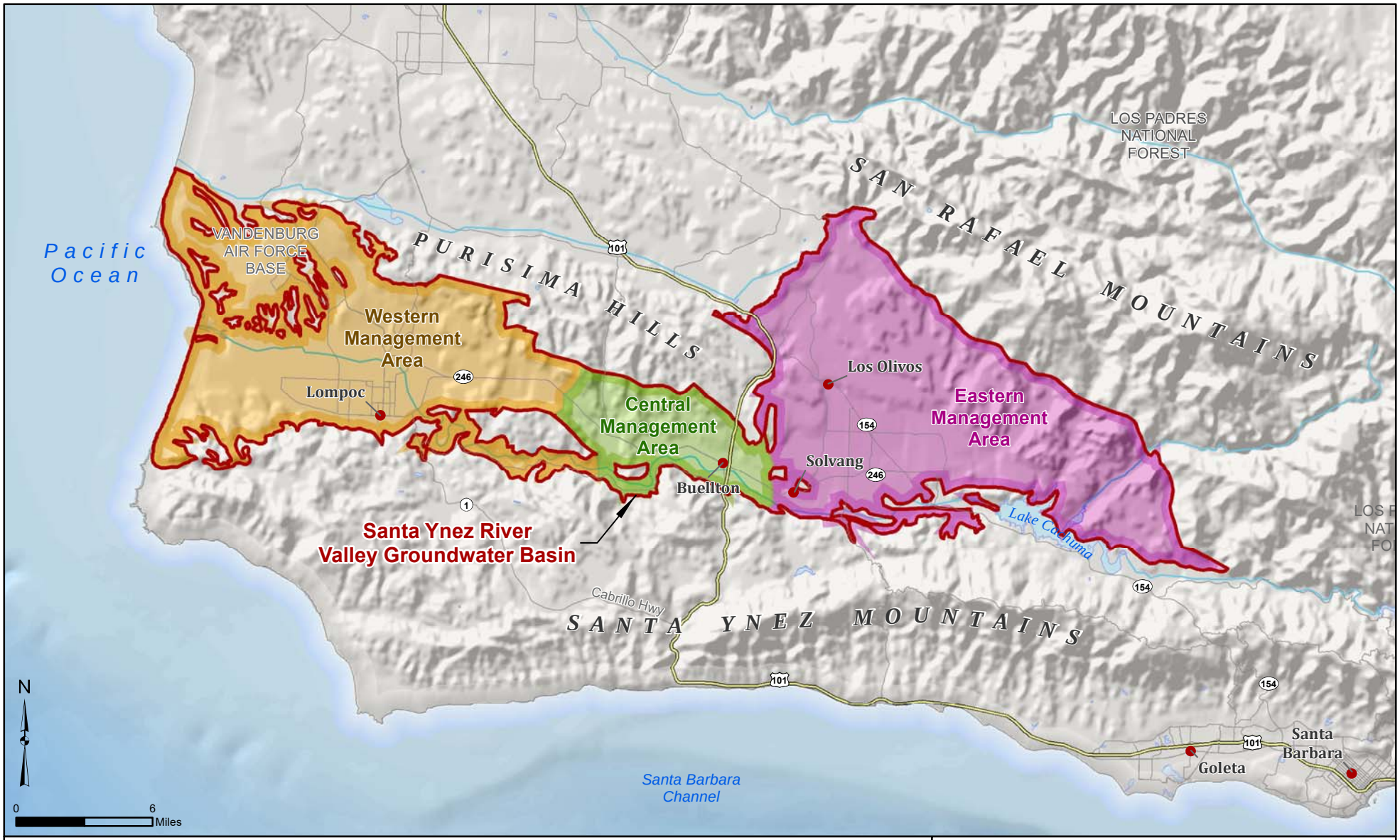
Figure 2 Geologic Map and GSA Boundaries

Figure 3 Shallow Stratigraphic Columns of Santa Ynez River Valley

Figure 4 Deep Stratigraphic Column of Santa Ynez River Valley

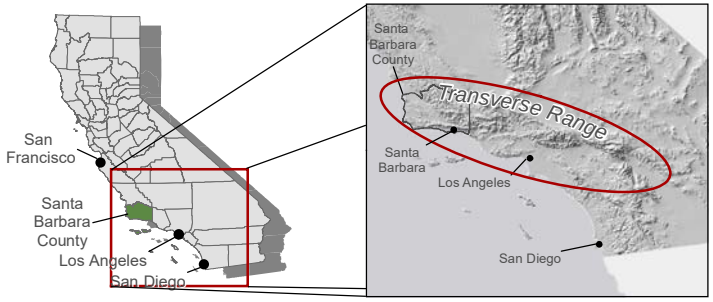
Figure 5 Geologic Cross Sections A-A' through G-G'

Figure 6 Available Data Incorporated into Geologic Model



Explanation

- Santa Ynez River Valley Groundwater Basin
- Central Management Area
- Eastern Managment Area
- Western Management Area



Site Location Map

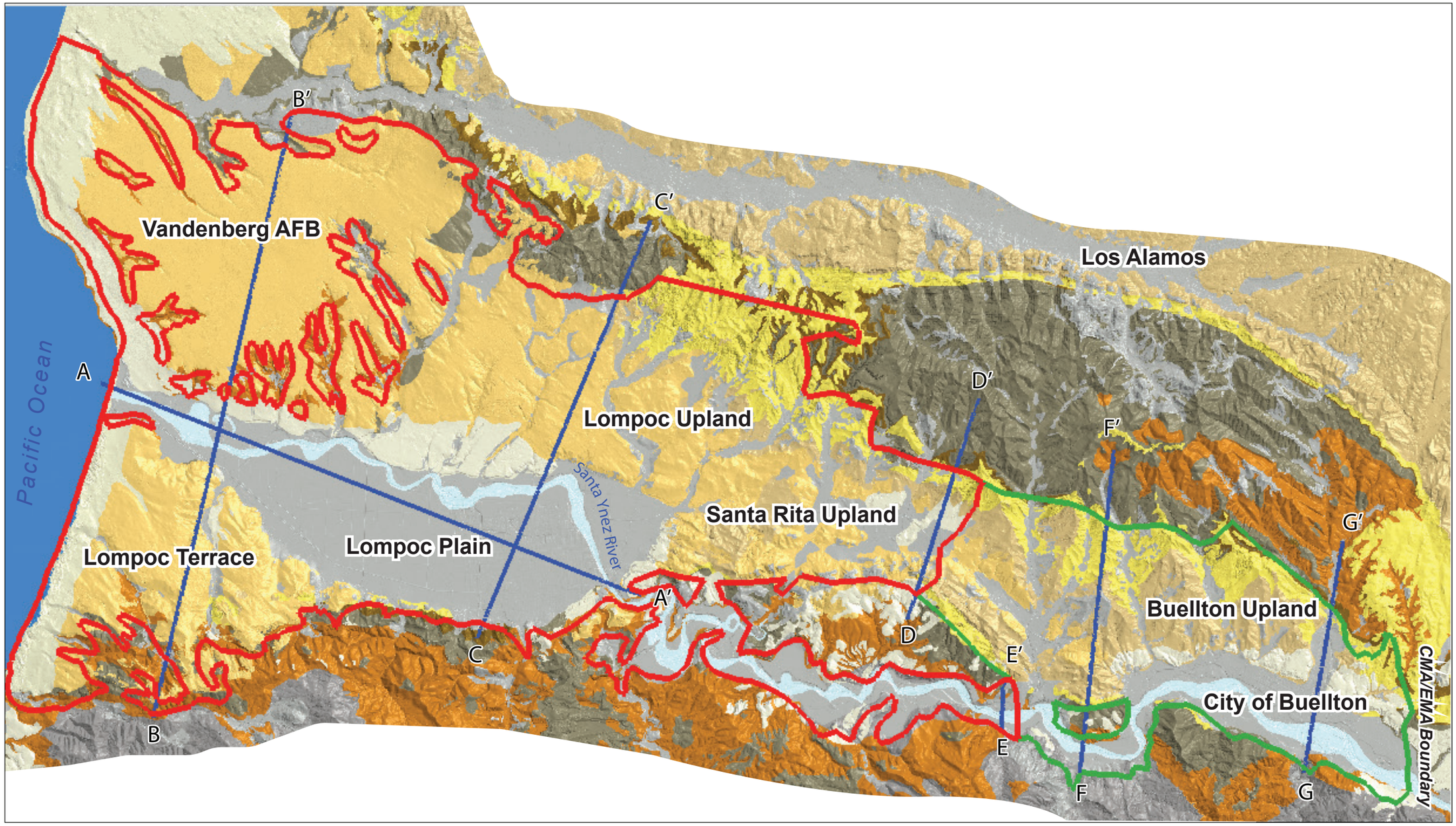
Santa Barbara County
California

Geosyntec consultants

Santa Barbara | April 2020

Figure 1

SantaBarbara-01\P:\GIS\Santa Ynez River Valley SGMA\Projects\2020 GW Model Tech Memo\Fig01_Basin_Wide_Map.mxd 4/29/2020 (Author: SMcKnight) 11:19:38 AM



Legend

- Cross Section Location
- Western Management Area
- Central Management Area

Model Geology

- River-Channel Deposits (Qg)
- Younger Alluvium (Qal)
- Older Dune Sands (Qos)
- Older Alluvium (Qoa)
- Orcutt Sand (Qo)
- Paso Robles Formation (QTp)
- Careaga Sandstone (Tca)
- Foxen Formation (Tf)
- Sisquoc Formation (Tsq)
- Monterey Formation (Tm)
- Tertiary - Older than Monterey

N

0 10,000 20,000 Feet

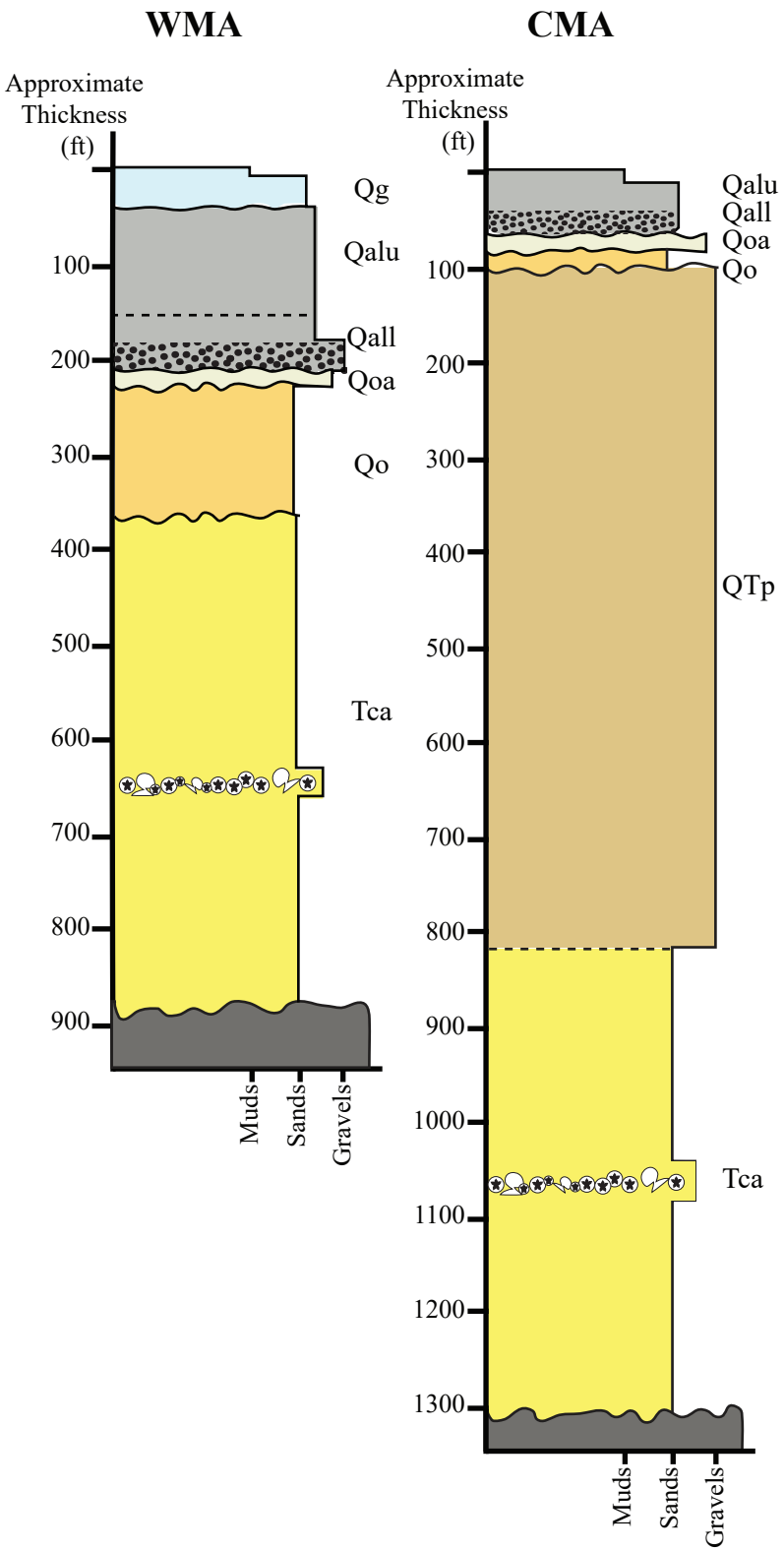
Geologic Map and Boundaries

Santa Ynez River Valley
Santa Barbara County, CA

Geosyntec consultants

Santa Barbara | April 2020

Figure 2



Formation Descriptions

River Gravels (Qg):
Coarse to fine sand, gravel and thin lenses of clay and silt; occurs in the modern channel of Santa Ynez River.

Young Alluvium (Qal):
Unconsolidated sands, gravels, silts and clays.
Upper Member (Qalu): Clay, silt and fine-grained sand and gravel stringers.
Lower Member (Qall): Cobbles, gravels, and medium to coarse grained sand. Cobbles/gravels concentrated at base.

Older Alluvium (Qoa):
Unconsolidated gravels, sand, and silt.

Orcutt Sands (Qo):
Unconsolidated, well sorted coarse to medium-grained sand and clayey sand with scattered pebbles/gravel stringers.

Paso Robles Formation: (QTp):
Weakly consolidated lenticular beds of clay, fine to coarse-grained sand, and gravels.

Careaga Sandstone (Tca):
Weakly indurated, massive, fine to coarse-grained sand, with local lenses of pebbles and seashells.

Legend

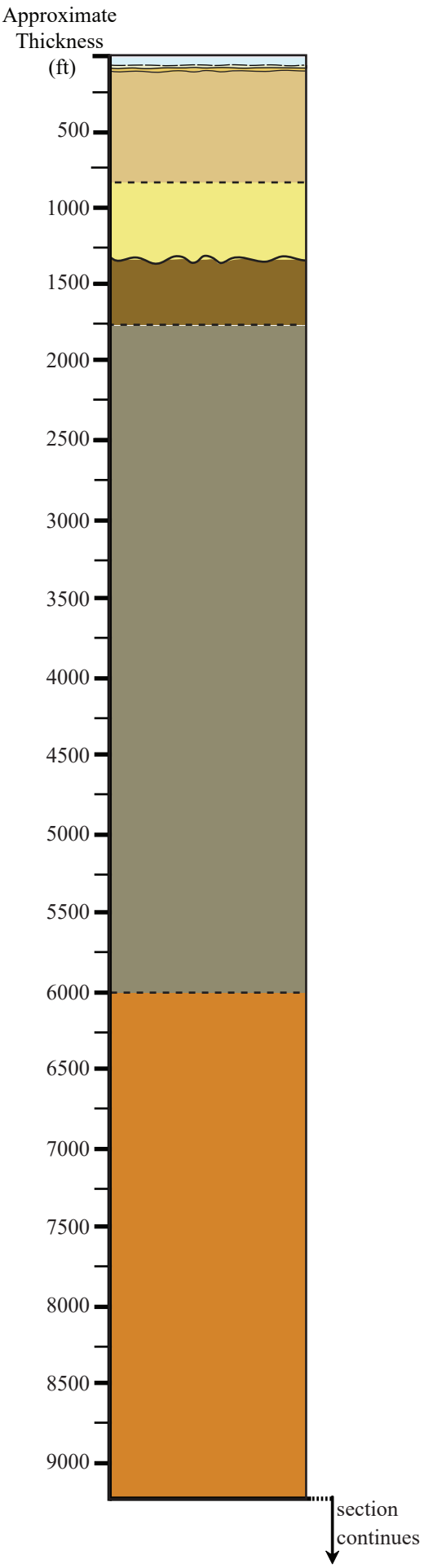
Qg
Qal
Qoa
Qo
QTp
Tca
Unconformity
Gravel Bed
Seashells
Undifferentiated Tertiary Rocks

Geosyntec consultants

Shallow Stratigraphic Columns of Santa Ynez River Valley

Date: April 2020	File No.:
Project No.: [illegible]	Figure: 3

C:\Users\yzhang\Geosyntec\Eryn Torres - EVS\SYRV\20_Deliverables\figures



Formation Descriptions

River-Channel Deposits (Qg):
Coarse to fine sand, gravel and thin lenses of clay and silt; occurs in the modern channel of Santa Ynez River.

Younger Alluvium (Qal):
Unconsolidated sands, gravels, silts and clays.

Older Alluvium (Qoa):
Unconsolidated gravels, sand and silt.

Orcutt Sand (Qo):
Unconsolidated, well sorted, coarse to medium grained sand and clayey sand with scattered pebbles/gravel stringers.

Paso Robles Formation (QTp):
Weakly consolidated lenticular beds of clay, fine to coarse-grained sand, and gravels.

Careaga Sandstone (Tca):
Weakly indurated, massive, fine to coarse-grained sand, with local lenses of pebbles and seashells.

Foxen Formation (Tf):
Massive claystone/ siltstone/ mudstone.

Sisquoc Formation (Tsq):
Massive to very thin bedded, diatomaceous mudstone.

Monterey Formation (Tm):
Very well bedded siliceous shale, chert and diatomite.

Legend

Qg	Qo	Tf
Qal	QTp	Tsq
Qoa	Tca	Tm

Unconformity

Geosyntec consultants

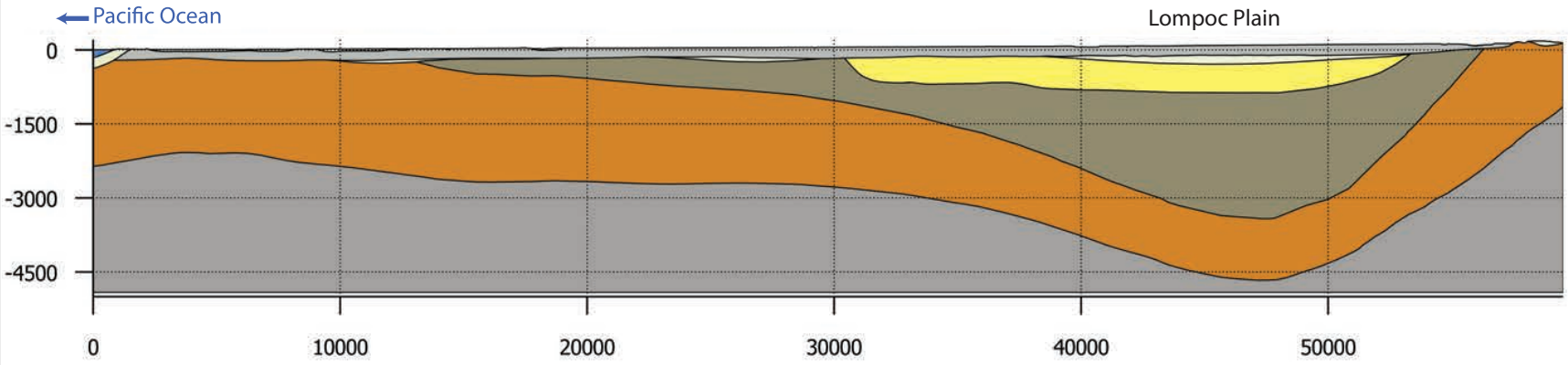
Deep Stratigraphic Column of Santa Ynez River Valley

Date: April 2020	File No.:
Project No.: [illegible]	Figure:

C:\Users\yzhang\Geosyntec\Eryn Torres - EVS\SYRV\20_Deliverables\figures

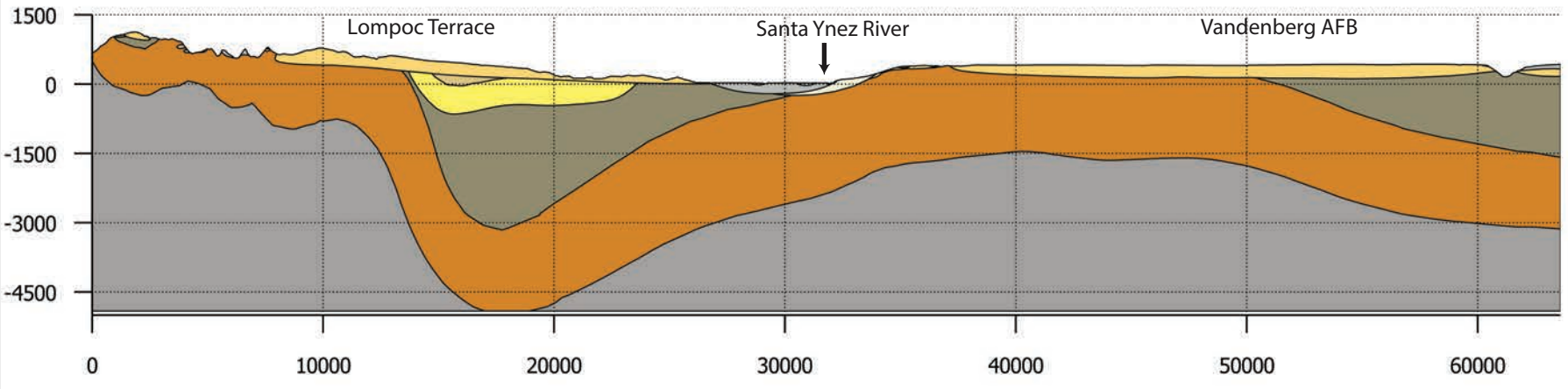
A (West)

A' (East)



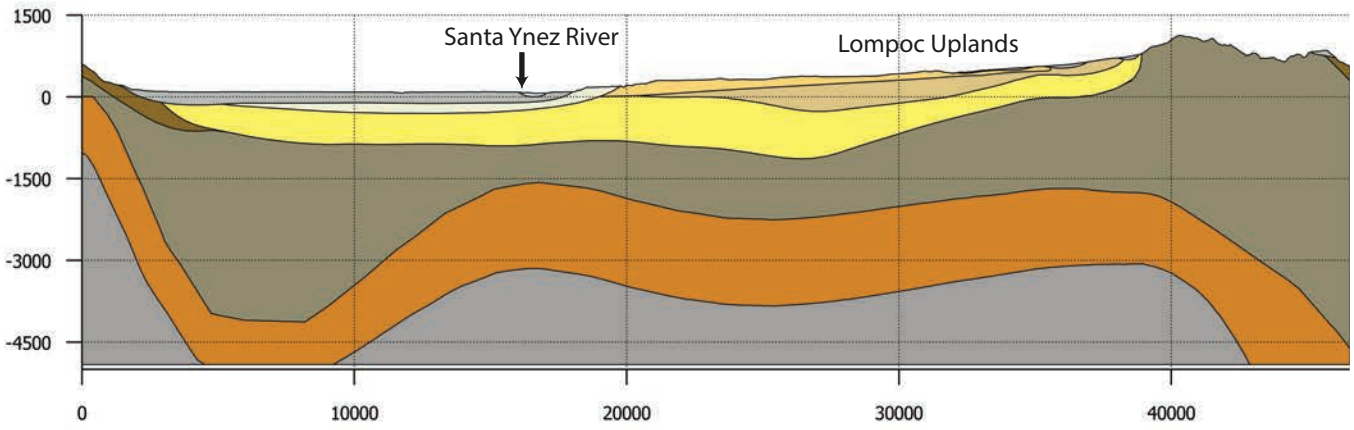
B (South)

B' (North)



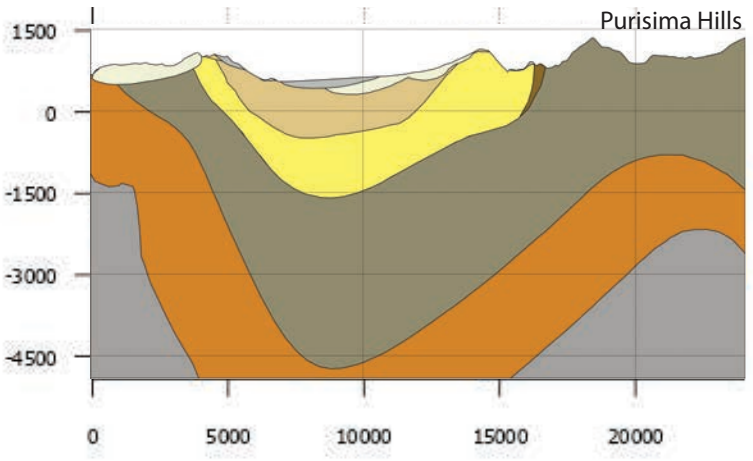
C (South)

C' (North)



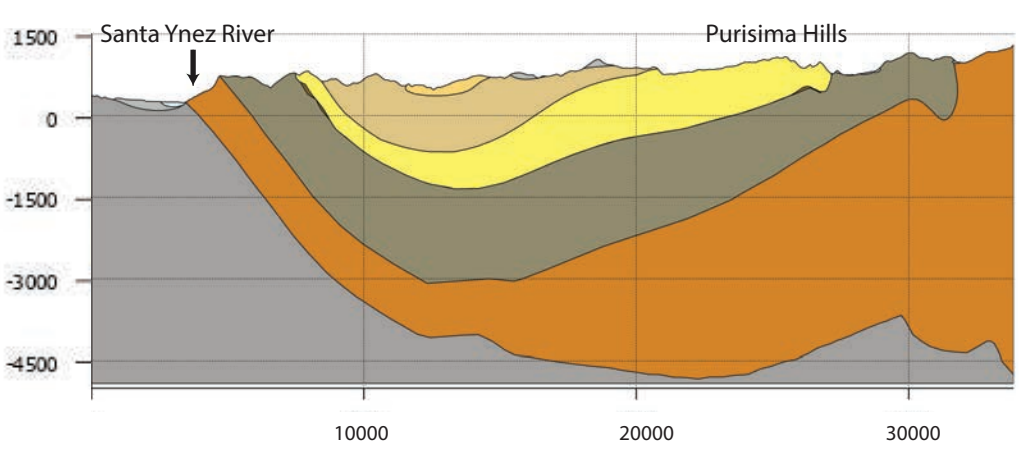
D (South)

D' (North)



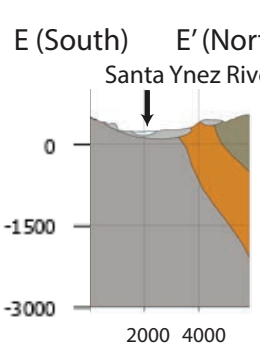
F (South)

F' (North)



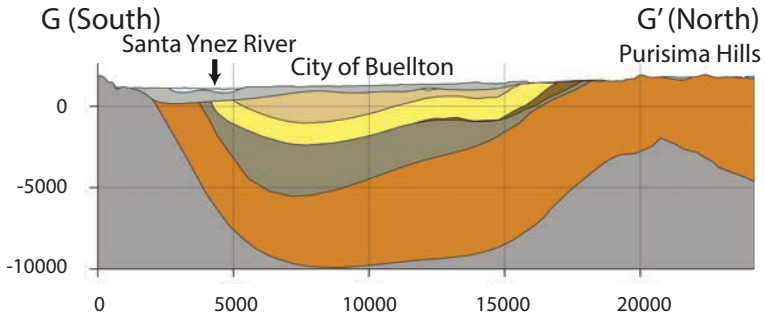
E (South)

E' (North)

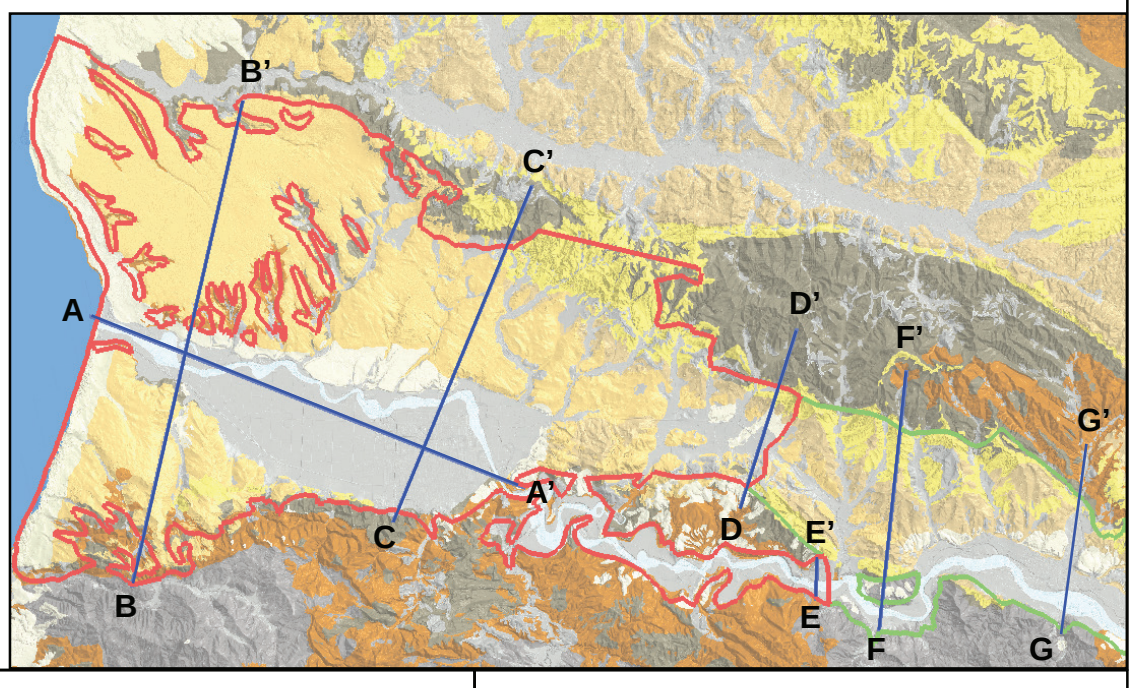


G (South)

G' (North)



Section Locations



Geologic Model

- Alluvium
- Careaga
- Monterey
- Older Alluvium
- Orcutt
- River Channel
- Sisquoc
- Tertiary - Older than Monterey
- Paso Robles

Notes:
All cross-section images displayed at 2x vertical exaggeration
All units in Feet

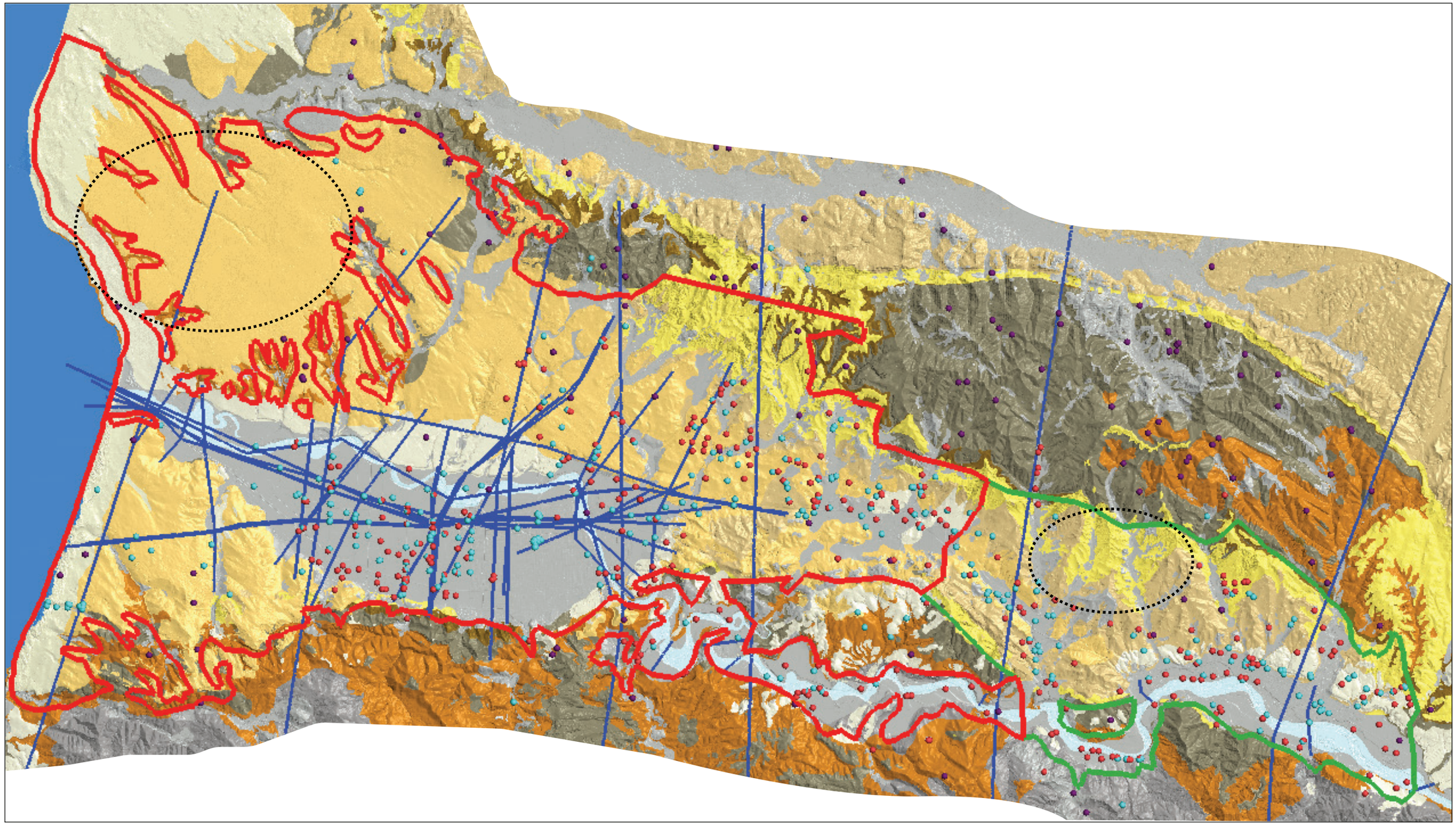
Geologic Cross Sections
A-A' through G-G'

Santa Ynez River Valley
Santa Baraba County, CA

Geosyntec consultants

Santa Barbara | April 2020

Figure 5



Legend

- Cross Section from Previous Report
- DWR Log Location
- CPH Log Location
- OFR Log Location
- Western Management Area
- Central Management Area

Model Geology

- River-Channel Deposits (Qg)
- Younger Alluvium (Qal)
- Older Dune Sands (Qos)
- Older Alluvium (Qoa)
- Orcutt Sand (Qo)
- Paso Robles Formation (QTp)
- Careaga Sandstone (Tca)
- Foxen Formation (Tf)
- Sisquoc Formation (Tsq)
- Monterey Formation (Tm)
- Tertiary - Older than Monterey
- Data Gap Regions

N

0 10,000 20,000 Feet

Available Data Incorporated Into Geologic Model

Santa Ynez River Valley
Santa Barbara County, CA

Geosyntec consultants

Santa Barbara | April 2020

Figure 6

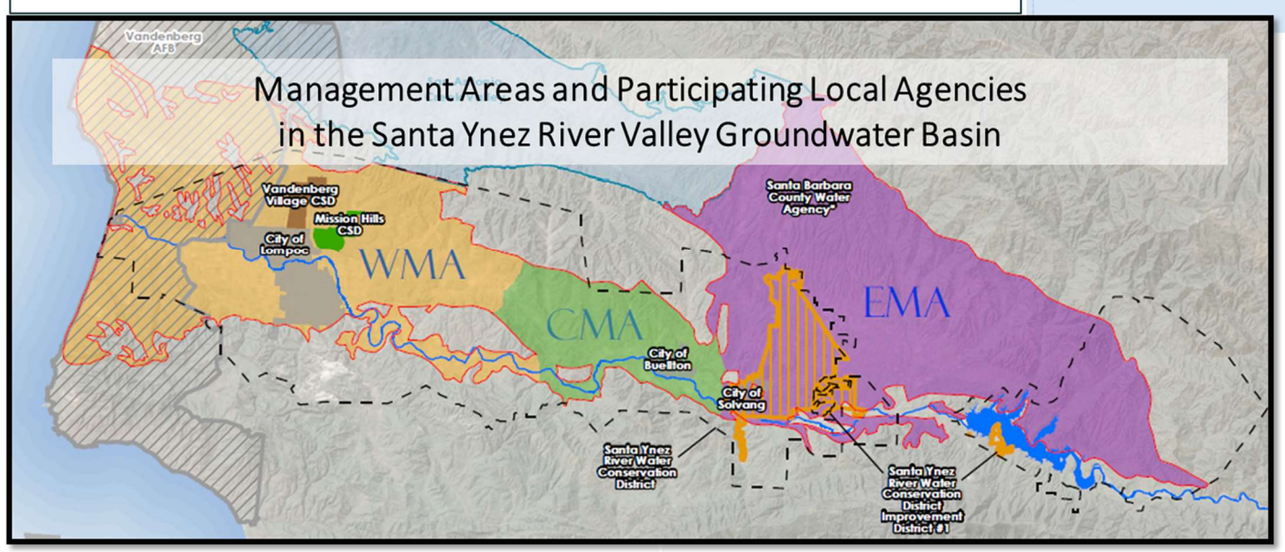
Santa Ynez River Valley Groundwater Basin

Sustainable Groundwater Management Quarterly Newsletter No. 1 May 2020

The Sustainable Groundwater Management Act (SGMA), signed into law by Governor Jerry Brown in 2014, created a new framework for groundwater management in California. SGMA established a new structure for local groundwater management through Groundwater Sustainable Agencies (GSAs).
The Santa Ynez River Valley Groundwater Basin (SYRVGB) has established the following three management areas each with their own GSA Committee comprised of local officials from Participating Agencies:

- Western Management Area (WMA) GSA Committee
  - Santa Ynez River Water Conservation District • City of Lompoc
  - Mission Hills CSD • Vandenberg Village CSD • Santa Barbara County Water Agency
- Central Management Area (CMA) GSA Committee
  - Santa Ynez River Water Conservation District • City of Buellton
  - Santa Barbara County Water Agency
- Eastern Management Area (EMA) GSA Committee
  - Santa Ynez River Water Conservation District • Santa Barbara County Water Agency
  - Santa Ynez River Water Conservation District, Improvement District No. 1
  - City of Solvang

Groundwater Sustainability Plan Development Milestones



Each GSA Committee is required to prepare its own Groundwater Sustainability Plan (GSP) that will describe the path to groundwater sustainability.

All three GSPs will be completed in early 2022. Progress updates will be given in each quarterly GSA Committee meeting and draft documents will be available for public review and comment on a dedicated website.

Participation by members of the community in developing the GSPs is important and each of the GSA Committees has adopted an outreach and engagement plan to guide the public participation process.

For more information, please visit:

www.SantaYnezWater.org